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IMPACT ASSESSMENT

Accompanying the document

Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on appliances burning gaseous fuels

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EXECUTIVE SUMMARY SHEET

Impact assessment on the revision of Directive 2009/142/EC relating to appliances burning gaseous fuels (GAD)

A. Need for action

Why? What is the problem being addressed?

All the identified deficiencies of the GAD are of minor significance. Consequently, the Impact Assessment Report deals with the identified issues in a proportionate way. The areas of improvements called "problem issues" do not involve major changes; however, in light of the experience of the functioning of the GAD, the input to the Public Consultation (2011-2012) and the outcome of the Impact Assessment Study (2012), the following issues will be addressed:

- the alignment of the GAD with the New Legislative Framework (NLF) in line with the legal and political commitment taken by the institutions and as laid down in Article 2 of the NLF Decision No 768/2008/EC;
- the removal of the outdated temperature limit of 105°C from the definition of the scope;
- the introduction of definitions for sector specific terminology which is currently missing;
- the improvement of the contents of the communication of the types of gas and the corresponding supply pressures used in Member States in order to ensure availability for manufacturers and other stakeholders of adequate data relevant for the safety and performance of gas appliances;
- the clarification of the relationship between the GAD and the EU legislation on energy efficiency; and
- the improvement of the readability of the Articles, Essential Requirements in Annex I and other provisions of the GAD.

What is this initiative expected to achieve?

The overall objectives of this initiative are to (1) better protect health and safety of users of gas appliances and fittings as well as to ensure the appropriate performance of these products, (2) improve the fair playing field for gas appliances sector's economic operators and (3) simplify the European regulation environment in the field of gas appliances and fittings.

What is the value added of action at the EU level?

The alignment with the NLF Decision No 768/2008/EC will ensure that harmonised solutions can be applied across the sectors subject to EU product harmonisation legislation. The improved clarity of the definition of the scope and the product specific requirements will facilitate manufacturers in determining whether the GAD applies to their products, in identifying the applicable legal requirements and understanding the product specific objectives to be achieved thus reducing the administrative burden and facilitating market access. In general, the legal clarification of the GAD will provide stability due to reduced need for interpretation hence encouraging manufacturers to invest on advanced product designs and technologies. The work of the market surveillance authorities will also be facilitated resulting in reduction of non-compliant products on the market.

B. Solutions

What legislative and non-legislative policy options have been considered? Is there a preferred choice or not? Why? Maximum 14 lines

Three alternative policy options have been considered, i.e. 1) the "do nothing" as baseline option; 2) the "soft law" option as non-legislative alternative consisting of issuing commonly agreed interpretation on the application of the GAD; and 3) as "legislative" option the amendment of the legal text.

Option No. 3) is the preferred choice since only it can appropriately respond to the "problem issues" identified.

Who supports which option? Maximum 7 lines

A broad consensus exists among the Member States, European federations of manufacturers and other

stakeholders that the GAD needs the above improvements. The revision of the GAD has been several times subject to discussion at the Member States Working Group Gas Appliances' and the Notified Bodies group's meetings which have suggested many of the modifications. Also the majority (75.6%) of the respondents to the Public Consultation (2011-2012) were of the opinion that the definitions of the current GAD are not clear enough, that additional information relating to the gas supply conditions in the Member States should be made available (77.8%) and that the formulation of certain Articles and Essential Requirements could be improved.

C. Impacts of the preferred option

What are the benefits of the preferred option (if any, otherwise main ones)?

The scope and the provisions of the GAD remain unchanged implying that the proposed modifications are likely to involve minor or no impacts. Consequently, it is impossible to derive quantitative data on any specific economic or social impacts of the policy options considered relevant. Only qualitative assessment of the relatively small impacts of the preferred option was possible.

The removal of the 105°C temperature limit will clarify the scope without other specific impacts. Introduction of definitions for the sector specific terminology will facilitate implementation of the GAD and reduce slightly the administrative burden. Defining better the contents of the communication of gas supply conditions and the relationship of the GAD and the specific energy efficiency legislation will provide savings as adequate information is made available enabling designing safe, energy efficient new products. Identification of laws that need to be complied with is facilitated and potential areas of overlapping are avoided. Clarity regarding the energy efficiency legislation will facilitate developing competitive designs. Improving the readability and clarity of the Articles, Essential requirements and other provisions as well as the introduction of general design principles will have a positive impact on user safety through improved inherent safety of products.

What are the costs of the preferred option (if any, otherwise main ones)? Maximum 12 lines

Since the modification of the scope of the GAD cannot be justified, the legal framework established by the GAD will remain unchanged. As a consequence, also the economic operators and the other stakeholders affected by the GAD will remain the same as currently.

In the absence of particular concrete problems that need to be addressed, the preferred option 3) is likely to involve no or minor or no costs with minimal impacts implying apart from the adaptation of the legal framework requiring a one-off effort from all parties. Reduction of administrative burden as a consequence of improved legal clarity will provide cost savings in particular in the long term however these could not be quantified.

This implies that it is impossible to derive quantitative data on any specific economic or social impacts of the policy options considered relevant.

How will businesses, SMEs and micro-enterprises be affected?

No impacts specific for SMEs and micro-enterprises have been identified.

Will there be significant impacts on national budgets and administrations?

The initiative will not have significant impacts on national budgets and administrations.

Will there be other significant impacts?

The minor changes to the GAD improve the readability and clarity of it and are therefore not assumed to have any other significant impacts.

D. Follow up

When will the policy be reviewed?

No decision on the revision of the policy has been made however it is a common practise to have an evaluation

carried out within 5 to 10 years after the date of application of the Regulation.

List of Acronyms

BBQs	Barbecues
BED	Boiler Efficiency Directive 92/42/EEC
CEN	European Committee for Standardization
CIG	Italian Gas Committee
CO	carbon monoxide
CPD	Constructions Products Directive 89/106/EEC
CPR	Constructions Products Regulation No 305/2011
DVGW	Deutsche Vereinigung des Gas-und Wasserfaches
EMC	Electromagnetic Compatibility Directive 2004 /108/EC
EPBD	Energy Performance of Buildings Directive
ER	Essential Requirement
EU	European Union
GAD	Gas Appliances Directive 2009/142/EC
GAD-AC	Gas Appliances Directive Advisory Committee
GAD ADCO	GAD Administrative Cooperation group
GPSD	General Product Safety Directive 2001/95/EC
HSE	UK Health and Safety Executive
HVAC	heating, ventilation and air conditioning
ICSMS	data exchange system on market surveillance between the market surveillance bodies in Europe
IA	Impact Assessment
IA Board	Impact Assessment Board
IA Report	Impact Assessment Report
IA Study	Impact Assessment Study
IASG	Impact Assessment Steering Group
JRC	Joint Research Centre
LVD	Low Voltage Directive 2006/95/EC
LPG	Liquefied Petroleum Gas
MD	Machinery Directive 2006/42/EC
NB-GA	Notified Bodies Gas Appliances
NLF	New Legislative Framework
OJEU	Offocial Journal of the European Union
Prodcom	The term comes from the French "PRODuction COMmunautaire" (Community Production) for mining, quarrying and manufacturing
PED	Pressure Equipment Directive 97/23/EC
RAPEX	EU rapid alert system
R&D	Research and development
SG	Secretary General
SMEs	Small and Medium Size Enterprises
TFEU	Treaty on the Functioning of the European Union
WG-GA	Member States Working Group Gas Appliances
WG GAD Rev	Working Group GAD Revision

1. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

1.1. Identification

Lead DG: DG ENTR

Other involved DGs: SG, ENER, JRC

Agenda Planning/WP Reference: 2013/ENTR/16

1.2. Organisation and timing

Work on the present Impact Assessment Report (IA Report) started in 2012 with the launch of an external study. A Impact Assessment Steering Group (IASG) was created and met 5 times: on 16 January 2012, 19 March 2012, 5 June 2012, 16 August 2012 and 15 March 2013. Representatives of SG, DG CLIMA, DG COMP, DG ENER, DG ENTR, DG EMPL, DG ENV, DG MARKT, DG MOVE, DG RTD, DG SANCO and JRC were invited. DG ENER, DG ENTR A5 and B5 participated in the meetings as well as JRC contributed the work of the IASG in writing.

1.3. Consultation and expertise

The Member States and other stakeholders, including manufacturers' federations, notified bodies and representatives of standardisation bodies, consumers' voice in standardisation and consumers/citizens, have been involved in the IA process from its beginning. The consultation included organisation of meetings with the **Member States Working Group Gas Appliances (WG-GA)**[1], the **Working Group GAD Revision (WG GAD Rev)**[2] and the **Gas Appliances Directive Advisory Committee (GAD-AC)**[3]. These groups contributed actively to the revision process and provided input enabling examination of the policy options.

Additionally **a Public Consultation** was organised between December 2011 and March 2012[4]. It collected views and opinions of relevant stakeholders and citizens on various issues that the revision of the Gas Appliances Directive 2009/142/EC (GAD) might address. The consultation was grouped in sets of questions on a) the alignment of the GAD to the New Legislative Framework (NLF); b) the clarification of its provisions; and c) the possible modification of the scope. Overall 90 responses were received, 25 from manufacturers' associations, 8 from notified bodies, 31 from enterprises (including 14 SMEs), 8 from public authorities, 7 from standardisation organisations, 2 from consumer organisations and 9 from citizens. The replies provided the Commission services with valuable input necessary to further elaborate the identified policy needs. The Commission's minimum consultation standards were fully met.

For summary of the results of the Public Consultation, see ANNEX I.

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1 The Member States Working Group Gas Appliances (WG-GA) is chaired by the Commission and composed of representatives of the Member States, European federations, notified bodies and CEN.

2 The Working Group GAD Revision (WG GAD Rev) is a ad-hoc group set up by the WG-GA to deal with the stakeholders' proposals on how to revise the GAD by preparing discussion documents for the meetings of the WG-GA.

3 The Gas Appliances Directive Advisory Committee (GAD-AC) is the group of notified bodies designated to carry out conformity assessment tasks under the GAD. The Commission, representatives of European federations of manufacturers and few Member States are attending the meetings of GAD-AC as observers.

4 The 12 weeks (19/12/2011-11/03/2012) duration of the Public Consultation complies with the current Commission's standards for consultations.

The responses to the Public Consultation were carefully examined by the external contractor undertaking the Impact Assessment Study (IA Study) launched in 12/2011 and completed in 10/2012. The results of the evaluation of the GAD will be presented below in chapter 2.4.

1.4. Scrutiny by the Commission Impact Assessment Board

The Impact Assessment Board (IA Board) of the European Commission assessed a draft version of the present Impact Assessment (IA) and issued its opinion on 15/05/2013. The Impact Assessment Board made several recommendations and, in the light of the latter, the final IA Report:

Clarifies

- the nature and extent of the observed problems in the GAD and explains how they relate to health and safety issues, an uneven playing field and complex regulatory environment;
- why alignment with the NLF is necessary and how it will be achieved; and
- why the action is required now.

Describes

- better the content of the options, in particular it explains the difference between the baseline and “soft law” options;
- what the mandatory general design principles on safety would entail; and
- outlines the specific changes that will result from aligning the GAD with the NLF.

The assessment of impacts is improved in order to provide a more balanced assessment reflecting the limited available evidence on problems. The IA Report will also be amended by an assessment of the compliance costs and impacts on SMEs and the views and concerns of stakeholders with critical views are integrated in the report.

2. CONTEXT

2.1. Gas Appliances Directive

This Impact Assessment accompanies a proposal for a revision of the Directive of the European Parliament and of the Council 2009/142/EC of 30 November 2009 relating to appliances burning gaseous fuels (GAD). The Directive permits the free movement of appliances and fittings within the EU market while ensuring a high level of protection for their users as far as risks due to gas and the rational use of energy are concerned.

The GAD covers "*appliances burning gaseous fuels used for cooking, heating, hot water production, refrigeration, lighting or washing and having, where applicable, a normal water temperature not exceeding 105°C*" and "*forced draught burners and heating bodies to be equipped with such burners" considered also as appliances*". The GAD applies also to "*fittings*" meaning "*safety devices, controlling devices or regulating devices and sub-assemblies, other than forced draught burners and heating bodies to be equipped with such burners, separately marketed for trade use and designed to be incorporated into an appliance burning gaseous fuel or assembled to constitute such an appliance*". Appliances specifically designed for use in industrial processes carried out on industrial premises are excluded from the scope.

The GAD is based on Article 114 of the Treaty on the functioning of the European Union (TFEU) and is one of the first regulatory measures to adopt the New Approach where

manufacturers must ensure conformity of their products with the mandatory and essential requirements regarding safety, health and energy conservation in relation to gas appliances and their fittings. The New Approach has recently been revised and integrated into the New Legislative Framework (NLF)[5].

The essential requirements (ERs) listed in Annex I to the GAD include three categories of requirements: general conditions (e.g. on mandatory instructions, markings and warnings), requirements for materials (e.g. they must be suitable for their purpose) and design and construction requirements (e.g. concerning release of unburned gas, combustion products, surface temperatures, etc.). Technical specifications agreed by stakeholders and experts in the field, usually harmonised European standards, support the Directive in "translating" the ERs into detailed requirements for certain types of products. In practise, this means that the harmonised European standards[6], the reference numbers of which have been published in the *Official Journal of the European Union* (OJEU), provide a presumption of conformity with the GAD's ERs. Using harmonized standards is voluntary.

The scope of the GAD is defined by providing **a list of uses** (or applications) of products implying that a wide range of mainly common consumer products and products used in non-domestic environments (like on commercial premises) are covered. Fittings being safety, regulating and controlling devices are, in the end, placed on the market incorporated into finalised appliances bearing the CE marking since, prior to their incorporation, fittings are only separately placed on the market for trade use, i.e. they are traded between manufacturers.

Examples of gas appliances include: gas central heating boilers (heating boilers used for space heating, combination boilers used for both space and water heating), gas fires/heaters (fixed and portable gas fire places and space heaters), gas water heaters (appliances used to heat water for purposes other than space heating like instantaneous water heaters), gas cookers/ovens/barbecues (fixed and mobile hobs/stoves, ovens, ovens with grill and/or hob and barbecues/grills), gas refrigerators (mobile and fixed fridges powered by gas, or by gas and electricity), gas-fuelled lighting equipment (mobile and fixed lanterns), mobile appliances (mobile cookers/barbecues, patio heaters, infrared tube heaters etc. devices mainly used for outdoor leisure activities). Typical gas appliances can be seen in Figure 1.

Examples of fittings are e.g. appliance governors, multifunctional controls, solenoid and ball as well as low pressure cut-off valves, gas taps, flame supervision devices, sensors, burner control systems, thermostats and pressure sensing device.

The Directive applies to each individual appliance which is placed on the market and/or put into service in the EU for the first time. It applies equally to the placing on the market of fittings for trade use.

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5 New Legislative Framework for marketing of products: http://ec.europa.eu/enterprise/policies/single-market-goods/internal-market-for-products/new-legislative-framework/index_en.htm

6 A harmonised standard is a European standard elaborated on the basis of a request from the European Commission to a recognised European Standards Organisation to develop a European standard that provides solutions for compliance with a legal provision. Such a request provides guidelines which requested standards must respect to meet the essential requirements or other provisions of relevant European Union harmonisation legislation. Compliance with harmonised standards provides a presumption of conformity with the corresponding requirements of harmonisation legislation. Manufacturers, other economic operators or conformity assessment bodies can use harmonised standards to demonstrate that products, services or processes comply with relevant EU legislation.

Figure 1: Examples of appliances

The GAD establishes in its Annex II the conformity assessment procedures (for details of the GAD conformity assessment procedures, see ANNEX II) to be followed by manufacturers before a specific appliance or fitting is placed on the market. The conformity assessment modules are always carried out by a notified body[7].

Annex III to the GAD contains the provisions on the CE marking and other inscriptions that an appliance or its data plate must bear.

Annex IV to the GAD lists the design documentation that the manufacturer must include in the application for the EC type-examination or make available for the notified body carrying out the EC unit verification. This so-called technical file shall be submitted to the competent authorities on request.

Annex V to the GAD defines the minimum conditions that the notified bodies designated by the Member States must fulfil.

Annex VI relates to the codification of the GAD and provides the references of the repealed Directives and the list of time-limits for transposition into national law and application.

Annex VII contains the correlation table between the Articles and Annexes of Directive 90/396/EEC and 2009/142/EC.

2.2. New Legislative Framework

The whole area of EU product legislation and in particular the “New Approach” has recently undergone a horizontal review that resulted in the adoption of the New Legislative Framework (NLF)[8].

The NLF consists of two instruments. Regulation (EC) No 765/2008 on accreditation and market surveillance[9] (NLF Regulation) has introduced rules on accreditation[10] and requirements for the organisation and performance of market surveillance and controls of

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7 These bodies have been appointed by the Member States to carry out the conformity assessment tasks including testing, inspecting and certifying products. They are called "notified bodies" because the designating Member State must notify these bodies to the Commission.

8 Single market for goods - New legislative framework: http://ec.europa.eu/enterprise/policies/single-market-goods/documents/internal-market-for-products/new-legislative-framework/index_en.htm

9 Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:218:0030:0047:EN:PDF

10 Accreditation is a tool for the control of the competence of laboratories and certification/inspection bodies delivering certificates in the EU

products from third countries. It is complemented by Decision No 768/2008/EC establishing a common framework for the marketing of products[11] (NLF Decision) which is conceived as a "toolbox" for future legislation providing solutions that can work across all sectors. It contains model provisions to be commonly used in EU product legislation (e.g. definitions, obligations of economic operators, notified bodies, safeguard mechanisms, etc.).

The three EU institutions involved in the legislative process, Council, Parliament and Commission have committed themselves to use the NLF Decision's provisions as much as possible in future legislation in order to further the utmost coherence of the regulatory framework[12]. The NLF was accompanied by an impact assessment[13].

Also the Regulation (EU) No 1025/2012 on European standardisation[14] setting the framework for using harmonised standards in Union harmonisation legislation has become part of the NLF.

2.3. Other Directives with impacts on the Gas Appliances Directive

Besides the GAD there are a number of other Directives that are relevant to gas appliances. In particular the following Directives may have impacts on gas appliances, their internal components and fittings:

- Ecodesign Directive 2009/125/EC and its implementing measures apply to certain gas appliances.
- Energy Performance of Buildings Directive 2002/91/EC (EPBD)
- Construction Products Directive 1989/106/EEC (CPD) and Construction Products Regulation 305/2011/EU (CPR)
- Low Voltage Directive 2006/95/EC (LVD)
- Electromagnetic Compatibility Directive 2004/108/EC (EMC)
- Pressure Equipment Directive 97/23/EC (PED)
- General Product Safety Directive 2001/95/EC (GPSD)

More information about these Directives is provided in ANNEX III.

2.4. Evaluation of the Gas Appliances Directive

The Directive has been in place since 1990 with the first date of application on 1 January 1992. Although the GAD has been functioning well, the experience with its implementation and the technical progress and innovation made necessary to examine whether certain provisions of it would need to be reviewed. A regular feedback on its functioning is mainly

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[11] Decision No 768/2008/EC of the European Parliament and of the Council of 9 July 2008 on a common framework for the marketing of products http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:218:0082:0128:EN:PDF

[12] Article 2 of Decision 768/2008 reads: "*Subject matter and scope*: *This Decision sets out the common framework of general principles and reference provisions for the drawing up of Community legislation harmonising the conditions for the marketing of products ("Community harmonisation legislation"). Community harmonisation legislation shall have recourse to the general principles set out in this Decision and to the relevant reference provisions of Annexes I, II and III. However, Community legislation may depart from those general principles and reference provisions if that is appropriate on account of the specificities of the sector concerned, especially if comprehensive legal systems are already in place*".

[13] SEC 2007(173) http://ec.europa.eu/governance/impact/ia_carried_out/docs/ia_2007/sec_2007_0173_en.pdf

[14] Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:316:0012:0033:EN:PDF

received through the governmental experts of the Member States responsible for the implementation of the GAD and relevant stakeholders who meet in the WG-GA (for the details of the GAD governance structure, see ANNEX IV).

Ex-post evaluation

The GAD was subject to an Ex-post Evaluation Study[15] carried out in 2010-2011. The primary focus was to assess the direct impacts of the GAD in terms of its main objectives of ensuring free movement of products and protecting against risks to safety and health. More concretely, the study assessed the effectiveness of the GAD, its impacts on companies and users in the European Union, trade barriers that limit the free movement of goods, innovation, and whether the provisions of the GAD appropriately guarantee that gas appliances and fittings placed on the market and put into service are designed and constructed in such a way that they operate safely and present no dangers.

Although the ex-post evaluation concluded that the Directive was functioning well and contributed to the improvement of safety of gas appliances, it also highlighted usefully some areas where improvement would be desired. The areas of concerns were the following:

- The considerable variations in the extent of market surveillance between Member States;
- The differences in the controls over the quality of notified bodies and the fact that fact that some notified bodies do not attend EU level co-ordination meetings thus not benefitting from exchange of experience;
- The continuing trend of mixing different gases requiring gas appliance manufacturers to accept a wider range of gas quality. Harmonised requirements for the format and content of this information could help manufacturers to address this issue;
- The differences in the national installation requirements and qualification requirements for gas installers;
- The leading cause of fatalities associated with gas appliances relate to carbon monoxide (CO) poisoning;
- The costs of the GAD are relatively higher for SMEs implying that SMEs are more sensitive to any changes of the legal framework; and
- The fact that the GAD does not cover all products presenting gas risks.

The overall conclusion of the data collection, the consultation of sector's stakeholders and the executed analysis was that the Directive had been implemented successfully in all Member States and has been functioning well. It could be concluded that the Directive had been efficient and had been effective in meeting its objectives.

The compliance costs caused by the change from the pre-GAD national legal frameworks to the harmonised EU-wide GAD framework more than 20 years ago might have been significant for one-off or short run products which were assumed to more likely be manufactured by smaller companies. This could indicate potentially adverse effect on SMEs due to higher unit costs, if the scope was changed.

The number of gas appliance related accidents had been declining, the trend had been away from fatal incidents and the number of incidents resulting in injuries has also dropped. A

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[15] Ex-post evaluation of Directive 2009/142/EC on appliances burning gaseous fuels (GAD), Final Report, Risk & Policy Analysts Limited, March 2011
http://ec.europa.eu/enterprise/dg/files/evaluation/03_2011_finalreport_gas_en.pdf

general consensus that the GAD had improved the safety of gas appliances exists. This is demonstrated also by the very low number (at most 15 per year) of gas appliances notified annually under RAPEX and ICSMS systems compared to the millions of gas appliances sold each year.

More detailed information on the ex-post evaluation can be found in ANNEX V.

Impact assessment study

The present report builds on IA Study[16] on the review of the GAD which examined the impacts of (1) the alignment of the GAD with the New Legislative Framework (NLF); (2) the clarification of its provisions; and (3) a possible modification of the scope.

Methodology

A review of available data as well as consultation with relevant stakeholders was undertaken to identify any safety risks or market failures (i.e. barriers to trade) that have arisen in relation to products currently included in the scope of the GAD and those which are not covered by it. Efforts were made to obtain the most relevant and accurate data. The starting points for the assessment were the findings and conclusions of the above ex-post evaluation of the GAD.

Furthermore, an additional consultation was undertaken by sending a questionnaire to over 130 named persons in relevant organisations. 34 responses were received with several follow-up interviews. The responses to these interviews and the Public Consultation (2011-2012) were critically analysed and reviewed with particular regard to assisting with the identification of potential problems and issues which would benefit from revisions to the GAD. In particular, stakeholders that had proposed taking new product groups within the scope of the GAD were further consulted in order to accurately determine the underlying problems and their drivers and to enable formulation of respective policy options.

The work was executed in conformity with the general approach set out in the Commission's Impact Assessment Guidelines[17]. The methodological framework underling the analysis is a cost-benefit analysis, with the aim being to determine whether the proposed revisions under the policy options would deliver net benefits. Where quantifying a particular impact was not possible, qualitative information was combined with quantitative data to provide an overarching assessment of whether an option delivers net benefits.

Outcome of the study

Regarding the potential problems other than those dealt with by the NLF, it was necessary to carefully investigate a number of issues raised by Member States, manufacturers and other stakeholders implying that the GAD was not included in the alignment package of the 9 Directives currently subject to inter-institutional discussions. After the IA Study had been carried out, it appeared that there is no need to extend the scope of the GAD. Consequently, no major change is necessary but the issues to be dealt with concern clarification of the existing legal provisions.

The results of the IA Study are presented in more detail below in section 4.

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[16] Impact assessment study on the review of the Gas Appliances Directive 2009/142/EC,), Final Report, Risk & Policy Analysts Limited, October 2012 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/gad/ia-study-rep_en.pdf

[17] European Commission, Impact Assessment Guidelines SEC(2009) 92, January 2009 http://ec.europa.eu/governance/impact/commission_guidelines/docs/iag_2009_en.pdf

A detailed analysis of the governance structure of the GAD, the results of the ex-post evaluation of Directive 2009/142/EC on appliances burning gaseous fuels (GAD), an overview of the appliances and fittings market, examination of accident data, summary of the elements relevant for the alignment of the GAD with the NLF, analysis of the interpretation needs as reflected by the current GAD Guidance Sheets, additional information about the applied methodology and an in-depth analysis of the policy options and competitiveness proofing are presented in Appendices.

3. OVERVIEW OF THE APPLIANCES AND FITTINGS SECTOR

The sales and stock of gas appliances are linked to the consumption of mains gas and Liquefied Petroleum Gas (LPG). For fixed appliances it has been therefore useful to consider the number of households connected to mains gas and the consumption of LPG. For mobile appliances, the consumption of LPG is the key indicator. However, only very limited data were available on the number of homes and businesses using LPG. Due to the fact that Eurostat statistics does not differentiate between appliances that are fixed and mobile, the data presented for fixed space and water heaters and cooking appliances already includes mobile appliances.

The IA Study (2012) provided an estimate on the current EU stock of gas appliances is being at least 470 million. Annual sales of gas appliances are at least 30 million units and are sold and (in most cases) installed at a total cost of around €40 billion. When installation costs are excluded, the annual value is around €23 billion.

For fittings, no EU wide information on stock, lifespan, consumption, or costs is available. However, according to the Competitiveness Study (2009)[18], the turnover in the fittings (safety, controlling and regulating devices other than gas appliances) sector was around €1.7 billion. It must be noted that fittings are an independent sub-group of GAD covered products which are traded between manufacturers; the annual sales value of gas appliances provided above is not directly linked to the sales of fittings.

Currently, the markets for most types of gas appliances are considered to be mature, with numerous competitors and established market positions amongst the major manufacturing companies. For some product categories, they have largely become replacement markets (such as the boiler market in Germany, Belgium and the Netherlands). However, there may be scope for market growth in those Member States where access to mains gas is set to increase in the future.

The data collected on the markets for the main product categories (see 2.1.) of gas appliances are summarised in Table 1. Due to lack of disaggregated data, mobile and fixed appliances are considered together. The table does not provide data on products that are currently outside the scope of the GAD.

[18] Ecorys (2009): Study on the Competitiveness of the Gas Appliances Sector http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/study_competitiveness_eu_gas_appliances_final_en.pdf

Table 1: Summary of the appliances and fittings market for the main product categories (2010)

Product category	Stock (million)	Lifespan (years)	Sales (million)	Purchase Cost (€)	Install. cost (€) (1)	Value (€billion)
appliances						
Gas boilers	100	23	7.8	1,700	1,600	26
Gas fires/ space heaters	55[1,4]	30	4.8 [1,2,4]	240 [3] 450 [1]	270	3.5 [1,4]
Gas water heaters	36[1,4]	17	2 [1,4]	390, 730[1,5]	250, 450 [1,5]	1.4 [1,4]
Gas cookers/ ovens/BBQ	280	19	15	268 - 2,000	30 - 400	5.6
Gas refrigerators	-	-	-	200 - 1,800		Unknown
Gas lighting	0.07 (street lights)	-	Millions	10-75 [3]	-	0.26
fittings						
Associated fittings[6]	-	-	-	-	-	1.7
Notes: 1) Household use only, 2) Fixed appliances only, 3) Mobile appliances only, 4) Likely to be an underestimate, 5) Instantaneous heaters/storage heaters., 6) Fittings separately marketed for trade use						

Source: Impact Assessment Study (2012)

More detailed information on the appliances and fittings market can be found in ANNEX VI.

4. PROBLEM DEFINITION

Despite successful functioning of the GAD, there is a broad consensus that it needs some improvements. For instance, the majority of the respondents (75.6%) to the Public Consultation (2011-2012) did not consider the definition of the scope in the current GAD clear enabling determination of products falling within the scope. Furthermore, 77.8% of the respondents were of the opinion that additional information relating to the gas supply conditions in the Member States should be made available. Most of the respondents (77.8%) were not in favour to deal with energy efficiency in a more concrete way in the framework of the GAD but to refer to the more specific EU harmonisation legislation regarding this aspect. In general, the improvement of the formulation of certain Articles and Essential Requirements as well as providing definitions for the terminology used was supported by the majority of the respondents to the Public Consultation (for more details see ANNEX I).

The elements of the policy options have also been subject to very detailed and long discussions in several meetings of the WG-GA, WG GAD Rev and GAD-AC. The Public Consultation (2011-2012) made it possible also for parties not represented in these groups (e.g. citizens, SMEs, manufacturers of gas products not covered by the current GAD, etc.) to contribute to the revision process. In the framework of the IA Study, further consultations of the sector's experts and other contributing parties were executed in order to obtain additional information about the underlying problems behind the proposals and views expressed, and the causes of the problems.

Consequently, all the parties potentially concerned were widely consulted on the proposed policy options.

Lots of efforts were yet put into attempts to identify the assumed safety related problems and/or those caused by internal market barriers. Consequently, regarding a possible widening of the scope the Public Consultation (2011-2012) questions asked the respondents, among other things, to indicate which products and/or product groups are subject to obstacles to intra-EU trade or which present unresolved gas risks, to describe what the concrete problems that have been experienced are and to indicate in or between which Member States these problems have appeared. The responses were subject to extremely careful analysis. Parallel to this examination, data, accident statistics and potentially relevant information from other sources (other studies, Impact Assessments, etc.) was collected and examined.

After the IA Study had been carried out, it appeared that the extension of the scope cannot be justified as real problems in terms of health and safety of EU citizens, uneven level playing field or complex regulatory environment which would be classified as "problems" in the meaning of the Commission's Impact Assessment Guidelines were not identified implying that no major change is necessary. The identified issues to be dealt with concern clarification and simplification of the existing legal provisions, and alignment.

Nevertheless, it is the time to go ahead with the alignment of the GAD as the alignment of the sectorial Directives with the NLF is a legal and political commitment taken by the institutions. As this requires amendment of the legal text of the GAD, the opportunity is used to address those GAD specific aspects deemed to be justified.

The above areas of improvements do not involve major changes; however, in light of the experience of the functioning of the Directive, the input to the Public Consultation and the outcome of the IA Study (2012), the following areas of issues were carefully examined:

- the alignment with the New Legislative Framework (NLF);
- the scope, i.e. the product coverage;
- the sector specific terminology used and definitions;
- the communication of the types of gas and the corresponding supply pressures used on the territories of the Member States;
- the concept of rational use of energy, and
- the requirements (Articles, Essential Requirements in Annex I, other Annexes).

Taking the results of the IA Study into account and noting that the scope and the provisions of the GAD remain nearly unchanged, it can be concluded that the proposal does not have significant economic, social or environmental impacts except those minor impacts of proposed clarifications which will yet highly facilitate the application of the GAD by the economic operators through improved legal clarity and certainty. Consequently, it is impossible to derive quantitative data on any specific impacts; however the expected marginal benefits have been dealt with in a proportionate way carrying out a qualitative assessment (see section 7.3. and Annex XI). This IA Report refers to the clarification issues as "problem issues" in order to stress that no real problems were identified.

For the problem issue tree see Figure 2 at the end of section 4.

4.1. Alignment with the New Legislative Framework

One of the reasons the reasons for adopting the NLF was a finding that in some sectors a significant number of non-compliant products not fulfilling the requirements set out in the corresponding Directives were being placed on the market. Some actors were simply affixing the CE marking to their products, even though these products did not fulfil the conditions for being CE marked.

Neither the Ex-post Evaluation Study (2011) nor the IA Study (2012) could identify evidence on this behaviour being a problem in the gas appliances sector. It also it appeared that market

surveillance is able to identify products that do not comply with the requirements of the GAD as well as gas safety risks presented by products currently outside its scope (for more detailed information about the analysis of the accident data, see ANNEX VII). These non-compliant products are subject to restrictive measures like sales ban and withdrawal from the market including recalls from consumers showing that the safety risks are under control[19].

However, many of the general problems identified by the NLF have also been observed in the context of implementing the GAD.

In its reports to the WG-GA the notified bodies' group GAD-AC and several European federations have pointed out that there are differences between the notified bodies in terms of the equipment they have at their disposal, with regard to their expertise, their prices and in their practices to sub-contract testing, The notified bodies group has also deplored the fact that many notified bodies do not participate in the co-ordination meetings aiming to bridge the gap in knowledge that exists across all notified bodies and may not apply the GAD Guidance Sheets[20]. Furthermore the group frequently pointed out different practices in the Member States as regards the evaluation and monitoring of notified bodies.

A number of appliance and fittings manufacturers are also faced with the problem of the legal framework being complex and sometimes being experienced inconsistent as frequently appliances and fittings have to comply also with other Directives[21].

The alignment of the GAD with the NLF will be in line with the political and legal commitment laid down in Article 2 of the NLF Decision[12] to use the solutions offered by the Decision as consistently as possible in order to address the overall problems by removing the inconsistencies in the sectorial legislation to enable the economic operators and authorities to correctly interpret and apply that legislation.

Concretely, the alignment of the GAD intends to align it to the "goods package" adopted in 2008 and in particular to Decision No 768/2008/EC establishing a common framework for the marketing of products. It will include introduction of the relevant horizontal definitions, traceability requirements, obligations of economic operators, criteria and procedures for the selection of conformity assessment bodies (notified bodies) and conformity assessment requirements in the GAD legal text. The alignment will not include introduction of new elements going beyond a pure alignment of the current GAD. More detailed information on the alignment of the GAD with the NLF Decision and its impacts can be found in ANNEX VIII.

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19 This result was verified by further consultation with authorities and other organisations undertaken in the framework of the IA Study (2012).

20 These GAD Guidance Sheets, prepared by the notified bodies group and endorsed by the Member States Working Group Gas Appliances are neither a legally binding interpretation of the directive nor can they formally commit Notified Bodies or authorities. However, based on a lay consensus, they represent a reference for ensuring consistent application of the directive by all those involved.
See http://ec.europa.eu/enterprise/sectors/pressure-and-gas/documents/gad/guidances/index_en.htm

21 Often e.g. one of more of the following Directives apply to appliances and fittings: the Pressure Equipment Directive 97/23/EC, the Low Voltage Directive 2006/95/ECC, the Machinery Directive 2006/42/EC, the Electromagnetic Compatibility Directive and the Construction Products Directive 1989/106/EEC. The Directive 92/42/EEC on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels which is an implementing measure under the EcoDesign Directive 2005/32/EC covers the energy efficiency of gas boilers.

The changes and their impacts resulting from aligning with the NLF are expected to be the same as for the nine product harmonisation Directives included in the Alignment Package. The Impact Assessment Report on this Alignment Package[22] has already examined in depth the different options to give effect to the NLF Decision in case of EU product harmonisation which are exactly the same for the GAD. The report also provided an analysis of the impacts resulting from the measures set out by the NLF Decision. For this reason this IA Report will not examine these aspects. It will focus on GAD specific problems and issues as well as the ways to address them.

Equally, the Impact Assessment Report on the Regulation (EU) No 1025/2012[23] of European Standardisation examined the impacts of this Regulation. Therefore these aspects are not dealt with in this report.

4.2. Scope - Product coverage

4.2.1. Problem that requires action and its underlying drivers

The technical progress and innovation made it necessary to examine whether a modification of the scope of the GAD was required, in particular in order to conclude if any new product groups should be brought within the scope of the GAD. One of the main arguments used to motivate the possible extension of the scope was that the scope of the GAD excludes certain products that may present gas risks as currently only products for the uses[24] listed in the definition of the scope are covered. For instance, tools or appliances used for heating of materials are not covered unless specifically mentioned (e.g. hot water production).

As a strong consensus to widen the scope has existed among the majority of the Member States and main stakeholders, an in-depth analysis of all available data and the changes proposed by the Member States and the other stakeholders was undertaken. Both the Public Consultation (2011–2012) and IA Study (2012) gave a lot of emphasis on the identification of the real problems and their causes. In particular, the Member States and the stakeholders that had proposed taking new product groups within the scope of the GAD were further consulted in order to accurately determine the underlying problems and their drivers in order to enable formulation of respective policy options. They were asked to indicate which products and/or product groups are subject to any kind of obstacles to intra-EU trade or which present unresolved gas risks, to describe what the concrete problems that have been experienced are, and to indicate in or between which Member States these problems have appeared.

However, none of the consulted parties was able to identify more than a few issues relating to e.g. national variations in installation requirements, national requirements for installers, building codes, etc. These issues go beyond the scope of the free movement of goods and fall under the competence of the Member States; therefore they are not relevant for the objective of the GAD which is to ensure the free movement of products covered by its scope.

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22 New Legislative Framework (NLF) Alignment Package (Implementation of Goods Package), Commission Staff Working Paper - Impact Assessment, accompanying document to the 10 Proposals to Align Product Harmonisation Directives to Decision No 768/2008/EC, SEC (2011) 1376 final, dated 21.11.2011 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2011:1376:FIN:EN:PDF

23 SEC 2011(671) http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2011:0671:FIN:EN:PDF

24 The use of appliances for cooking, heating, hot water production, refrigeration, lighting and washing is covered as well as forced draught burners and heating bodies to be equipped with such burners. The GAD also covers so-called fittings. Appliances specifically designed for use in industrial processes carried out on industrial premises are excluded from the scope.

The above thorough analysis undertaken in the framework of the IA Study (2012) demonstrated that no concrete evidence was available justifying expanding the scope to cover new products for safety reasons (no concrete identified gas safety risks that need to or could be addressed in the revision). Neither regarding the functioning of the internal market any specific problems associated with barriers to trade with products that currently lay outside the scope of the GAD could be identified.

Regarding the anticipated evolution of the markets due to innovative products based on new designs or technologies no product groups (not yet covered by the GAD) representing a technology to be taken within the scope of the GAD was identified. Indeed, the scope of the GAD is defined by providing a list of uses of products but not by listing technologies covered therefore the scope being technology neutral and allowing any innovative technology benefitting from the GAD legal framework[25] as far as it is used to one of the applications referred to in the definition of the scope.

Appliances specifically designed for use in industrial processes carried out on industrial premises are excluded from the GAD. Whether or not this exclusion creates a gap in ensuring the safety of gas appliances being placed on the EU market was separately verified in the IA Study (2012). It appeared that a range of other EU harmonisation legislation[26] already applies to the excluded products. In addition, there are a series of end-user Directives that concern employers[27].

In general, it must be noted that many gas-related products lying outside the current scope of the GAD are covered by other Directives like the Machinery Directive, Pressure Equipment Directive, Construction Products Directive, etc. These sectors have not reported about any gas safety problems.

Extensive examination of accident data did neither reveal any such safety problems with gas appliances covered by the GAD or those outside its scope which could be addressed by revising the GAD. The overall number of accidents involving gas appliances appears low. Of those accidents that do occur, asphyxia and CO poisoning represent a threat to safety. As a broad indication, it is estimated that there are about 200 fatalities and 2,000 injuries associated

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25 There are certain specific technologies which are in principle excluded from the scope of the GAD as only products 'burning' gaseous fuels are covered. Consequently, it can be questioned whether e.g. fuel cell technologies are covered. However these are already covered e.g. by the Low Voltage Directive 2006/95/EC (LVD) which aims to ensure that only electrical equipment which do not endanger people, domestic animals or property is placed on the market. Article 2 and Annex I list the 'safety objectives' of the LVD, and it is clear that all risks that may arise from the use of electrical equipment are within its scope, with the exception of electromagnetic compatibility issues, which are dealt with by the Electromagnetic Compatibility Directive 2004/108/EC (EMC). Consequently, also gas risks of equipment covered by the LVD but not by the GAD are regulated by this EU product harmonisation Directive. The same applies often also to co-generation (simultaneous production of heat and electricity) appliances which normally fall under the scope of the Machinery Directive 2006/42/EC. Also this Directive covers the gas safety in case the GAD does not apply to the product.

26 For instance, the Machinery Directive 2006/42/EC; the Pressure Equipment Directive 97/23/EC; the Low Voltage Directive 2006/95/EC; the Electromagnetic Compatibility Directive 2004/108/EC; the Equipment Explosive Atmospheres Directive 94/9/EC; the Measuring Instruments Directive 2004/22/EC; the Construction Products Directive 89/106/EEC (to be replaced by the Construction Products Regulation 305/2011/EU on the 1 July 2013); and the Efficiency Requirements for new hot-water boilers fired with liquid or gaseous fuels 92/42/EEC.

27 For instance, Directive 89/391/EEC on the occupational safety and health framework, Directive 2009/104/EC on the use of work equipment and Directive 1999/92/EC on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres.

with (non-industrial) gas-related products across the EU-27 per year – of which, 75% are estimated to be associated with CO poisoning. However, there continue to be accidents involving gas appliances, but the majority of these are associated with installation failures and lack of maintenance rather than safety issues with the appliances..

More detailed information on the examination of the accident data can be found in ANNEX VII.

Thus, on the basis of the absence of any evidence, of problems in the single market or of safety issues there is no justification for bringing new products under the scope of the GAD, i.e. there are no concrete identified problems that need to be addressed.

The remaining aspect requiring clarification is the exclusion of appliances with a normal water temperature that exceeds 105°C. The exclusion was originally introduced since the hazards due to pressure for these products were subject to national legislation in most of the Member States at the time the GAD was adopted. Currently, the hazards due to pressure are under EU harmonisation legislation (Pressure Equipment Directive 97/23/EC) implying that no risk to conflict with national legislation exists thus the exclusion is not considered to serve any more a useful purpose. Consequently, the only identified problem issue with the current product coverage is the outdated exclusion of appliances with a normal water temperature that exceeds 105°C, however it cannot be considered as a real regulatory failure.

4.2.2. Who is affected, in what ways and to what extent?

As no particular safety problems or failures in the functioning of the internal market have been identified, the affected parties remain those concerned by the current GAD. The removal of the 105°C normal water temperature limit is considered as clarification of the GAD scope affects the users of the specific GAD Guidance Sheet A1 relating to 'Appliances and its fittings covered by the Directive'. This GAD Guidance Sheet clarifies the confusion with regard to appliances whose water temperature exceeds 105°C for only a short time.

The affected parties are the manufacturers of gas appliances with a normal water temperature close to the 105°C limit as exceeding it might result in the GAD not applying to the products concerned. Furthermore, the notified bodies, the Member State authorities and the European Organisation for Standardization (CEN) need to consider the current exclusion in carrying out their tasks. The end-users of gas appliances might be affected due to diverging approaches adopted by the manufacturers and test houses due to the fact that in borderline interpretation of whether the GAD should be applied can vary.

However, it was not possible to identify products on the market potentially concerned (e.g. espresso coffee machines designed to operate above the 105°C normal water temperature limit) suggesting that no market for such products exists. If markets exist, the number of products concerned is extremely low. Consequently, no or only few manufacturers would be affected by the amendment.

4.2.3. Evolution of the problem

As the source of the clarification need stems from the legislation itself, it will persist. Unless the definition of the scope is amended, the situation for manufacturers, notified bodies and Member State authorities will not change either. Since the introduction of the Pressure Equipment Directive, no risk to conflict with national legislation exists any more. The GAD Guidance Sheet A1 is currently used to clarify the application of the 105°C normal water temperature limit.

4.3. Sector specific terminology and definitions

4.3.1. Problem that requires action and its underlying drivers

The current wording of the definition of the scope is not precise and has led to the need for interpretation as no definitions for the terms used to define the scope are provided.

The scope of the GAD is defined by providing a list of uses of products implying that it must be assessed on case by case basis whether a design is to be considered as an "*appliance burning gaseous fuels used for cooking, heating, hot water production, refrigeration, lighting or washing and having, where applicable, a normal water temperature not exceeding 105^{o}C*". Similar assessment is required to judge whether the exclusion of "*appliances specifically designed for use in industrial processes carried out on industrial premises*" applies to a specific product.

Since no definitions for the terms like "*burning*", "*cooking*", "*heating*", "*hot water production*", "*refrigeration*", "*lighting*", "*washing*", "*specifically designed*", "*industrial processes*", "*industrial premises*", etc. are provided, the definition of the scope is not as clear as it could be. As a result, it has been necessary to elaborate several GAD Guidance Sheets to clarify the scope[20]: currently 5 GAD guidance Sheets deal purely with the interpretation of the scope. Some of the terms used in the Essential Requirements are not entirely clear, e.g. adequate definitions for the terms "combustion" and "combustion products" would facilitate the application of the Essential Requirements. Also the current definition of fittings[28] refers to "*sub-assemblies*" in a way, which does not clearly indicate the intention to cover only safety, controlling or regulating devices and combinations thereof.

In order to provide a means to verify the compatibility of appliances with the gas supply conditions, the GAD requires, amongst others, that the "*appliance category*"[29] marking must be given either on the appliance or its data plate. In order to enable defining the meaning of the "*appliance category*" marking, also the terms "*gas family*" and "*gas group*" would need to be defined. These two terms would need to be introduced in the GAD.

In order to take into account the developments in the field of EU energy efficiency legislation, the current terminology used in the GAD referring to "*energy conservation*"[30] and "*rational use of energy*"[31] must also be reviewed. This matter is dealt with separately in chapter 4.5.

More detailed information on the interpretation needs as reflected by the existing GAD Guidance Sheets can be found in ANNEX IX.

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28 Fittings means safety devices, controlling devices or regulating devices and sub-assemblies, other than forced draught burners and heating bodies to be equipped with such burners, separately marketed for trade use and designed to be incorporated into an appliance burning gaseous fuel or assembled to constitute such an appliance

29 'Appliance category' is the means of identifying the gas families and/or gas groups that a gas appliance is designed to utilize safely and to the desired performance level. A "gas family" is a group of gaseous fuels with similar burning behaviour linked together by a range of Wobbe indices. Furthermore, a "gas group" is a specified range of Wobbe index within that of the family concerned; this range is determined on the general principle that appliances utilising this gas group would operate safely when burning all gases within this range without adjustments. The Wobbe Index is used to compare the combustion energy output of different composition fuel gases. If two fuels gases have identical Wobbe Indices then for given pressure the energy output will also be identical.

30 GAD Recital (7)

31 Essential Requirement 3.5. on rational use of energy, Annex I to the GAD

The above highlights the need to clarify the terminology used in the current Directive, so as to facilitate its implementation and to ensure that all actors understand their obligations and that there is a level playing field across all of the markets covered by the GAD.

The described problem is a shortcoming of the current legal text due to the absence of the definitions for the terminology used. These definitions can be introduced in the GAD only by amending the legal text implying that the absence of these definitions can be considered as a problem issue.

4.3.2. Who is affected, in what ways and to what extent?

The manufacturers of gas appliances and fittings, the notified bodies, the Member State authorities and the CEN who need to know which products are covered by the GAD and which remain outside its scope are affected. The lack of definitions for the technical terminology used has resulted in need for interpretation of the meaning of the terms and concepts referred to in the GAD.

The interpretation of the terminology used in the GAD provided in the GAD Guidance Sheets has ensured that the problems with the legal ambiguity have remained small. Despite of issuing GAD Guidance Sheets some grey areas[32] creating legal uncertainty remain.

The need for interpretation indicates that the sector's stakeholders must frequently return to unclear matters in order to agree on common approaches regarding the scope and certain other provisions of the GAD. No long-term legal certainty can be achieved as long as the terms used in the legal text can be subject to interpretation.

4.3.3. Evolution of the problem

The problem with the missing definitions for the sector specific terminology has been a fact as from the time of adoption of the GAD[33]. Interpretation in the form of GAD Guidance Sheets has been adopted over the years the GAD has been applicable, as necessary, enabling keeping the problem under control.

Since the introduction of the GAD in 1990 there has been considerable innovation in the development of gas appliances for use in a domestic setting. This includes a range of new commercial applications, such as co-generation appliances utilising fuel cell technology. For instance, it can be argued that fuel cell products do not "*burn*" gaseous fuel. Therefore it is becoming more and more important to be able to precisely define the scope of the GAD in terms of precise uses of products covered.

In recent years, the increasingly common practise of gas appliance manufacturers has been to place on the market complete heating units (appliances with integral combustion products evacuation and/or air inlet ducts). This has resulted in an increasing number of requests of how the ducts should be legally treated, on one hand, when they are parts of gas appliances and, on the other hand, if placed on the market separately as independent products. The confusion as experienced by some stakeholders is due to the fact that the GAD does not provide a precise definition of where a gas appliance starts and where it ends. Furthermore,

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[32] For instance, it is not clear whether so-called crème brûlée burners being mini blowtorches are covered by the GAD: if preparing crème brûlée is considered as cooking, the crème brûlée burners would be covered, but if the heat treatment of this dessert is considered as heating of substance, the use is not covered.

[33] The GAD was adopted on 29 June 1990 as Council Directive 90/396/EEC on the approximation of the laws of the Member States relating to appliances burning gaseous fuels; the current Directive 2009/142/EC is the codified version of this Directive.

confusion is also caused by the lack of awareness of the manufacturers and other stakeholders about the functioning of the EU harmonisation regarding e.g. the simultaneous application of EU harmonisation legislation.

4.4. Communication of the types of gas and the corresponding supply pressures

4.4.1. Problem that requires action and its underlying drivers

The types of gas and corresponding supply pressures are not subject to harmonisation in the framework of the GAD[34]. Since the manufacturer of an appliance needs information on the type of gas and supply pressure in order to design safe and energy efficient appliances, Article 2(2)[35] of the GAD requires that the Member States must communicate the types of gas and corresponding supply pressures used on their territories and any changes in their gas supply conditions to other Member States and the European Commission. Subsequently, this information is published in the *Official Journal of the European Union* (OJEU)[36].

Despite the obligation to communicate is included in the GAD, the contents of these communications has not been defined. The established practise is to communicate the gas families and groups, the gross Wobbe indices of these gases and the minimum/nominal/maximum supply pressures of gaseous fuels. No GAD Guidance Sheet has been prepared in order to define more precisely the contents of the communications.

Most of the respondents 77.8% of the respondents to the Public Consultation (2011-2012) indicated that the current information available on the gas supply conditions is not sufficient and there is a need to better determine the parameters which should be communicated by the Member States in order to ensure the adequacy and comparability of this information. The majority of stakeholders are also of the opinion that a continuous recording of the information should be mandatory as the information published in the OJEU was often obsolete and inaccurate.

It is also clear that the gas supply conditions in the EU are developing fast, amongst others, due to the general objective to increase the proportion of energies from renewable sources. As a result, more and more gases from non-conventional sources[37] will be supplied both through isolated local networks and by injecting them into natural gas grids.

Despite the attempts to achieve a higher degree of harmonisation of gas qualities across Europe[38], it is obvious that the gradual depletion of the sources of gas extracted from some

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34 Article 194 of the Treaty specifically allows the Member States to choose between different energy sources.

35 "*Member States shall communicate in good time to the other Member States and the Commission all changes to the types of gas and corresponding supply pressures used on their territory which have been communicated in accordance with Article 2(2) of Directive 90/396/EEC.*
The Commission shall ensure that this information is published in the Official Journal of the European Union."

36 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2004:296:0002:0007:EN:PDF

37 E.g. gaseous fuel produced from biomass where 'biomass' means the biodegradable fraction of products, waste and residues from biological origin from agriculture (including vegetal and animal substances), forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of industrial and municipal waste.

38 Mandate M400 - Phase I: Standardization in the field of gas qualities, Final report, CEN/BT/WG 197 (2012) evaluating the impact of H gas quality variations on the behaviour of GAD compliant appliances.
Mandate M475: Mandate given to CEN for standards for biomethane for use in transport and injection in natural gas pipelines.

gas fields and their replacement with biogas will lead to an increasing diversity of gas qualities.

As the types of gas and their supply pressures are not subject to harmonisation in the framework of the GAD, the gas quality issue cannot be addressed in this proposal. However, it is important to ensure that the manufacturers have adequate information about the types of gas and supply pressures available as gas appliances are very sensitive to the composition of the fuel: inadequate or missing pieces of information during the design phase would lead to unsafe and/or not correctly performing (e.g. significantly reduced energy efficiency level) appliances being placed on the market. Consequently, the non-harmonisation and lack of minimum requirements for the communication of gas supply conditions has become an issue requiring urgently action in order to enable the manufactures to ensure also in the future the compatibility of appliances and fittings with the gas supply conditions.

The availability of adequate information is also the prequisite for the determination of the "*appliance categories*"[29] in 437:2003+A1:2009 and in product specific European standards. Since the "*appliance category*" marking is a legally required marking[39], the conditions for applying this making must be guaranteed.

The described problem issue is not purely a regulatory failure because the obligation to communication the types of gas and corresponding supply pressures used on the territories of the Member States is already included in Article 2(2) of the GAD implying that the Member States already have the necessary mechanisms in place (since the adoption of the GAD in 1990). However, the problem issue is caused by the fact that legal text does neither define the parameters to be communicated nor provides any harmonised form for the communication.

4.4.2. Who is affected, in what ways and to what extent?

The manufacturers of gas appliances and fittings, the notified bodies, the Member State authorities and the CEN who should have (but do not have) available adequate information on the types of gas and corresponding supply pressures used in the Member States are affected by the problem.

The absence of appropriate data on the gas supply conditions may result in immediate safety problems due to non-availability of safety and performance relevant data that is necessary during the design phase of products. Gas appliance designs not achieving correct performance levels will have also other negative impacts due to emissions of substances harmful to health and environment as a consequence of performance failures. The performance of appliances may also change in long term, if the gas supplied contains impurities which were not communicated prior to the design phase. Furthermore, the long-term effects that impurities in gaseous fuels may have on the safety and performance of appliances cannot be detected by installers and commissioning inspectors as the potential risks may appear only after appliances have been in service for a long time. Consequently, the safety of users might be negatively affected by the absence of adequate information on the gas types supplied. In worst case the malfunctioning of appliances occurs immediately after its putting into service implying that also the safety of gas installers and constructions workers could be endangered if the problem is not dealt with.

Furthermore, the absence of a harmonised means to verify the compatibility of appliances both with the legal requirements and the actual gas supply conditions is expected to lead to

[39] The "appliance category" marking must be indicated on the appliance or its data plate.

barriers to trade since it is evident that diverging interpretations would be adopted across Europe as new gaseous fuels from non-conventional sources are introduced.

4.4.3. Evolution of the problem

At the time when the GAD was adopted gaseous fuels distributed through gas grids were conventional fossil gases (often called "*natural gas*"[40]) or in local systems "*town gas*"[41]. Additionally, liquefied petroleum gas (*LPG*)[42] was supplied by tanks, cylinders and cartridges.

The gas supply conditions in the Member States are evolving fast, amongst others, due to the general objective of EU to increase the proportion of energies from renewable sources. As a result, more and more gases from non-conventional sources will be supplied both via isolated local networks and by injecting them into the natural gas grids. Consequently, it is foreseen that the proportion of gaseous fuels form renewable sources, i.e. biogases, will increase in the future. Side by side with this development also the legal framework evolves. In particular, the Renewable Energy Directive (RED) 2009/28/EC[43] establishes a common framework for the use of energy from renewable sources in order to limit greenhouse gas emissions and to promote cleaner transport. To this end, the Member States are to establish national action plans which set the share of energy from renewable sources consumed, amongst others, in heating, for 2020.

In this context DG ENER has mandated also the CEN by mandate M/475 to develop standards for bio-methane for use in transport and injection in natural gas pipelines. This work includes also determining specifications (parameters and values) for bio-methane. Another relevant DG ENER mandate is M/400 to CEN in the field of gas qualities. The purpose of this mandate is to invite CEN to draw up standards for gas quality parameters for natural gas, that are the broadest possible within reasonable costs.

As the developments aiming to increase the use of gases from renewable sources (biogas) is relatively recent, so far no systematic concrete evidence about problems due to foreseen changes in qualities of gaseous fuels is available[44].

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40 Natural gas is a naturally occurring hydrocarbon gas mixture consisting primarily of methane, with other hydrocarbons, carbon dioxide, nitrogen and hydrogen sulphide.

41 Town gas is a flammable gaseous fuel made by the destructive distillation of coal and contains a variety of gases including hydrogen, carbon monoxide, methane and hydrocarbons together with small quantities of non-calorific gases such as carbon dioxide and nitrogen. It was the primary source of gaseous fuel until the widespread adoption of natural gas. It was used for lighting, cooking, and heating and was often supplied to households via a municipally owned piped distribution system.

42 Liquefied Petroleum Gas, also called LPG, GPL, LP Gas, is a flammable mixture of propane and/or butane.

43 Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:EN:PDF

44 Some signals of near future challenges have been received. For instance, the draft texts for certain implementing measures under the Ecodesign Directive exclude from their scope products "*that are designed for using gaseous or liquid fuels predominantly produced from biomass*". Such formulation of exclusions is not compatible with the mechanism of the GAD using the specific "*appliance category*" marking to indicate the compatibility of appliances with different gaseous fuels. Consequently, it may become very difficult to determine whether a specific gas appliance is (will be) covered by one of the implementing measures under the Ecodesign Directive, if the means to indicate the compatibility is not clear.

However, it is utmost important to react to the foreseen changes in gas qualities in a proactive way since the manufacturers must have adequate information about the types of gas and supply pressures available in order to be able to design safe and correctly performing appliances. The manufacturers, notified bodies and market surveillance authorities must also be in a position to determine which Directives apply simultaneously to a specific design.

As noted above, stakeholders have indicated that the information currently published in the OJEU is very difficult to compare because they are provided by the Member States in a non-harmonised way. Manufacturers do neither have always sufficient information regarding the gas supply conditions in different regions of the Member States limiting the possibilities to market their products as widely as they would like to.

The problem clearly continues to evolve. The pressure to increase the use of gases from alternative sources will further accelerate the process resulting greater gas quality variations across the EU.

4.5. Rational use of energy

4.5.1. Problem that requires action and its underlying drivers

The GAD Essential Requirement 3.5. stipulates that "*appliances must be so constructed as to ensure the rational use of energy, reflecting the state of the art and taking into account safety aspects*". This wording, which is very general, may lead to different interpretations[45]. Certain appliances may be also covered by more specific European regulations on energy efficiency, implying that they shall satisfy these requirements instead of the Essential Requirement 3.5.

To achieve a reduction in its annual consumption of primary energy, the EU has set minimum energy efficiency standards that seek to reduce energy consumption and increase energy efficiency under the Ecodesign Directive 2009/125/EC[46]. It is wide in scope and is applicable also to products which do not necessarily use energy themselves but have significant impact on energy consumption and can therefore contribute to saving energy. It does not in itself create any requirements, but establishes the means to introduce implementing measures which in turn contain detailed provisions.

Since the implementing measures[47] under the Ecodesign Directive should be considered as more specific legislation in relation to the GAD, they will apply in preference to the GAD Essential Requirement 3.5. as soon as they become applicable to the product groups concerned.

A problem stems from the fact that the Essential Requirement 3.5. is very generic while the requirements under the Ecodesign Directive and its implementing measures are very detailed.

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45 Currently the issue is dealt with by the GAD Guidance Sheet B11 on "Rational use of energy, state of the art".

46 Directive 2009/125/EC establishing a framework for the setting of ecodesign requirements for energy-related products, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:285:0010:0035:en:PDF

47 Currently, Directive 92/42/EEC on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels (BED) covering the energy efficiency of gas boilers and Commission Regulation No 932/2012 with regard to ecodesign requirements for household tumble driers are the only implementing measure under the Ecodesign Directive. However, DG ENER informed in the IASG that it intends to cover all gas-fired appliances with the implementing measures under preparation except some very marginal products categories. Recently at least two new implementing measures under the Ecodesign Directive have been subject to Inter Service Consultation.

The approach applied in the GAD is in line with the principles of the New Approach. On the contrary, the energy efficiency requirements of the Ecodesign Directive and its implementing measures are very detailed and modern terminology which has changed since the adoption of the GAD in 1990 is used. This imbalance has resulted in speculations about the general applicability of the Essential Requirement 3.5. Furthermore, the terminology used in the GAD is outdated[48].

The risk is that the EU legislation on free movement of products and on energy efficiency will not be interpreted in a comprehensive and coherent way, if no action is taken to defined the relationship between the GAD and the more specific EU legislation on energy efficiency.

The described problem issue is due to the fact that the Essential Requirement 3.5. is formulated in a very generic way and that it uses outdated terminology. It has become urgent to resolve the principle issue which is the overall coherence of all EU legislation.

4.5.2. Who is affected, in what ways and to what extent?

The manufacturers of gas appliances and fittings, the notified bodies, the Member State authorities and the European Organisation for Standardization (CEN) are affected by the problem due to the current incompatibility of the legal provisions of the GAD and the very fast developments in the field of EU energy efficiency legislation.

Furthermore, the potential failures to comply with all the applicable legal requirements may result in less energy efficient products being placed on the market and increase in the emission levels.

The execution of installation works may be affected by the lack of clarity of energy efficiency requirements laid down for product units, because the Member States may, under certain conditions, set energy performance requirements for technical building systems[49] including e.g. gas-fired heating boilers and water heaters.

4.5.3. Evolution of the problem

Under the GAD, the interpretation of the state of the art takes place in the framework of standardisation. Around 35-40 harmonised European standards providing for the presumption of conformity to the GAD[50] requirement on the rational use of energy of gas appliances deal

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48 The GAD terminology on "*energy conservation*" (recital no 7) and "*rational use of energy*" (Essential Requirement 3.5.) reflects the terminology used at the time of its elaboration and it goes from the more general to the more specific term. It is clear that it refer to the "energy efficiency" of appliances, since "energy conservation" is specified in Essential Requirement 3.5. as "rational use of energy". The development of the EU policy relating to energy, started in the beginning of 1970s, and in many cases the terms "*rational use of energy*", "*energy efficiency*" and "*energy conservation*" were used in parallel. In the specific context of gas appliances, the term of "*rational use of energy*" concerns the increased efficiency of appliances, in line with the state of the art.

49 See Article 27 of the Energy Efficiency Directive 2012/27/EU which has amended the Ecodesign Directive by adding a specific recital 35(a) on the Member States right to set energy performance requirements and added the following sentence to Article 6 on free movement: *"This shall be without prejudice to the energy performance requirements "provided that such requirements do not constitute an unjustifiable market barrier" and system requirements set by Member States in accordance with Article 4(1) and Article 8 of Directive 2010/31/EU*".
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:315:0001:0056:EN:PDF

50 Mandate is M/BC/CEN/89/6: Gas appliances

in an equal way with the energy efficiency aspect covered by Directive 92/42/EC[51]. This demonstrates that the concepts of "*rational use of energy*" and "*energy efficiency*" are considered to be equal.

Since the EU energy efficiency legislation is evolving fast[52], it is becoming more and more urgent to clarify the relationship between the GAD and the all the relevant pieces of specific EU energy efficiency legislation. For the sake of clarity, the GAD would need to clearly indicate that where the energy efficiency aspect referred to in its Essential Requirement 3.5. is covered more specifically by the Ecodesign Directive and its implementing measures, the GAD should not apply any more in respect to this aspect. Furthermore, the GAD terminology needs to be adapted to the modern one in order to avoid lack of clarity and therefore burdensome interpretation needs on which pieces of EU legislation apply to products as far as their energy efficiency is concerned. In the worst case, the potential overlapping of the two legal frameworks will cause an increasing number of clarification requests and even complaints as the manufacturers, notified bodies and other stakeholders are not in a position to determine how the legislation should be applied.

4.6. Requirements

4.6.1. Problem that requires action and its underlying drivers

Articles

No problem issues with the current Articles of the GAD have been identified except the communication of the types of gas and corresponding supply pressures in accordance to Article 2(2) of the GAD (see above section 4.4.).

However, a new Article will be introduced in order to clarify the general principle that in case aspects dealt with by the Essential Requirements of the GAD are subject to more specific EU harmonisation legislation (which is the case with the Ecodesign Directive and its implementing measures for the energy efficiency aspect), this legislation will apply instead of the GAD.

Essential Requirements (ERs)

The Essential Requirements have proved well cover the gas risks that appliances and fittings may present. Also the Public Consultation (2011-2012) and the IA Study (2012) confirmed that the possible modifications to the Essential Requirements suggested by stakeholders were generally related to semantic rather than substantive points. The experience on the implementation of the GAD has neither revealed any shortcomings in the current Essential Requirements except the need to align the Essential Requirement 3.5. with the more specific legal framework dealing with energy efficiency. This problem is separately dealt with above in section 4.5.

There are some broader safety concerns, in particular relating currently to CO poisoning, which is the leading cause of fatalities associated with gas appliances. However, the careful further examination of the accidents (see Annex VII Examination of accident data) showed that CO poisonings are largely related to matters which are outside the scope of the GAD (which is a product harmonisation directive), such as installation failures, ignorance of gas

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[51] Council Directive 92/42/EEC of 21 May 1992 on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels; standardisation Mandate M/066: Efficiency requirements for boilers http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1992:167:0017:0028:EN:PDF

[52] The Europe 2020 target aims to achieve a 20% increase in energy efficiency.

installation and building regulations (e.g. inadequate space ventilation for the installation as such or user closing the ventilation openings) or lack of maintenance.

Unlike e.g. the Machinery Directive (MD), the GAD does not specify the general design principles that must be applied in order to achieve the safety of appliances and fittings. This may in some cases attract irresponsible parties to use e.g. warnings on the products and in the user manuals for unsafe designs, instead of designing, as far as possible, inherently safe products. Therefore the GAD is said to not necessarily provide as high level of inherent safe product designs as the MD even though the gas risks of appliances are comparable to, or even more severe than, the risks of machines. In the MD this is accomplished by requiring the application of certain specific design principles[53] aiming for inherent product safety. Similar requirements are also given in the Essential Requirements of the PED.

No specific evidence on any large abuse of the absence of the above principles of safety integration is available however they would contribute to the EU key priority to protect and promote the health and safety of citizens. Several Member States and other stakeholders have highlighted the importance of the application of these principles which are already elements of the already existing design and manufacturing requirements, but unfortunately not provided in the legal text.

The absence of the principles of the safety integration is an issue relating to the current text of the Directive and can only be resolved by amending the GAD.

4.6.2. Who is affected, in what ways and to what extent?

To a very limited extent, the manufacturers of gas appliances and fittings, the notified bodies, the Member State authorities and the CEN might be affected by the absence of a specific Essential Requirement on principles of the safety integration.

The users may also be affected where economic operators would only use warnings on products and user instructions instead of adopting designs ensuring inherent safe products. For instance, the outcome of few safeguard clause procedures regarding parasol patio heaters (free standing terrace heaters) showed that safer designs could have been adopted.

4.6.3. Evolution of the problem

As actually no specific problem has been identified, it is not relevant to provide a description of its evolution. However, the revision of the GAD provides an opportunity to carefully consider introduction of improvements which would improve the clarity of the Essential Requirements thus contributing the health and safety as well as the energy efficiency of appliances.

4.7. EU right to act

This initiative concerns the proper and effective functioning of the internal market for appliances and fittings as regards health and safety risks and energy efficiency of gas appliances and their fittings. EU action in this area is based on Article 114 of the TFEU. The

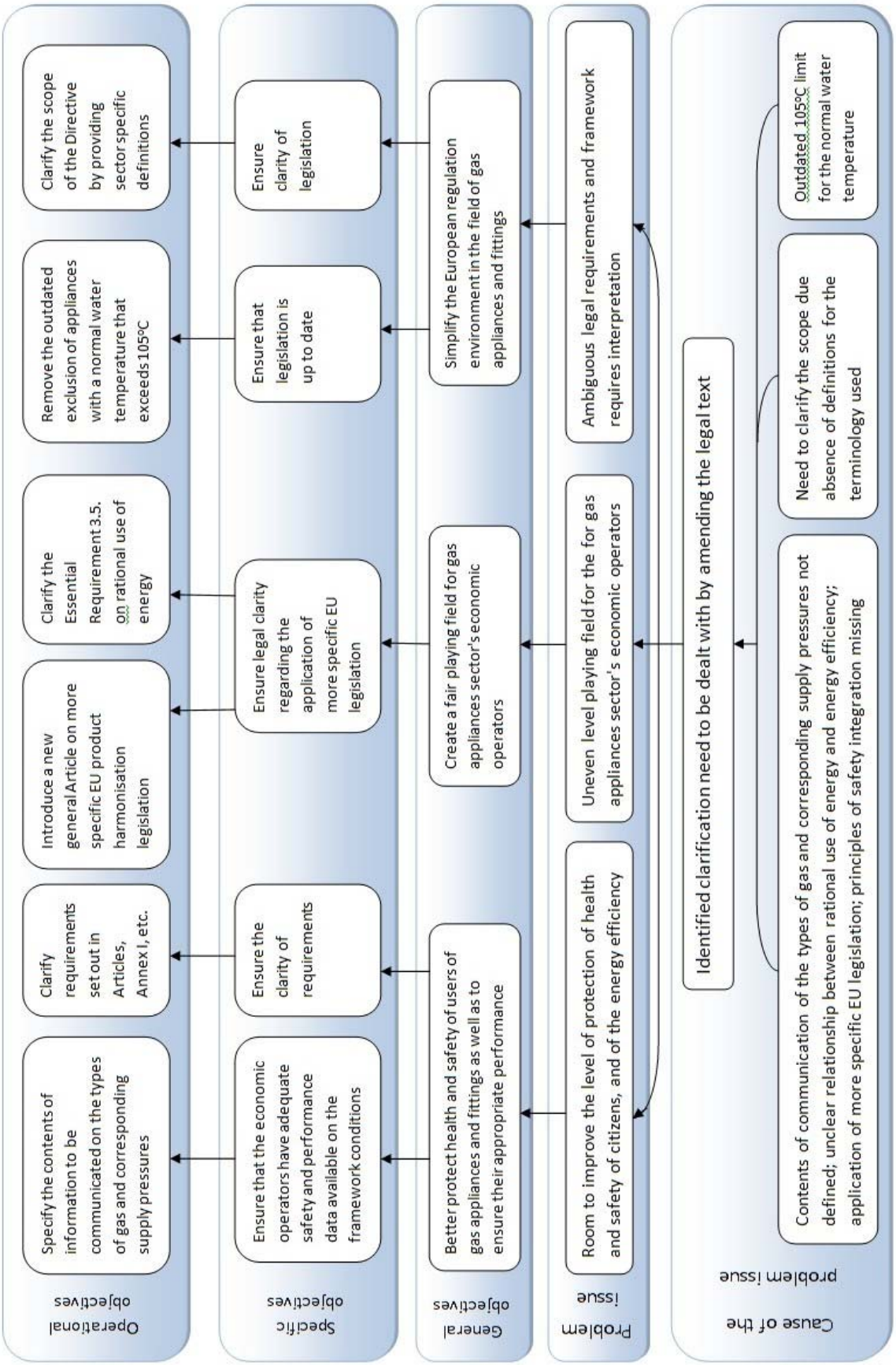
[53] 1.1.2. Principles of safety integration, Annex I to the Machinery Directive: The general design principles require that the manufacturers shall, in selecting the most appropriate methods in designing and constructing products, apply the following principles in the order given: 1) eliminate or reduce risks as far as possible, 2) take the necessary protection measures in relation to risks that cannot be eliminated, and 3) inform users of the residual risks due to any shortcomings of the protection measures adopted and indicate whether any particular precautions are required.

aspects addressed in this context are already regulated by the GAD. This legislation does not however address the identified problem issues as effectively as possible thus the objective of the proposal is simplification and clarification of the existing legal provisions. If actions are taken at national level to address the problems, they may create obstacles to the free movements of gas appliances and fittings. Therefore, any changes to the scope, procedures or requirements must be carried out at EU level in order to avoid distortions on the EU market. This should simultaneously improve the legal clarity, contribute to reduction of cost to manufacturers, notified bodies and authorities as well as ensure a common European framework for placing on the market appliances and fittings.

Due to the increasing internationalisation of trade, also the number of cross-border cases due to the identified problem issues is constantly rising. Coordinated action at EU level can much better achieve the objectives set, and will in particular render market surveillance more effective. Hence it is more appropriate to take action at EU level.

Although the fact of the non-harmonisation of the types of gas and supply pressures is a factor that affects the free circulation of an individual gas appliance, harmonised provisions concerning the design and the construction of gas appliances guarantee that it cannot be subject to restrictions to its free circulation on grounds related to the harmonised aspects.

Figure 2: Problem tree depicting the links between the problems issues (identified clarification needs), their drivers and the objectives.



5. OBJECTIVES

5.1. General policy objectives

The overall objectives of this initiative are to (1) better protect health and safety of users of gas appliances and fittings as well as to ensure the appropriate performance of these products, (2) improve the fair playing field for gas appliances sector's economic operators and (3) simplify the European regulation environment in the field of gas appliances and fittings.

5.2. Specific and operational policy objectives

The general, specific and operational policy objectives are presented below in Table 2.

Table 2. General, specific and operational policy objectives.

GENERAL	SPECIFIC	OPERATIONAL
Better protect health and safety of users of gas appliances and fittings as well as to ensure their appropriate performance	Ensure that the economic operators have adequate safety and performance relevant data available on the framework conditions	Specify the contents of information to be communicated on the types of gas and corresponding supply pressures used in the Member States
	Ensure the clarity of the requirements	Clarify the requirements (Articles, Essential requirements and other provisions)
Improve the fair playing field for gas appliances sector's economic operators	Ensure legal clarity regarding the application of more specific EU product harmonisation legislation	Introduce a new general Article on more specific EU product harmonisation legislation
		Clarify the Essential Requirement 3.5. on the rational use of energy
Simplify the European regulation environment in the field of gas appliances and fittings	Ensure that legislation is up to date	Remove the outdated exclusion of appliances with a normal water temperature that exceeds 105^{o}C
	Ensure clarity of the scope	Clarify the scope of the Directive by providing sector specific definitions

5.3. Consistency with other policies and objectives

This initiative is in line with the Commission's policy on the Single Market (Single Market Act)[54] and Better Regulation policy.

[54] See http://ec.europa.eu/internal_market/strategy/index_en.htm

6. POLICY OPTIONS

6.1. General remark

In line with the Commission policy to simplify the regulatory environment, it is proposed to change the Directive into a Regulation. The current Directive imposes clear and detailed rules to become applicable in a uniform manner throughout the Union. It can therefore be easily changed into a Regulation. This change will avoid the costs to the member States associated with the transposition of a Directive. In addition, it will allow for a more rapid application of the new legislation and it will help economic operators to conduct their business as they will have to deal with a single regulatory instrument rather than with 28 national laws transposing a Directive.

Since the modification of the scope of the GAD cannot be justified[55], the scope and the provisions of the GAD will remain unchanged and the revision of the GAD represents rather an exercise to clarify its provisions. Nevertheless, several different policy options are can be applied in order to achieve the objectives of the revision, i.e.:

1. "Do nothing": This option represents the current situation with the implementation of the GAD. It is considers that the GAD Guidance Sheets as currently available are part of the status quo (see Annex IX for more information on the current GAD Guidance Sheets).
2. "Soft law": This option is based on the "do nothing" option amended upon need with elaboration of new GAD Guidance Sheets. It can be foreseen that all of the problem issues identified in this IA Report will require elaborating new GAD Guidance Sheets.

   The issues examined as part of the policy option "soft law" are not covered by the current GAD Guidance Sheets.
3. "Legislative measure": This option is undertaken by amending the legal text itself.

6.2. Scope - Product coverage

1. Do nothing.

   Option 1 is to leave the existing situation unchanged. The product coverage of the Directive will not be changed. Products that are covered have to fulfil the requirements of the GAD while products that are not covered do not have to fulfil its requirements including those with normal water temperature above 105^{o}C. The described problem issue will persist however it must be noted that it is caused by an outdated provision of the GAD that was necessary to include in the GAD at the time of its adoption.
2. Further clarify the product coverage in the GAD Guidance Sheets (Soft law).

[55] NOTE: The removal of the exclusion of appliances having a normal water temperature exceeding 105^{o}C represents updating of the GAD than modification of its scope since the limit was originally introduced in order to avoid overlapping with national legislation on safety requirements on pressure vessels. Currently, the hazards due to pressure are under EU harmonisation legislation (Pressure Equipment Directive 97/23/EC).

Option 2 is a soft law option. The Directive will not be changed but the GAD Guidance Sheets on the application of the GAD are used to explain, in a more detailed way[56], the product coverage of the Directive.

3. Remove the outdated exclusion of appliances with a normal water temperature that exceeds 105°C.

   Option 3 uses legislative measures. The GAD will be changed. The outdated (see section 4.2.) exclusion of appliances with a normal water temperature exceeding 105°C will be removed since it is not considered to serve any useful purpose.

6.3. Sector specific terminology and definitions

1. Do nothing.

   Option 1 is to leave the existing situation unchanged. The GAD will continue not providing definitions for the terms used e.g. to define its scope and the specific terminology used in some of the Essential Requirements. The described problem will persist since agreeing with interpretation on the meaning of the sector specific terminology will remain necessary in order to clarify the provisions of the GAD.

2. Provide definitions for the sector specific terminology in the GAD Guidance Sheets (Soft law).

   Option 2 is a soft law option. The Directive will not be changed but the GAD Guidance Sheets on the interpretation of the GAD will be used to explain the meaning of the sector specific terminology thus preventing misinterpretation. Preparation of GAD Guidance Sheets will be a continuous process since guidance documents will be prepared upon needs arise.

3. Introduce the definitions for the sector specific terminology in the GAD.

   Option 3 uses legislative measures. The GAD will be changed. The missing definitions for the sector specific terminology will be introduced in the GAD thus clarifying the scope of the Directive and the Essential Requirements concerned.

6.4. Communication of the types of gas and the corresponding supply pressures

1. Do nothing.

   Option 1 is to leave the existing situation unchanged. Article 2(2) of the GAD will continue to oblige the Member States to communicate the types of gas and corresponding supply pressures used on their territory without specifying the parameters and other information to be communicated. The described problem will persist since no adequate data is made available on the gas supply conditions in the Member States. The problem is getting worse due to the increasing use of gaseous fuels from non-conventional sources resulting in greater differences in the gas qualities.

2. Voluntary agreement on the contents of communicating the types of gas and corresponding supply pressures (Soft law).

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[56] Currently, the GAD Guidance Sheet A1 "Appliances and fittings covered by the Directive" addresses the confusion with regard to appliances whose water temperature exceeds 105°C for only a short time. A new GAD Guidance Sheet could e.g. conclude that the water temperature limit of 105°C has become obsolete and shall not be considered applicable any more.

Option 2 is a soft law option. The Directive will not be changed but the GAD Guidance Sheets on the interpretation of the GAD will be used to better determine the parameters which should be communicated by the Member States in order to ensure the availability of adequate and comparable information on the types of gas and the corresponding supply pressures.

3. Introduce the requirements for the contents of the communication of the types of gas and corresponding supply pressures.

   Option 3 uses legislative measures. The GAD will be changed. Requirements for the contents and the format of the information to be communicated by the Member States on the types of gas and corresponding supply pressures will be introduced in the GAD in order to ensure that adequate information on the gas supply conditions will be made available. This will include the definition of the necessary parameters and other relevant information to be communicated as well as the template to be used.

6.5. Rational use of energy

1. Do nothing.

   Option 1 is to leave the existing situation unchanged. The recital of the GAD referring to 'energy conservation' and the Essential Requirement 3.5. referring to 'rational use of energy' will remain those provisions of the GAD which establish its relationship with the concept of 'energy efficiency'. The described problem will persist and get even worse because of the fast development in the field of EU energy efficiency legislation.

2. Voluntary agreement on interpretation and application of the Essential Requirement 3.5.

   Option 2 is a soft law option. The Directive will not be changed but the GAD Guidance Sheets on the interpretation of the GAD will be used to clarify the inter-relationship between the GAD and the system introduced by the Ecodesign Directive and its implementing measures[45], and which one shall be considered as the more specific EU product harmonisation regulation to be applied as far as the energy efficiency aspect is concerned.

3. Introduce a reviewed and supplemented Essential Requirement 3.5. by dividing it, where necessary, to a set of requirements dealing with energy efficiency in a compatible way with the specific EU legislation.

   Option 3 uses legislative measures. The GAD will be changed. The current Essential Requirement will be supplemented by dividing it into a set requirements aligned with those of the recent EU energy efficiency legislation. This way it will be clarified that the concept of 'rational use of energy', as referred to in the GAD, deals with the energy efficiency of gas appliances in an equal meaning and extent as the implementing measures under the Ecodesign Directive. Furthermore, the GAD will be amended by introducing a new article (dealt with below in section 6.6.) highlighting the overruling effect of any piece of EU legislations dealing in a more specific way with a aspects also covered by the GAD thus ensuring that no legal uncertainty regarding the applicable regulation remains.

6.6. Requirements

1. Do nothing.

   Option 1 is to leave the existing situation unchanged. The Articles, Essential requirements and the Annexes of the Directive will not be changed. The relationship

between the GAD and any EU legislation covering more specifically aspects covered also by the GAD will not be addressed. Products that are covered have to fulfil the requirements of the GAD while products that are not covered do not have to fulfil its requirements. The described problem issue will persist, amongst others, due to the absence of the general design principles in the legal text and fast development in the field of EU energy efficiency legislation.

2. Further clarify the requirements (Articles, Essential Requirements and provisions of the other Annexes) in the GAD Guidance Sheets (Soft law).

   Option 2 is a soft law option. The Directive will not be changed but the GAD Guidance Sheets on the interpretation of the GAD will be used to e.g. clarify which piece of EU legislations should be applied in order to deal with aspects dealt with in seemingly overlapping Directives (e.g. the implementing measures under the Ecodesign Directive as regards energy efficiency) or how the Essential Requirements and the provisions in the other Annexes shall be applied. A specific GAD Guidance Sheet could be elaborated to address the importance of application of the general design principles not provided in the legal text.

3. Introduce improvements to the requirements (Articles, Essential Requirements and provisions of the other Annexes).

   Option 3 uses legislative measures. The GAD will be changed. A new Article on the overruling effect of any piece of EU legislations dealing in a more specific way with a aspects also covered by the GAD will be introduced. The presentation of the Essential Requirements in Annex I will be improved in order to clarify the requirements and to highlight safety concerns relating in particular to carbon monoxide (CO), where possible. The specific design principles aiming for inherent product safety will also be incorporated into Annex I stipulating the general principles on how the safety related and other features of gas appliances relevant for the GAD shall be achieved.

7. ANALYSIS OF IMPACTS

7.1. General remark

The analysis of impacts will be presented in steps. First an overview of the policy options and their impacts will be provided (7.2.). Next all the policy options will be assessed qualitatively (section 7.3.) and preferred options (section 7.3.) will be selected. The summary of the in-depth analysis of these options will follow (section 7.4.; the in-depth analysis of the policy options is provided in Annex XI). The need for mitigating measures for the most affected parties will be considered (section 7.5).

7.2. Overview of the relevant options, their potential impacts and the methodology for their assessment

The types of impacts that are assumed to be the most relevant to revision of the GAD are provided in Table 3. Environmental impacts have not been included in the list of relevant impacts; they are not expected to be significant as none of the options are aimed at addressing aspects of gas appliances or changing their technical requirements (such as emissions of gases) in a manner which would affect their environmental impacts, e.g. by introducing more stringent efficiency requirements.

Table 3: The types of impacts assumed to be the most relevant to revision of the GAD

Pre-screening of the Relevance of the Impacts

Impact type	Relevant?
Economic impacts	
Functioning of the internal market and competition	Relevant
Competitiveness, trade and investment flows	Possibly Relevant
Operating costs and conduct of business/SMEs	Relevant
Administrative burdens on businesses	Relevant
Public authorities	Relevant
Innovation and research	Possibly Relevant
Consumers and households	Relevant
Third countries and international relations	Possibly Relevant
Social impacts	
Employment and labour markets	Possibly Relevant
Standards and rights related to job quality	Possibly Relevant
Public health and safety	Relevant

Source: Impact Assessment Study (2012)

Since the modification of the scope of the GAD cannot be justified, the legal framework established by the GAD will remain unchanged. As a consequence, the economic operators and the other stakeholders affected by the GAD will also remain the same as currently. Therefore the revision of the GAD is representing rather an exercise to improve the readability and clarity of the scope, the Essential Requirements in Annex I and the provisions in the other Annexes.

In the absence of particular concrete major problems (see section 4.) that need to be addressed, the proposed modifications are likely to involve minor or no costs with minimal economic and social impacts except those minor impacts of proposed clarifications which will yet highly facilitate the application of the GAD by the economic operators through improved legal clarity and certainty. Consequently, it is impossible to derive quantitative data on any specific impacts, however the expected marginal benefits have been dealt with in a proportionate way carrying out a qualitative assessment.

The issues concerning clarification of the existing legal provisions can be dealt with by different policy options presented above in section 6.1., i.e. by applying the “soft law” option based on elaboration of interpretation documents upon needs and “legislative measure” option comprising of amending the provisions of the GAD. The “do nothing” might not be able to respond to the identified problem issues however it is considered in this report as the baseline option.

The qualitative assessment of the policy options is used to enable the selection of the most preferred option. For instance, it is possible to assess whether the proposed changes are favourable to safety, whether the effects of the option provide a steady solution to the identified problem and whether it is likely that the option contributes to the simplification and clarification of the legal framework established by the GAD.

Both economic (including impact on competitiveness) and social impacts have been assessed, to the extent feasible.

Additional information about the applied methodology can be found in ANNEX X.

A more detailed analysis of the expected impacts on sectorial competitiveness and the competitiveness proofing can be found in ANNEX XI.

7.3. Qualitative analysis

The magnitude of each impact is assessed according to the following scale:

+ + significant positive impact
+ minor positive impact
0 no impact / baseline
- minor negative impact
- - significant negative impact

It is worth noting that even the legislative measure option 3. amending the legal text does not have significant economic and social impacts except the minor impacts of the proposed clarifications. Consequently, only qualitative assessment of the expected marginal benefits is possible. These benefits have been dealt with in a proportionate way based on the responses to the Public Consultation (2011-2012), the findings and conclusions of the IA Report (2012) and the accumulated experience of the gas appliances sector[57] on the functioning of the GAD.

The results of the analysis are presented in Table 5. in section 8. The allocation of the scores of each policy option is provided in ANNEX XI.

7.3.1. Scope - Product coverage

1. Do nothing.

No impact. For the baseline scenario see description in chapter 4.2.1. and 4.2.3.

2. Further clarify the product coverage in the GAD Guidance Sheets (Soft law).

By elaborating a specific GAD Guidance Sheet focusing on the outdated exclusion of appliances with the normal water temperature exceeding 105°C it could be clarified that the temperature limit is not relevant any more as the Pressure Equipment Directive has replaced the former national legislations and no risk to overlap with legislation dealing with risks due to pressure exists.

Nevertheless, as designs with the normal water temperature exceeding the 105°C limit given in the legal text could yet be placed on the market, the "soft law" option would not resolve the current legal ambiguity regarding these designs. Manufacturers could adjust the normal water temperature of their designs above the 105°C limit that way avoiding the application of the GAD. In theory, this could result in that gas appliances representing lower safety levels could be placed on the market.

However, no products with a normal water temperature exceeding 105°C could be identified on the marker. Consequently, no information about incidents with gas appliances with a normal water temperature exceeding 105°C could be detected.

This option will lead only to a slightly clearer legal situation. The exclusion is maintained.

3. Remove the outdated exclusion of appliances with a normal water temperature that exceeds 105°C.

With a change of the regulatory text a clear legal situation will be established. All manufacturers will be reached. Consequently, the obsolete exclusion not considered to serve any useful purpose does not any more require interpretation.

The reduction of potentially non-compliant products is minimal due to the marginal number (if any) of gas appliances with a normal water temperature exceeding 105°C.

[57] In this context it is referred to the gas appliance sector's actors and stakeholders presented in ANNEX IV to this report.

Nevertheless, by removing the outdated exclusion it is assured that the inconsistency in the legal framework is rectified and legal clarity is assured.

For manufacturers which are affected by the change, there will be costs due to the process of making the products compliant with the Directive. However, domestic appliances do not generally have a normal water temperature above 105°C. No gas appliances with a normal water temperature exceeding 105°C or manufacturers of such appliances were identified during the impact assessment process. The expansion of the temperature threshold would mainly include appliances used in industrial processes however these will remain separately excluded from the scope of the GAD.

7.3.2. Sector specific terminology and definitions

1. Do nothing.

No impact. For the baseline scenario see description in chapter 4.3.1. and 4.3.3.

Several GAD Guidance Sheets interpreting the scope have been adopted in order to interpret the product coverage of the Directive. They are necessary in order clarify, in the absence of the definitions for the terminology used to define the scope and the exclusions, which products are covered and which remain outside the scope (see ANNEX IX).

2. Provide definitions for the sector specific terminology in the GAD Guidance Sheets (Soft law).

Using this option the scope and the concerned Essential Requirements will be clarified by providing in GAD Guidance Sheets the currently missing definitions for the sector specific terminology used in the legal text. A full legal clarity cannot be assured due to the fact that innovative products based on new technologies will be placed on the market requiring frequently revision of the existing guidance documents or elaboration of completely new GAD Guidance Sheets.

Using GAD Guidance Sheets will assist to achieve a better legal clarity which can be assumed to reduce the number of non-compliant products. However, as the involvement of the Member States, manufacturers, notified bodies and the Commission in the adoption process of the GAD Guidance Sheets must always be assured and unanimity must be reached, the process is very time-consuming and burdensome. Even in case of unanimity, guidance represents only a voluntary agreement not guaranteeing long-term legal certainty.

3. Introduce the definitions for the sector specific terminology in the GAD.

In order to provide the best possible legal clarity and to avoid the need to return to the interpretation of the scope, the Essential requirements or any other provisions, the modification of the GAD by introducing the definitions for the sector specific terminology used in the GAD would be the only option ensuring a stable solution. The scope and the relevant Essential Requirements would be defined more precisely thus responding also to the anticipated evolution of the markets regarding e.g. new technologies.

The expected reduction of potentially non-compliant products is little since introduction of the definitions would rather contribute to drawing the borderline of the scope more accurately thus ensuring that only products covered by the GAD would be certified and CE marked in accordance to its provisions. Therefore the effect of this legal clarification

would facilitate the application of the GAD and by that way reduce the administrative burden and costs. It would also potentially reduce the number of products not covered by the GAD being placed on the market with an unduly affixed CE marking[58] thus facilitating the work of market surveillance authorities to identify such products.

7.3.3. Communication of the types of gas and corresponding supply pressures

1. Do nothing.

No impact. For the baseline scenario see description in chapter 4.4.1. and 4.4.3.

2. Voluntary agreement on the contents of communicating the types of gas and corresponding supply pressures (Soft law)[59].

Adoption of guidance on the contents and format of the Member States' communication of the types of gas and corresponding supply pressures used on their territories could only partially resolve the problem caused by the unavailability of adequate information on the gas supply conditions.

There would be no guarantee that the communications would be made in accordance to the issued guidance as divergent views and interpretations on the parameters to be communicated would persist. However, a unanimously adopted GAD Guidance Sheet on the parameters and form of the communication of the types of gas and corresponding supply pressures could easily be understood by the stakeholders as a legally binding document thus the communications from the Member States guaranteeing that the parameters communicated could be used as input to the design process of products without criticism. The same could happen during the conformity assessment of appliances.

As a GAD Guidance Sheet is neither a legally binding interpretation of the GAD nor can it formally commit the authorities or the notified bodies, communications deviating from the agreed form could yet be submitted. However, only correct and accurate information about the types of gas and supply pressures can ensure that designs are safe and the required energy efficiency level is achieved. Consequently, uncritical reliance on information on the gas supply conditions communicated on the basis of a voluntary guidance document may even result unsafe designs.

It should also be noted that certain projects (see section 4.4.3.) at the European level aim to achieve a higher level of harmonisation of gas qualities. Since the Member States are putting in place at the same time measures to increase the use of renewable energies implying, the risk is high that different measures affecting the gas supply conditions in the EU are put in place. As policies are enforced by legislation, there is a risk that legal inconsistencies are created. Therefore tackling with the problem only by guidance cannot be expected to resolve the problem. It is likely that the guidance document would need to be frequently amended.

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[58] For instance, it appears that LPG regulators placed on the market and publicly available bear the CE marking although they are not covered by the GAD but subject e.g. to the General product Safety Directive. The latter Directive does not provide the possibility for affixing the CE marking. The CE marking on the LPG regulators concerned suggests that it demonstrates the conformity to the GAD.

[59] It should be noted that that also the communication of the types of gas and corresponding supply pressures used on the territories of the Member States is already included in the GAD. Determining better the data to be communicated and its format is expected to facilitate the communication thus resulting in cost savings.

The reduction potentially the number of non-compliant products cannot be expected to be significant if using this soft law option. On the contrary, it is foreseen that the complexity of both the technical and legal conditions under which the compatibility of appliances with the gas supply conditions is to be determined will increase thus leading to increase of potentially unsafe and/or inadequately performing products because of manufacturers not being able to identify the correct framework parameters and regulations to be complied with.

3. Introduce the requirements for the contents of the communication of the types of gas and corresponding supply pressures.

This will be the best solution in terms of technical and legal clarity since it would stipulate precisely the parameters to be communicated as well as the format to be applied. It will also ensure that adequate safety and performance relevant information is made available for manufacturers, authorities, notified bodies and standardisation organisations. This option will allow the increase in use of gaseous fuels from non-conventional sources and the evolutions of related EU legislation by providing the commonly agreed, binding and accurate means to refer to the gas supply conditions peculiar to each of the Member States.

The number of non-compliant products can be assumed to reduce in particular in long term as the foreseen increase of the technical and legal complexity due to the evolution of the energy market and energy efficiency legislation[60] will be dealt with regarding the compatibility[29] of appliances and fittings with the types of gas supplied. It will also contribute to the consistency of legislation by enabling to use in the GAD and other pieces of legislation the same methodology to determine the compatibility of products.

The work of all concerned parties will be facilitated as adequate information will be available. Due to the fact that the transition towards use of gaseous fuels from renewable sources as well as the introduction of energy efficiency legislation is in its early stage, no specific cost effects can be demonstrated yet. However, it can be assumed that technical and legal clarification in good time will result in significant savings in the long term.

7.3.4. Rational use of energy

1. Do nothing.

No impact. For the baseline scenario see description in chapter 4.5.1. and 4.5.3.

2. Voluntary agreement on interpretation and application of the Essential requirement 3.5. (Soft law).

GAD Guidance Sheets can be used to a limited extent to clarify the relationship between the concepts of 'rational use of energy' and 'energy efficiency', the latter term used in the more recent and foreseen EU legislation on energy efficiency. For instance, a GAD Guidance Sheet could explain the transition from the GAD terminology to the modern one used in the Ecodesign Directive and its implementing measures highlighting that both legal frameworks refer to the same aspect.

[60] For instance, some draft legal texts dealing with energy efficiency refer to e.g. "biogas boilers" or "natural gas boilers" implying that the scope of those legal texts is not consistent with the terminology used in the GAD.

However, a full legal clarity cannot be assured because guidance does not change the legal text which will remain that of the GAD. There would be no guarantee that the Essential Requirement 3.5. would be interpreted in an consistent way across Europe, in particular because of the fast development in the field of EU energy efficiency legislation. Different approaches in transposing that legislation could be expected not necessarily ensuring solutions compatible with the GAD which contains only the generic Essential Requirement 3.5. The Ecodesign Directive deals with energy efficiency in a much more detailed way.

Only minor positive impacts could be expected being provided by this option. Interpretation could slightly facilitate the manufacturers in identification of the regulations applying to their products as well as the work of notified bodies. However, that the overruling role of the Ecodesign Directive and its implementing measures as far as the energy efficiency aspect is concerned would remain explained only in non-binding documents.

The option is assumed not to have any significant impact on the reduction of number of non-compliant products on the market or the costs to the manufacturers.

3. Introduce a reviewed and supplemented Essential requirement 3.5. by dividing it, where necessary, to a set of requirements dealing with energy efficiency in a way compatible with the specific EU legislation.

This will be the best solution in terms of clarity as the Essential Requirement 3.5. is amended by providing, instead of one generic requirement, a set of requirements aligned with the energy efficiency requirements as defined in the implementing measures under the Ecodesign Directive. Legal clarity is provided by demonstrating that both the GAD and the implementing measures deal with the same aspect and in an equal way. Introducing a new Article (see chapter 6.6.3.) referring to (any) more specific EU harmonisation legislation overruling the GAD in case it covers aspects dealt with by the GAD will also facilitate identification of the legislation to be applied.

The option would support also the views of the Member State authorities, manufacturers, notified bodies and other stakeholders (see ANNEX I for the summary of the results of the Public Consultation) suggesting that there is no need to consider energy efficiency within the scope of the GAD in a more concrete way because the Ecodesign Directive and its implementing measures deal with the energy efficiency aspect in an appropriate way and overlapping of the GAD and that legislation should be avoided. The alignment of the relevant GAD requirements with those of the Ecodesign Directive would ensure that the requirements do not conflict and the transfer of product groups covered by the GAD to the Ecodesign framework for the energy efficiency aspect would be smooth upon entering into force of new implementing measures.

The option is unlikely to result in any significant cost benefits, but the legal clarity would contribute to prevention of unnecessary administrative burden. In general, the manufacturers are considered to benefit from the clarification of the energy efficiency requirements that their products need to complied with. This should slightly reduce the number of non-compliant products without having major impacts on the costs occurred to the manufacturers.

7.3.5. Requirements

1. Do nothing.

No impact. For the baseline scenario see description in chapter 4.6.1. and 4.6.3.

2. Further clarify the requirements (Articles, Essential Requirements and provisions of the other Annexes) in the GAD Guidance Sheets (Soft law).

In addition to the above points 7.3.3. and 7.3.4. only the general need to clarify the relationship between the GAD and any piece of more specific of EU harmonisation legislation is identified. Issuing GAD Guidance Sheet would be a light and flexible way to deal with this need. Such guidance could explain that the more specific legislation will precede the GAD for the aspects it deals with. Currently only the relationship between the GAD and the specific EU energy efficiency legislation requires further clarification as explained above in section 4.5.1., 4.5.3. and 7.3.4. However, as GAD Guidance Sheets are not legally binding documents, full legal certainty could not be achieved.

Regarding the Essential requirements, the risks due to use of gas are well covered by the current requirements and only some minor improvements and clarifications could possibly be dealt with by GAD Guidance Sheets. Although a set of Essential Requirements lay down objectives to be achieved in order to avoid risks due to combustion products including CO, guidance could possibly be used to encourage the manufacturers to put efforts to further improve the inherent safety of their designs. However, as noted earlier in this report, the examination of the accident data revealed that CO poisonings are largely related to matters which are outside the scope of the GAD. Yet a GAD Guidance Sheet could be elaborated to highlight the importance of the application of the general design principles.

The option is unlikely to result in any specific cost effects although it leads to a slightly improved understanding of the requirements by the manufacturers and other stakeholders. Also the expected reduction of potentially non-compliant or unsafe products is little since this soft law option is already applied by the sector in matters requiring interpretation (the principle that the more specific legislation applies) and the presentation of the general design principles does not add any new elements on the already existing requirements.

3. Introduce improvements to the requirements (Articles, Essential Requirements and provisions of the other Annexes.

This option will deal with in a concrete way with the few clarification and improvement needs of the GAD. However, as noted in section 4.6., no specific shortcomings have been identified in the current Articles, Essential Requirements in Annex I or other Annexe have been identified. The clarification needs are generally related to semantic rather than substantive points.

It is yet possible to improve the readability and clarity of the Essential requirements. In particular, where the broader safety concerns relating to e.g. risks due to CO will be better addressed, the relevant provisions will be amended. The Essential Requirements will also be further aligned with the general principles of the New Approach in order to clearly define health, safety and performance related objectives instead of referring to technical solutions to be adopted. Furthermore, the specific design principles aiming to ensure a high level of inherent product safety will be incorporated in the Essential requirements in order to describe the mandatory general principles on how the safety related and other features of gas appliances relevant for the GAD shall be achieved. However, as the introduction of the general design principles does not add any new elements on the already existing requirements, but will stress what is the approach the manufacturers are expected to continue to apply in making their designs to comply with the existing requirements. This will facilitate the work of the market surveillance authorities who can more easily justify their measures in case they detect potentially unsafe products placed on the market and find it obvious that the general design principles have not been applied.

The relationship between the GAD and any other piece of EU legislation covering more specifically aspects covered also by the GAD would be clearly addressed by a new Article. Products that are covered by more specific legislation for aspects (e.g. energy efficiency) covered by that legislation, would cease to have to fulfil the requirements of the GAD.

The proposed changes will clarify and simplify the legal situation without expected changes of in the health, safety and performance related aspects of products. They are not expected have significant economic impacts on manufacturers, notified bodies and other stakeholders except minor reduction of costs due to improved legal clarity. Identification of the legislation to be complied with will be facilitated while the need for interpretation will reduce.

The reduction of potentially non-compliant products is expected to be little since the modifications mainly improve the readability of the provisions. However, the introduction of the design principles aiming to guarantee the high inherent safety of products as well as the clarifications of the Essential Requirements dealing with risks due to CO is assumed to assist improving the safety of products.

7.4. In-depth analysis

Summary of the results of the in-depth analysis is presented on next page in Table 4. Considering the minor changes in the scope and the provisions of the GAD, the more detailed analysis of the policy options and the competitiveness proofing are provided in ANNEX XI which also explains on what basis the allocation of scores has been executed.

7.5. Mitigation measures

The in depth analysis has revealed that neither additional costs nor additional burden especially for SMEs can be expected due to the above proposal.

The proposed clarifications of the GAD maintain the scope and the provisions in practise unchanged and are expected to involve only minor or no costs with minimum impacts in general. SMEs will not be disproportionately affected by the revision of the GAD.

Furthermore, the alignment of the GAD with the NLF is a broad package of measures which has the objective, on general level, of removing the remaining obstacles to free circulation of products. These measures are intended to improve the functioning of the internal market and should make it easier for companies, especially SMEs, to trade their products in the Union.

Consequently, no separate mitigation measures needs to be provided for SMEs.

Table 4: The types of impacts assumed to be the most relevant to revision of the GAD

Impacts of the preferred sub-options		*Scope - product coverage*	*Sector specific terminology and definitions*	*Communication of the gas types and corresponding supply pressures*	*Rational use of energy*	*Requirements*
Social impact		No impacts identified, but proactive reduction of non-compliant products thus enhanced safety in case designs with a normal water temperature exceeding 105°C	Slight reduction of non-compliant products due to improved legal clarity	Safety of installers and users is improved since adequate design relevant information is made available	Legal clarity has positive impact on employment and Europe 2020 target of a 20% increase in energy efficiency, decrease of non-compliant products	Minor positive impact on user safety through improved inherent safety of products, minor reduction of non-compliant products on the market
Economic impact	*Impact on cost competitive-ness*	None identified	Clearer scope facilitates implementation and reduces administrative burden	Technical and legal clarity results in savings as product design is enabled and/or facilitated	Technical and legal clarity facilitates complying with legislation and reduces administrative burden resulting in cost savings	Facilitates identifying applicable legislation, market surveillance facilitated, unfair competition slightly reduced
	Impact on the capacity to innovate	None identified	None identified	Readiness to invest on product development increases, market access is enabled and/or facilitated	Product development is facilitated under easily identifiable and stable legal conditions	None identified
	Impact on international competitive-ness	None identified	None identified	None identified	Development of energy efficient products enabled thus improving competitive position on Global market	None identified
	Impact on SME	None identified	None identified	None identified	None identified	None identified

8. COMPARING THE OPTIONS

On the basis of the qualitative and in-depth assessment done in chapter 7 and Annex XI the following conclusions are made for comparing the options (see Table 5). The preferred options for each proposed change are highlighted in grey colour.

Table 5: Comparing the options for the proposed change; preferred options are highlighted in grey colour

	Effectiveness	**Efficiency**		**Coherence**
		Costs	**Benefits**	
Scope - Product coverage (from 7.3.1. and Annex XI)				
Do nothing	**0**	**0**	**0**	**0**
Soft law	**0** Specific objective not met as the outdated temperature limit of 105°C remains in the legal text making it possible to avoid applying the GAD	**-** Costs due to need for interpretation and examination on case by cases basis whether products covered by the GAD	**0** None identified because the outdated temperature limit remains in the legal text making it possible to avoid applying the GAD	**0** No change implying that the options does not contribute to better regulation and Single Market Act, but the outdated reference to 105°C remains
Legislative measure	**++** Specific objectives fully met as outdated exclusion removed; improvement of health and safety by ensuring that only safe designs can be placed on the market; clear legal situation	**0** No impact as no products with a normal water temperature exceeding 105°C were identified; in theory a more level playing field for manufacturers; one-off adaptation of the legal text	**+** Legal clarity reduces administrative burden thus costs; proactive measure ensuring safety of products with a normal water temperature exceeding 105°C	**++** Will optimally contribute to better regulation including and Single Market Act; clear legal situation
Sector specific terminology and definitions (from 7.3.2. and Annex XI)				
Do nothing	**0**	**0**	**0**	**0**
Soft law	**+** Specific objectives partly met but legal clarity and stability not reached as new time-consuming and burdensome interpretation needs will arise due to new technologies and innovative products being placed on the market	**-** Elaboration of new interpretation will cause costs as time-consuming and burdensome examination on case by case basis will be required	**+** Slight reduction of non-compliant products as tailor-made interpretation reduces legal ambiguity resulting in some cost savings for manufacturers of products concerned	**+** Will slightly contribute to better regulation and Single Market Act; but the definitions for the sector specific terminology will remain missing from the legal text
Legislative measure	**++** Specific objectives fully met as the scope and Essential Requirements are clarified by introducing the necessary definitions in the legal text; clear legal situation	**0** No specific costs; clarification of the scope and Essential requirements will reduce administrative burden and facilitate implementation resulting in savings	**++** Legal clarity reduces administrative burden thus costs; verification whether the GAD applies is facilitated; reduction of non-compliant products thus improved safety	**++** Will optimally contribute to better regulation and Single Market Act; clear legal situation assured
Communication of the types of gas and the corresponding supply pressures (from 7.3.3. and Annex XI)				
Do nothing	**0**	**0**	**0**	**0**

Soft law	- Specific objectives not met since adoption of guidance might result in reliance on safety relevant data without cross-checking implying that unsafe designs might enter the market, no guarantee on adequate safety and performance related data	- Costs related to developing guidance which would need to be frequently updated, lots of administrative burden due to difficulties to obtain adequate safety and performance related data	- Issuing guidance does not guarantee reduction of non-compliant products and may even mislead stakeholders to believe that reliable data is provided although guidance is not legally binding interpretation	- Will not contribute to better regulation and Single Market Act as unclear legal situation prevails
Legislative measure	++ Specific objectives fully met as it is ensured that adequate health, safety and performance relevant information is made available; clear legal situation	++ Cost savings due to reliability of the data; reduction of administrative burden as contents and form of communication defined; means to verify the compatibility of products facilitates market access thus enabling benefit from wider markets	++ Reduction of non-compliant products; legal and technical clarity reduces administrative burden and contributes to readiness to invest on new products; product development facilitated as adequate information is available	++ Will optimally contribute to better regulation and Single Market Act; clear legal situation assured
Rational use of energy (from 7.3.4. and Annex XI)				
Do nothing	**0**	**0**	**0**	**0**
Soft law	+ Specific objectives partly met as coherence of EU legislation only partially achieved, improved clarity regarding more specific energy efficiency legislation provided but the outdated terminology used in the GAD legal text and the very generic nature of the Essential Requirement 3.5. would continue to make it difficult to identify which regulations should be applied	- Costs related to developing guidance would occur because of the fast evolving situation with EU energy efficiency legislation, costs for manufacturers due to administrative burden to identify applicable legislation	+ Guidance would slightly facilitate identification of legislation applying to products thus reducing costs; minor reduction of non-compliant products however impact falling outside the scope of the GAD where implementing measures under the Ecodesign Directive apply instead of the GAD	**0** Will contribute to better regulation and Single Market Act; but unclear legal situation remains unchanged
Legislative measure	++ Specific objectives fully met as coherence of EU legislation is achieved; legal clarity regarding the relationship between the GAD and the more specific energy efficiency legislation is provided	+ Administrative burden is reduced, identification of legislation applying to products is facilitated and possible overlapping of requirements is avoided resulting in cost savings; stable legal conditions and clarity may contribute to increasing turn-overs and profits	++ Legal clarity reduces administrative burden; reduction of non-compliant products as legal clarity facilitates identifying applicable regulations; enables allocation of resources to product development as legal framework is clearified	++ Will optimally contribute to better regulation and Single Market Act; contributes to Europe 2020 objective to improve energy efficiency; increases coherence of EU legislation; clear legal situation assured

Requirements (from 7.3.5. and Annex XI)				
Do nothing	**0**	**0**	**0**	**0**
Soft law	**0** Specific objectives partly met but impacts are marginal as no shortcomings with the current requirements were identified	**-** Minor costs related to developing guidance	**+** Improved understanding of the requirements may slightly reduce the number of non-compliant products	**+** Will slightly contribute to better regulation and Single Market Act
Legislative measure	**++** Specific objectives fully met as clarity of legal requirements is ensured; importance of inherent product safety is highlighted in the legal text; clear legal situation assured	**+** No specific costs except cost savings for market surveillance who can more easily justify measures in case of unsafe products thus some cost savings	**+** Improved readability of requirements reduces slightly administrative burden; provides means to proactively deal with potentially non-compliant products; facilitates the work of market surveillance	**+** Will contribute to better regulation and Single Market Act; improves slightly the clarity of the legal framework

Choice of the legal instrument

In line with the Commission policy to simplify the regulatory environment, it is proposed to change the Directive into a Regulation.

The use of a Regulation does not conflict with the subsidiarity principle. As outlined in chapter 4.7, this legislation is based on Article 114 TFEU with the objective of ensuring the proper functioning of the internal market for gas appliances. To achieve this objective, the gas appliances directive is a total harmonisation directive. Member States are not allowed to impose more stringent or additional requirements in their national legislation for the placing on the market of gas appliances. In particular, the mandatory essential health and safety requirements for products and the conformity assessment procedures to be followed by manufacturers must be identical in all of the Member States. Given this level of harmonisation, which is necessary to avoid obstacles to the free movement of gas appliances, Member States have almost no flexibility in transposing the Directive into their national law and its content is in many cases reproduced word for word in the national transposition legislation.

The same applies to the new provisions that will be integrated into the text following the alignment to the NLF Decision No 768/2008/EC. These provisions lay down requirements, obligations and procedures for the manufacturers, importers and distributors of gas appliances and for the notified bodies that carry out the conformity assessment procedures. All of these provisions are clear and sufficiently precise to be applied directly by the actors concerned.

The obligations set by the legislation for the Member States, such as the obligation to assess, appoint and notify the conformity assessment bodies are, in any case, not transposed as such into national law but implemented by the Member States by means of the necessary regulatory and administrative arrangements. This will not change when the obligations concerned are set out in a Regulation.

The change from a Directive to a Regulation will not lead to any change in the regulatory approach. The characteristics of the New Approach will be fully preserved, in particular the flexibility given to manufacturers in the choice of the means employed to comply with the essential requirements (harmonised standards or other technical specifications) and in the

choice of the procedure used to demonstrate compliance from among the available conformity assessment procedures. The existing mechanisms supporting the implementation of the legislation (standardisation process, working groups, market surveillance, administrative cooperation (ADCO), the development of guidance documents…) will not be affected by the nature of the legal instrument and will continue to operate in the same manner under the Regulation as they currently do under the Directive.

On a general level, industry associations have expressed their preference for using Regulations in the area of internal market legislation, for two reasons: first, the risk of 'gold plating' is avoided and second, it allows manufacturers to work directly with the Regulation text instead of needing to identify and examine 28 transposition laws.

There is no uniform position of Member States on this issue. While some see benefits in terms of saving transposition costs, other point out that, despite the direct applicability of a Regulation, certain national implementation measures (e.g. relating to enforcement) and modifications of existing national legislation are necessary.

Summing up, it is considered that the use of a Regulation will be beneficial for the sector. It will avoid the costs for the Member States associated with the transposition of a Directive. It will allow for a more rapid application of the new legislation and will help economic operators to conduct their business as they will have to deal with a single regulatory instrument rather than with 28 national laws transposing a Directive.

9. MONITORING AND EVALUATION

The monitoring and evaluation of the effectiveness of the legislation will be based on the feedback received through the various cooperation mechanisms already established within the framework of the Directive, i.e.:

– Working Group Gas Appliances (WG-GA);

– GAD Administrative Cooperation group (GAD ADCO);

– Horizontal Coordination group of the Notified Bodies in the field of GAD called Gas Applianecs Directive Advisory Committee (GAD-AC) and its preparatory group Notified Bodies Gas Appliances (NB-GA).

In particular the GAD ADCO group will discuss the national market surveillance programs and the outcome of their execution, e.g. the actions taken (individual and concerted market surveillance activities), number of product groups and products checked, number of non-compliant products detected, types of non-compliances, etc. The Member States will be invited to ensure that the data encoded in the RAPEX system and the ICSMS database as well as the documentation enclosed to the safeguard clause notifications includes all the necessary details enabling identification of the causes of the non-compliances and whether they occur due to issues not regulated by the GAD.

Additional feedback will be obtained from the new or expanded cooperation and information exchange mechanisms provided for by NLF Regulation 765/2008.

The monitoring of the reduction of non-compliant products will be possible via the following indicators:

– Number of products checked;

– Number of non-compliant products among those checked;

– Type of non-compliance found.

These enforcement indicators will be based on information provided by the market surveillance authorities via

– the RAPEX[61] system;

– a general database established under Article 23 of the NLF Regulation 765/2008 for the exchange of information among the Member States on market surveillance activities and non-compliant products (ICSMS)[62];

– the safeguard clause notification procedures.

Non-compliance will also be detectable through complaints addressed to the Commission.

In line with its "Smart regulation" policy[63] the Commission will evaluate the effectiveness of the revised Gas Appliances Regulation within a period of 5 up to a maximum of 10 years after the date of application of the Regulation, basing itself on the feedback obtained from the mechanisms set out above. Should specific circumstance so require, the Commission will launch an external evaluation.

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61 RAPEX is the EU rapid alert system that facilitates the rapid exchange of information between Member States and the Commission on measures taken to prevent or restrict the marketing or use of products posing a serious risk to the health and safety of consumers (with the exception of food, pharmaceutical and medical devices). See http://ec.europa.eu/consumers/safety/rapex/index_en.htm and http://ec.europa.eu/consumers/dyna/rapex/rapex_archives_en.cfm

62 ICSMS is the data exchange system on market surveillance between the market surveillance bodies in Europe. See https://www.icsms.org

63 http://ec.europa.eu/enterprise/policies/smart-regulation/index_en.htm

ANNEX I: SUMMARY OF THE RESULTS OF THE PUBLIC CONSULTATION ON THE REVISION OF DIRECTIVE 2009/142/EC ON APPLIANCES BURNING GASEOUS FUELS (GAD)

Introduction

The consultation took place between the 11th December 2011 and the 11th March 2012. The main objective of the consultation was to ask the views and opinions of authorities, manufacturers, associations, standardisation organisations, notified bodies, consumer organisations and citizens on various issues that may need to be addressed when revising the GAD.

The following areas to be examined had been identified:

> **A. Alignment of the GAD** to the New Legislative Framework, in particular to Decision No 768/2008/EC on a common framework for the marketing of products,
>
> **B. Clarification of the provisions of the GAD** in order to make it functioning better and to reduce the need for interpretation, and
>
> **C. Modification of the scope of the GAD** by e.g. including new products groups within its scope where such intra-EU market failures are identified which require a European level intervention.

The decision to consult the stakeholders separately on the above areas and sub-areas was made in order

a) to enable the detailed analysis of each of the areas separately; and

b) to be able to comply with the Commission's Impact Assessment Guidelines requiring that the problem definition

- describes the nature of problem in clear terms and supports the description with clear evidence;
- sets out clearly the magnitude of the problem;
- sets out clearly who is most affected by it; and
- identifies clearly the drivers or underlying causes of the problem.

The chosen approach made it possible to combine at a later stage of the impact assessment process the elements of the potential revision options to formulate more complete policy options.

The replies to this consultation were to provide the Commission services with a broader range of views and experiences on the functioning of the single market regarding products which are currently covered by the GAD and those outside its scope and possibly presenting gas risks. The views and other information collected were expected to facilitate identification of possible areas where improvement of the conditions for marketing of gas appliances, their fittings and other relevant products would be possible thus enabling formulation of European level policies as response to well-defined needs.

This Annex summarises the main elements of the responses received. The statistical analysis of the responses is provided in the end of this Annex.

Identification and characterisation of the respondents

The participation in the public consultation was important as the Commission received 90 replies with contributions from public authorities, industry associations, notified bodies, standardisation and consumer organisations, both big enterprises and SMEs and consumers/citizens.

The participation of public authorities was limited, owing to the fact that public authorities have other means to convey their views to the Commission, in particular through their participation in the Member States Working Group Gas Appliances (WG-GA) and the GAD Administrative Co-operation group (GAD ADCO) meetings.

The 90 responses in total were submitted by:

- 8 public authorities (8.9%)
- 31 enterprises (34.4%)
  - 17 big companies (18.9%)
  - 14 SMEs (15.6%)
- 25 industry associations (27.8%)
- 8 notified bodies (8.9%)
- 7 standardisation organisations (7.8%)
- 2 consumer organisations (2.2%)
- 9 consumers/citizens (10.0%)

A. Alignment of the GAD with the New Legislative Framework – Specific issues

Question A.1: *In your opinion is there a need to introduce 'accredited in-house bodies'?*

	Yes		No		No opinion	
• public authorities	1	(1.1%)	6	(6.7%)	1	(1.1%)
• big companies	1	(1.1%)	16	(17.8%)	0	(0.0%)
• SMEs	5	(5.6%)	6	(6.7%)	3	(3.3%)
• industry associations	1	(1.1%)	21	(22.2%)	3	(3.3%)
• notified bodies	0	(0.0%)	8	(8.9%)	0	(0.0%)
• standardisation organisations	0	(0.0%)	5	(5.6%)	2	(2.2%)
• consumer organisations	0	(0.0%)	2	(2.2%)	0	(0.0%)
• consumers/citizens	0	(0.0%)	5	(5.6%)	4	(4.4%)

Most of the respondents 76.7% (i.e. 69 of 90) were not in favor to introduce accredited in-house bodies in the revised GAD. The main concern of the respondents was the independency of conformity assessment when undertaken by in-house bodies on the contrary to independent Notified Bodies. Respondents also highlighted that the introduction of in-house bodies would create confusion due to the absence of the ID number of the notified body on certain gas appliances, thus reducing the traceability of appliances. Another point raised by the respondents was the cost element of establishing accredited in-house bodies within organisation especially in the case of SMEs. In the end, there was no support from the majority of the respondent to change an established certification system proven to work well and guaranteeing a high level of safety of appliances placed on the market.

On the other hand, respondents in favor to introduce in-house bodies in the GAD (8.9%) mentioned that such 'accredited in-house bodies' were already in place under the framework of other Directives and were functioning well.

Question A.2: *Should the current safety philosophy of the GAD be maintained?*

	Yes		No		No opinion	
• public authorities	6	(6.7%)	2	(2.2%)	0	(0.0%)
• big companies	15	(16.7%)	2	(2.2%)	0	(0.0%)
• SMEs	7	(7.8%)	7	(7.8%)	0	(0.0%)
• industry associations	21	(23.3%)	3	(3.3%)	1	(1.1%)
• notified bodies	8	(8.9%)	0	(0.0%)	0	(0.0%)
• standardisation organisations	7	(7.8%)	0	(0.0%)	0	(0.0%)
• consumer organisations	2	(2.2%)	0	(0.0%)	0	(0.0%)
• consumers/citizens	7	(7.8%)	0	(0.0%)	2	(2.2%)

The current safety philosophy of the GAD was supported by 81.1 % (i.e. 73 of 90) of the respondents who pointed out that a high level of safety has been established through the current conformity and certification procedure and that this system has worked effectively and efficiently. It was also noted that the safety level acquired should be maintained.

Furthermore, it was mentioned that if the three points from the NLF module for the EC type-examination would be included in the revised GAD, some clarification or guidance would be needed to ensure that a consistent approach is undertaken across the EU as it was not clear who shall make the choice of the procedure: the notified body or the manufacturer. Without clear criteria provided for making an easy choice between the options, it was also mentioned that the least stringent one i.e. the assessment of the technical documentation without checking the product will always be selected and this may result in an increase of non-conforming or unsafe appliances entering the EU market.

A small number of the respondents (15.6%) supported the modification of the current Directive by taking into account the three options as defined in Module B of the NLF and mentioned that this would provide a more flexible, faster and cost-efficient type examination. It was in particular noted that in the case where appliances were produced on a relatively infrequent basis and where the type has not changed, a complete EC-type examination may be considered as a waste of time and an unnecessary expense and an assessment of the technical documentation may be sufficient.

B. Clarification of the current provisions of GAD

Question B.1: *Is the definition of 'appliances' clear enabling the determination of appliances falling within the scope of GAD?*

	Yes		No		No opinion	
• public authorities	3	(3.3%)	5	(5.6%)	0	(0.0%)
• big companies	1	(1.1%)	16	(17.8%)	0	(0.0%)
• SMEs	3	(3.3%)	10	(11.1%)	1	(1.1%)
• industry associations	5	(5.6%)	18	(20.0%)	2	(2.2%)
• notified bodies	2	(2.2%)	6	(6.7%)	0	(0.0%)
• standardisation organisations	0	(0.0%)	5	(5.6%)	2	(2.2%)
• consumer organisations	0	(0.0%)	2	(2.2%)	0	(0.0%)
• consumers/citizens	0	(0.0%)	6	(6.7%)	3	(3.3%)

The majority of the respondents 75.6% (equivalent to 68 of 90) did not consider the definition of appliances given in the current Directive clear enabling the determination of appliance falling within the scope of the GAD. The need for a number of Guidance Sheets was given as evidence that an improvement was needed. Some inconstancies were noted in the coverage of the scope of the Directive and in particular, it was stated that the borderline between gas appliance and combustion products evacuation system was unclear.

Many of the respondents brought forward upfront their positions in favour of extending the scope (the modification of the scope issue was dealt with in section C. of the consultation). It was proposed to cover cooling and power generation products and appliances with innovative technologies like CHP, heat pumps, cogeneration, etc. It was also suggested to include newly available fuels such as hydrogen and fuel cell based appliances within the scope of the Directive.

As regards the wording and to clarify the meaning, it was also suggested to replace the term "washing" by "laundry".

Question B.2: *Should additional information on the gas supply conditions in the Member States be made available and should the parameters to be communicated be better determined?*

	Yes		No		No opinion	
• public authorities	6	(6.7%)	2	(2.2%)	0	(0.0%)
• big companies	17	(18.9%)	0	(0.0%)	0	(0.0%)
• SMEs	11	(12.2%)	0	(0.0%)	3	(3.3%)
• industry associations	19	(21.1%)	3	(3.3%)	3	(3.3%)
• notified bodies	7	(7.8%)	1	(1.1%)	0	(0.0%)
• standardisation organisations	4	(4.4%)	1	(1.1%)	2	(2.2%)
• consumer organisations	0	(0.0%)	0	(0.0%)	2	(2.2%)
• consumers/citizens	6	(6.7%)	0	(0.0%)	3	(3.3%)

Most of the respondents 77.8% (equivalent to 70 of 90) were of the opinion that additional information relating to gas supply conditions in the Member States should be made available and that a continuous recording of the information should be mandatory as the information published in the Official Journal of the European Union (OJEU) was often obsolete and inaccurate. It was noted that additional information was important to ensure that manufacturers, Notified Bodies and market surveillance authorities were guided in a proper manner and to avoid confusion.

Some of the suggestions given by the respondents were the following: the Wobbe index and its conditions; the relative gas density; the gross calorific value; the methane number; the associate materials; the relevant components e.g. methane, ethane, propane, butane, hydrogen, CO and CO_2, sulphur and other special components; the amount of renewable energy, hydrogen, higher hydrocarbons, stench in gas; minimum and maximum supply pressure at the inlet of the appliance and at the delivery point; the admissible pressure loss in the gas installation; the dew point of water at 40 bar; admixing biogas or liquid gas. Other respondents noted that there were differences in the quality of Liquefied Natural Gas (LNG) and that it was important to communicate the elements and/or chemical compounds and their quantities in order to ensure that LNG appliances could be used in different regions of the EU. It was also proposed that a surveillance for gas qualities should be introduced and that the Member States' installation regulations should be made available.

Another suggestion was that the GAD should encompass both manufacturing and installation.

A small number of the respondents (7.8%) considered that the information currently communicated by the Member States was sufficient. To justify their position, they pointed out that there was no issue on problems due to a lack of information and that the information as in European harmonised standard EN 437 and the product specific standards is sufficient.

Question B.3: *Should the declaration of conformity be provided together with appliances?*

	Yes		No		No opinion	
• public authorities	3	(3.3%)	4	(4.4%)	1	(1.1%)
• big companies	0	(0.0%)	17	(18.9%)	0	(0.0%)
• SMEs	7	(7.8%)	5	(5.6%)	2	(2.2%)
• industry associations	10	(11.1%)	15	(16.7%)	0	(2.2%)
• notified bodies	3	(3.3%)	5	(5.6%)	0	(0.0%)
• standardisation organisations	1	(1.1%)	4	(4.4%)	2	(2.2%)
• consumer organisations	0	(0.0%)	0	(0.0%)	2	(2.2%)
• consumers/citizens	0	(0.0%)	7	(7.8%)	2	(2.2%)

The majority of the respondents 63.3% (equivalent to 57 of 90) were not in favour of providing the declaration of conformity together with appliances.

Respondents were of the opinion that the declaration of conformity was an important document which should be kept available for market surveillance authorities upon request but that this document represents no added value for consumers and may increase the administrative burden for industry. It was also noted that the declaration of conformity represented no added value as the CE marking and the product identification code (serial number) were already sufficient to declare that the obligations have been met. It was suggested that it should be left to the manufacturer and/or the authorised representative to include the declaration of conformity in a shipment or whether to make it available by others means as a copy. Respondent also noted that the GAD is a third party approval Directive as the compliance is under the control of Notified Bodies unlike to other Directives as the Low Voltage Directive (LVD) where providing the declaration of conformity with the appliance is therefore more logical.

The part of the respondents (26.7%) who were in favour of providing the declaration of conformity with the appliance noted that this would help to assure a clear definition of the responsibilities of the manufacturer, the distributor and/or importer and the user. It was also highlighted that this document was important for installers to obtain relevant information and also for user to determine if the appliance would meet the requirements.

Question B.4: *Would it be necessary to modify the essential requirement 1.2.1.?*

	Yes		No		No opinion	
• public authorities	5	(5.6%)	3	(3.3%)	0	(0.0%)
• big companies	1	(1.1%)	16	(17.8%)	0	(0.0%)
• SMEs	8	(8.9%)	4	(4.4%)	2	(2.2%)
• industry associations	6	(6.7%)	18	(20.0%)	1	(1.1%)
• notified bodies	1	(1.1%)	7	(7.8%)	0	(0.0%)
• standardisation organisations	2	(2.2%)	3	(3.3%)	2	(2.2%)
• consumer organisations	0	(0.0%)	2	(2.2%)	0	(0.0%)
• consumers/citizens	0	(0.0%)	6	(6.7%)	3	(3.3%)

Most of the respondents 65.6% (equivalent to 59 of 90) were not in favour to modify the Essential Requirement 1.2.1. as the current Essential Requirement covers all safety risks,

provides a legal certainty and informs manufacturer on the information to be included in the technical instructions, thus ensuring a certain consistency across the EU. Therefore, the deletion or amendment of some requirements might cause relevant factors being ignored or misinterpreted and the manufacturers not providing all necessary information.

On the other hand, the respondents who were in favour (25.6%) to modify the Essential Requirement 1.2.1. suggested to keep only the first sentence as this part was general and applied to all appliances, and the rest was only important for installer and therefore provided in the case, the specific safety aspects needed to be taken into account and/or provided in harmonised standards. But it was also suggested that the GAD should stipulate the relevant minimum requirements for the implementation and the execution of the safety relevant 'first putting into service' procedure including tightness test on the gas installation (drop in pressure/leakage rate) and the test for safe flue gas channelling (CO and CO_2 concentrations in flue gas).

Respondents also suggested that national regulations for installation should be made available so that manufacturers can take notice and mention them in the instructions for use and installation. To share this information, it was suggested to create a product contact point system for easy access to information or to set up an institution like the 'Standing Committee on Construction'.

Respondents highlighted that it was not enough that an appliance was safe when placed on the market; appliances should remain safe during its entire life-cycle and to enforce this point requirements regarding instructions for regular inspections and for records related to any corrective actions taken during the maintenance phase should be introduced as well as requirements regarding the competencies and the training of professional staff involved in the planning, design, installation, commissioning, use and maintenance of the appliance. Furthermore it was also suggested that another Directive dealing with the installation process should be introduced.

Following the philosophy of the installation recommendations, it was also suggested to introduce a recommendation to include a CO alarm in the area containing the gas appliance.

Question B.5: *Would it be necessary to deal in the framework of GAD with energy efficiency in a more concrete way by e.g. specifying energy efficiency requirements on appliances?*

	Yes		No		No opinion	
• public authorities	2	(2.2%)	6	(6.7%)	0	(0.0%)
• big companies	0	(0.0%)	17	(18.9%)	0	(0.0%)
• SMEs	1	(1.1%)	7	(7.8%)	6	(6.7%)
• industry associations	3	(3.3%)	20	(22.2%)	2	(2.2%)
• notified bodies	0	(0.0%)	8	(8.9%)	0	(0.0%)
• standardisation organisations	0	(0.0%)	5	(5.6%)	2	(2.2%)
• consumer organisations	2	(2.2%)	0	(0.0%)	0	(0.0%)
• consumers/citizens	0	(0.0%)	7	(7.8%)	2	(2.2%)

The majority of the respondents 77.8% (equivalent to 70 of 90) were not in favour to deal in the framework of the GAD with energy efficiency in a more concrete way by e.g. specifying energy efficiency requirements for appliances as this issue was already covered by specific Directives such as the Ecodesign Directive 2009/125/EC and the Eco-Labelling Directive 2010/30/EC. The respondents stressed that double regulation should be avoid. It was also noted that energy efficiency is irrelevant to gas risk and should therefore not be included within the GAD.

Respondents, who supported this point (8.9%), suggested making a reference to the Directives on energy efficiency to clarify the situation. Another point raised by this part of the respondents was to set limit values for the combustion gas parameters (CO and NO_x), and in particular when the combustion were emitted indoors.

C. Modification of the scope of the GAD and the Essential Requirements

Question C.1: *Should the scope of the GAD be extended?*

	Yes		No		No opinion	
• public authorities	6	(6.7%)	2	(2.2%)	0	(0.0%)
• big companies	13	(14.4%)	3	(3.3%)	1	(1.1%)
• SMEs	8	(8.9%)	2	(2.2%)	4	(4.4%)
• industry associations	16	(17.8%)	8	(8.9%)	1	(1.1%)
• notified bodies	7	(7.8%)	0	(0.0%)	1	(1.1%)
• standardisation organisations	4	(4.4%)	0	(0.0%)	3	(3.3%)
• consumer organisations	2	(2.2%)	0	(0.0%)	0	(0.0%)
• consumers/citizens	6	(6.7%)	1	(1.1%)	2	(2.2%)

Most of the respondents 68.9% (equivalent to 62 of 90) were of the opinion that the scope of the GAD should be extended. The respondents stated that as the Construction Products Directive (CPD) is not relevant to deal with gas risks presented by components for gas installations and the purpose of the GAD was to ensure the safety of people, property and domestic animals as regard gas risks it was proposed to include in the GAD all gas using products and innovations from the fields as cooling, power generation, etc. as well as relevant components for gas installation like valves, regulators, safety devices and flexible appliance connectors. Another point raised by respondents was to extend the scope of the Directive to prevent closing the market for independent combustion products evacuations ducts. It was also suggested to define new guidance with a positive list of specific products covered by the revised GAD.

A small number of the respondents (17.8%) were not in favour of an extension of the scope of the GAD as they considered that the current GAD is functioning well and no safety problems have been reported with products outside the scope of the GAD.

As regard problems with the functioning of the internal market, many of the respondents noted that problems do exist where national installation/certification has been made mandatory. It was suggested that national certification should be avoided and national regulations should be limited to distribution/supply only in order to ensure the free trade of appliances functioning within the EU. In particular the manufacturers of combustion products evacuation ducts expressed as their opinion that independent flue system manufacturers might be subject to unfair competition since they cannot offer their ducts for CE marked appliances with incorporated ducts.

Respondents also noted that due to differences in national gas installation, there were differences in the type of gas and the way how appliances were connected to the installation, thus leading to an increased risk of accidents.

Question C.2: *Should the scope of the GAD be reduced?*

	Yes		No		No opinion	
• public authorities	2	(2.2%)	5	(5.6%)	1	(1.1%)
• big companies	0	(0.0%)	16	(17.8%)	1	(1.1%)

• SMEs	4	(4.4%)	6	(6.7%)	4	(4.4%)
• industry associations	7	(7.8%)	16	(17.8%)	2	(2.2%)
• notified bodies	1	(1.1%)	7	(7.8%)	0	(0.0%)
• standardisation organisations	2	(2.2%)	3	(3.3%)	2	(2.2%)
• consumer organisations	0	(0.0%)	2	(2.2%)	0	(0.0%)
• consumers/citizens	0	(0.0%)	6	(6.7%)	3	(3.3%)

The majority of the respondents 67.8% (equivalent to 61 of 90) were not in favour of a reduction of the scope of the GAD as there was no evidence in favour to such proposal and it would potentially increase the number of unsafe products on the market. Another point noted by the respondents was to avoid unregulated products and/or national requirements which restrain the free trade of appliances within the EU.

Question C.3: *Should the exclusion of appliances with a normal water temperature exceeding 105°C be maintained?*

	Yes		No		No opinion	
• public authorities	1	(1.1%)	6	(6.7%)	1	(1.1%)
• big companies	6	(6.7%)	10	(11.1%)	1	(1.1%)
• SMEs	3	(3.3%)	1	(1.1%)	10	(11.1%)
• industry associations	7	(7.8%)	10	(11.1%)	8	(8.9%)
• notified bodies	2	(2.2%)	6	(6.7%)	0	(0.0%)
• standardisation organisations	2	(2.2%)	3	(3.3%)	2	(2.2%)
• consumer organisations	0	(0.0%)	0	(0.0%)	0	(0.0%)
• consumers/citizens	0	(0.0%)	5	(5.6%)	4	(4.4%)

45.6 % of the respondents (equivalent to 41 of 90) were not in favour to maintain the exclusion of appliance with a normal temperature exceeding 105°C and highlighted the fact that a guidance has been needed in order to clarify how this limit should be applied. It was suggested that the limit can be deleted as these appliances were already within the scope of the GAD.

Other respondents noted that it was necessary to clarify the case of some appliances used for commercial purpose as coffee machine currently outside the scope of the GAD. Another reason given by respondents was to avoid that gas appliances fall under other Directives such as the Pressure Equipment Directive (PED) or the Machinery Directive (MD).

The respondents in favour to maintain the exclusion (23.3%) noted that products with a normal temperature above 105°C were normally used in industrial field and falling within the scope of other Directives (PED, MD) which do not conflict with the GAD. It was noted that so far no problems with such appliances have been detected and that in domestic and catering appliance, the normal water temperature does not exceed 105°C.

Question C.4: *Should the exclusion of "appliances specifically designed for use in industrial processes carried out on industrial premises" be maintained?*

	Yes		No		No opinion	
• public authorities	8	(8.9%)	0	(0.0%)	0	(0.0%)
• big companies	17	(18.9%)	0	(0.0%)	0	(0.0%)
• SMEs	6	(6.7%)	0	(0.0%)	8	(8.9%)
• industry associations	18	(20.0%)	0	(0.0%)	7	(7.8%)
• notified bodies	5	(5.6%)	3	(3.3%)	0	(0.0%)
• standardisation organisations	3	(3.3%)	2	(2.2%)	2	(2.2%)

• consumer organisations	2	(2.2%)	0	(0.0%)	0	(0.0%)
• consumers/citizens	5	(5.6%)	0	(0.0%)	4	(4.4%)

Most of the respondents 71.1% (equivalent to 64 of 90) were of the opinion that the exclusion of appliances specifically designed for use in industrial processes carried out on industrial premises should be maintained as industry specific designs appliances were usually covered by other Directives like the PED, the ATEX or the MD and the scope of the GAD was more to cover household appliances in domestic use. Some respondents noted that the essential requirements of the GAD were not suitable for industrial processes carried out on industrial premises as associated risks were not limited to combustion but to many other risks. Other points raised by respondents were that each appliance specifically designed for industrial premises was unique and there was therefore no barrier to trade; and that appliances were often specially designed and constructed for their industrial purposes and in this case, a common approach to be implemented would be impossible as the safety aspects can only be specified in combination with the complete industrial process.

More generally, some respondents asked for further clarification of this exclusion and other for additional components.

5.6% of the respondents were not in favour to maintain this exclusion mainly to ensure that industrial appliances meet the essential requirements of the GAD and so to increase safety within the industry.

Question C.5: *Would the essential requirements of the GAD need to be revised in order to deal with all gas risks presented by 'appliances' and 'fittings' currently covered by it and, where relevant, by the products suggested to be taken within the scope (under point C.1.1.)?*

	Yes		No		No opinion	
• public authorities	2	(2.2%)	5	(5.6%)	1	(1.1%)
• big companies	0	(0.0%)	17	(18.9%)	0	(0.0%)
• SMEs	3	(3.3%)	4	(4.4%)	7	(7.8%)
• industry associations	1	(1.1%)	20	(22.2%)	4	(4.4%)
• notified bodies	1	(1.1%)	5	(5.6%)	2	(2.2%)
• standardisation organisations	2	(2.2%)	2	(2.2%)	3	(3.3%)
• consumer organisations	2	(2.2%)	0	(0.0%)	0	(0.0%)
• consumers/citizens	0	(0.0%)	5	(5.6%)	4	(4.4%)

The majority of the respondents 64.4% (equivalent to 58 of 90) considered that the current essential requirements of the GAD already cover all safety risks and the request for technical instructions in requirement 1.2.1. was sufficient.

The respondents (12.2%) who were in favour of a revision, suggested to extend the use of FSD referred to in Essential Requirement 3.2.3. to all gas appliances and to remove the reference to the adequate space ventilation conditions. Another concern raised by respondents was that fuel cells and biogas were currently not adequately covered. A respondent noted that it was questionable whether the GAD system certifies ducts in conformity with all relevant regulations.

Question C.6: *Are there any other issues regarding the GAD which would need to be addressed in the framework of the revision of the gas appliances directive?*

	Yes		No		No opinion	
• public authorities	4	(4.4%)	4	(4.4%)	0	(0.0%)

• big companies	17	(18.9%)	0	(0.0%)	0	(0.0%)
• SMEs	6	(6.7%)	2	(2.2%)	6	(6.7%)
• industry associations	15	(16.7%)	9	(10.0%)	1	(1.1%)
• notified bodies	4	(4.4%)	3	(3.3%)	1	(1.1%)
• standardisation organisations	0	0.0%)	2	(2.2%)	5	(5.6%)
• consumer organisations	2	(2.2%)	0	(0.0%)	0	(0.0%)
• consumers/citizens	6	(6.7%)	0	(0.0%)	3	(3.3%)

60.0% of the respondents (equivalent to 54 of 90) raised other issues regarding the GAD which would need to be addressed in the framework of the revision of the Directive however it should be noted that many of the issues brought forward under this point were already raised in previous questions.

The points noted by the respondents were the following:

- To introduce design and manufacturing principles as in the essential requirements of the Machinery Directive would make it possible to establish a standard that complies with all the requirements;
- To take fittings and components for gas installations and ducts for supply of combustion air and evacuation of combustion products within the scope of the GAD,
- To have a validity of the EC type-examination certificates of at least 10 years;
- To introduce compulsory fitting of flame supervision device (FSD) as the installer should not be responsible for the adequate space ventilation conditions;
- To ensure that only appliances with already assembled gas-carrying circuit are placed on the market by conducting soundness tests;
- To change the term 'fittings' to 'components';
- To introduce the CE marking for components;
- To take gas meters within the scope of the Directive as the Directive on Measuring Instruments (MID) does not deal with gas risks;
- To allow appliances not subject to conformity assessment to be shown on at trade fairs, exhibitions, etc. with a visible sign pointing out that it is not in conformity and not for sale;
- In the view of mandates M/400 and M/475 (increasing share of cross border gas, LNG and biogas) a definition for a 'normal variation of the gas quality and supply pressure' should be introduced;
- Member States should be obliged to make public detailed information on the gas supply conditions including the specifications to the different regions;
- The certification of the system appliance/flue duct, when both are tested and delivered together, has proven efficient and reliable, therefore this procedure should be clearly mentioned in the relevant clause; and
- As it is impossible from the technical point of view to equip appliances like blow torches with fitted gas cartridges or current camping stoves with automatic shut-off device operating at the pressure of a LP cartridge (up to 12 bar), consequently care should be taken if modifying the Essential Requirement 3.2.3.

D. Any other matters to be considered

Some respondents asked for clarifying the interaction with other Directives as the LVD or the EMC Directive and according to which Directive the conformity assessment should be carried out. Another point raised was the introduction of a 1000 ppm CO ceiling for flue gas and an upper limit of 5.0 litres/hour at initial commissioning for gas leakage rate.

ANNEX II: CERTIFICATION PROCEDURES FOR THE GAS APPLIANCES DIRECTIVE

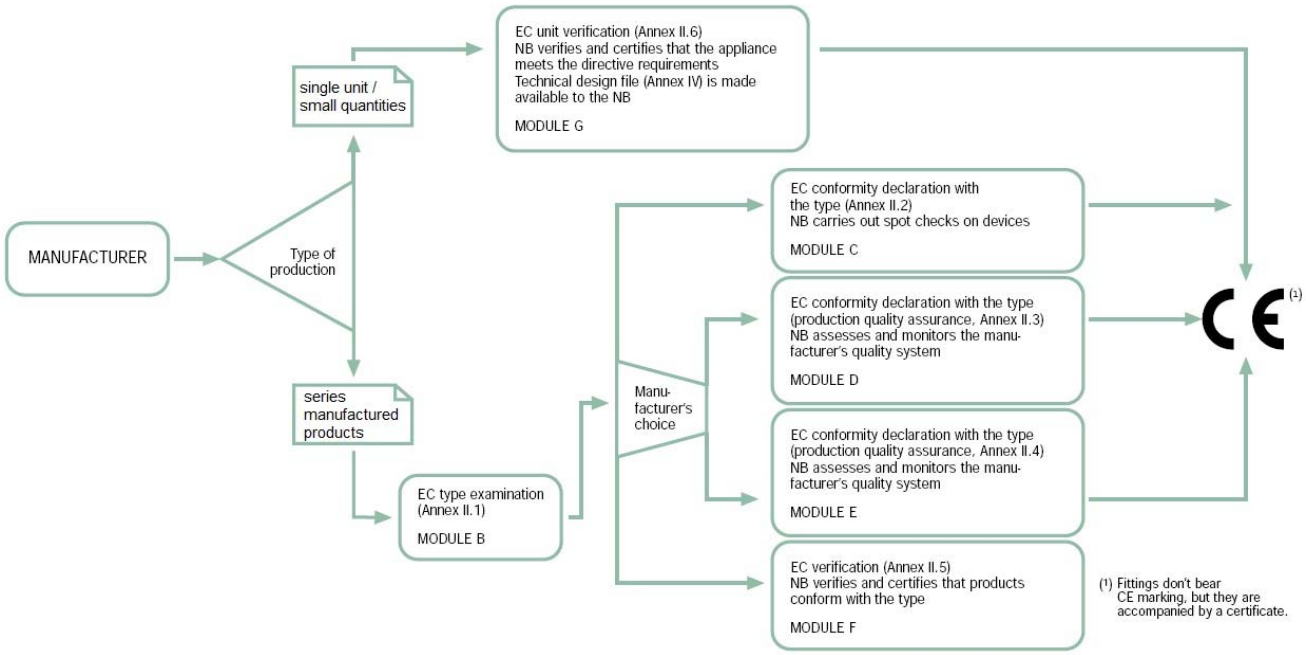
Means of certification of conformity for appliances and fittings

In the framework of the GAD, the means of certification of conformity of series manufactured appliances is the EC type-examination (Module B) and prior to their being placed on the market, at the choice of the manufacturer:

- the EC declaration of conformity to type (Module C), or
- the EC declaration of conformity to type (guarantee of production quality) (Module D), or
- the EC declaration of conformity to type (guarantee of product quality) (Module E), or
- EC verification (Module F).

In the case of production of an appliance as a single unit or in small quantities, EC verification by single unit (Module G) may be chosen by the manufacturer.

Figure A.II.1: Flow chart for the conformity assessment procedures provided for in Directive 2009/142/EC on appliances burning gaseous fuels (GAD)



ANNEX III: OTHER DIRECTIVES RELEVANT FOR THE GAD

Other Directives relevant for the Gas Appliances Directive

Ecodesign Directive 2009/125/EC[64]

The Ecodesign Directive 2009/125/EC and its implementing measures apply to certain gas appliances.

The Directive provides with consistent EU-wide rules for improving the environmental performance of energy related products through ecodesign. In order the Directive to be applicable, it requires adopting so-called implementing measures. Products that comply with the ecodesign requirements laid down in implementing measures to the Ecodesign Directive should bear the "CE" marking and associated information, in order to enable them to be placed on the internal market and move freely.

Currently the following implementing measures are relevant for gas appliances:

– Directive 92/42/EEC on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels indicating the minimum efficiency levels for boilers[65]; and

– Commission Regulation No 932/2012 with regard to ecodesign requirements for household tumble driers[66].

In this context it must be noted that the GAD covers the energy efficiency of appliances by its Essential Requirement 3.5. on rational use of energy[67].

Energy Performance of Buildings Directive 2002/91/EC (EPBD)[68]

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64 Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products. This Directive has been amended by Directive 2012/27/EU of 25 October 2012 of the European Parliament and of the Council of 25 October 2012 on energy efficiency
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:285:0010:0035:EN:PDF

65 Council Directive 92/42/EEC of 21 May 1992 on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1992:167:0017:0028:EN:PDF

66 Commission regulation (EU) No 932/2012 of 3 October 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household tumble driers
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:278:0001:0010:EN:PDF

67 In the GAD the notions of "energy conservation" (in its recital No 7) and "rational use of energy" refer to the “energy efficiency” of appliances, since “energy conservation” is specified in Essential Requirement 3.5. as “rational use of energy”. The GAD terminology on "energy conservation" and "rational use of energy" reflects the terminology used at the time of its elaboration and it goes from the more general to the more specific term. The development of the EU policy relating to energy, started in the beginning of 1970s, and in many cases the terms "rational use of energy", "energy efficiency" and "energy conservation" were used in parallel. In the specific context of gas appliances, the term of "rational use of energy" concerns the increased efficiency of appliances, in line with the state of the art.

68 Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:153:0013:0035:EN:PDF

The Directive is the main legislative instrument to reduce the energy consumption of buildings. Under this Directive, Member States must establish and apply minimum energy performance requirements for new and existing buildings, ensure the certification of building energy performance and require the regular inspection of boilers and air conditioning systems in buildings.

Article 1(2)(c)(iii) of the EPBD permits laying down requirements for technical building systems whenever they are installed, replaced or upgraded implying that in particular gas fuelled appliances used in heating and cooling applications in buildings are affected.

Construction Products Directive 1989/106/EEC (CPD)[69] and *the Construction Products Regulation 305/2011/EU (CPR)*[70]

The Directive seeks to remove the technical barriers to trade in construction products across Europe by harmonising the method of conformity assessment, the methods of test and product performance values to ensure a product is fit for the intended use. It will be replaced by the CPR on the 1 July 2013.

It is applicable to any product or kit marketed for incorporation in a permanent manner in construction works, provided it has an effect on the performance of the construction works. Consequently, Gas appliances which are sold as units including both a heating body and an incorporated combustion products evacuation duct (called kits under the CPD) might be affected by the CPD since determining the performance characteristics of the flue part might be subject to the CPD.

Low Voltage Directive 2006/95/EC (LVD)[71]

The objective of the LVD is to ensure that only electrical equipment which does not endanger people, domestic animals or property is placed on the market. Where relevant, the conformity assessment results of the LVD shall be taken into consideration when undertaking conformity assessment procedures for GAD. This has a particular importance in relation to the safety objectives of the GAD, assuring the safety of the way electrical components are incorporated into gas appliances and ensuring their proper functioning, which shall be subject to direct examination by notified bodies.

Electromagnetic Compatibility Directive 2004/108/EC (EMC)[72]

The EMC Directive seeks to ensure that the equipment is electromagnetically compatible and protected from electromagnetic disturbance. It requires that appliances will not affect the

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69 Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1989:040:0012:0026:EN:PDF

70 Regulation (EU) No 305/2011 of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:088:0005:0043:EN:PDF

71 Directive 2006/95/EC of 12 December 2006 on the harmonisation of the laws of Member States relating to Electrical Equipment designed for use within certain voltage limits
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:374:0010:0019:EN:PDF

72 Directive 2004/108/EC of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:390:0024:0037:EN:PDF

functioning of other apparatus or radio and telecommunications, and that the appliance has an adequate and reasonable level of immunity to electromagnetic disturbance

For example, electric equipment containing gas fired subassemblies or gas boiler controls might be under the scope of both the GAD and of this Directive.

Pressure Equipment Directive 97/23/EC (PED)[73]

The PED deals with hazards due to pressure. It was introduced to harmonise regulations across Europe regarding the design, manufacture and conformity assessment of pressure equipment and pressure assemblies. It is designed to enhance safety and promote free trade throughout the single market area.

Some gas powered appliances fall under both the GAD and the PED. However, low pressure hazard products already regulated by the GAD are exempt from the scope of the PED (5th indent of Article 1.3.6.), while some products used in industrial processes which are not regulated under the GAD are regulated by the PED.

General Product Safety Directive 2001/95/EC (GPSD)[74]

The GPSD is intended to ensure a high level of product safety throughout the EU for consumer products. The Directive also complements the provisions of sector legislation for instance in relation to producers' obligations and the authorities' powers and tasks.

The majority of gas appliances are consumer products implying that they are also covered by the GPSD.

Renewable Energy Directive 2009/28/EC (RED)[75]

The RED establishes a common framework for the use of energy from renewable sources in order to limit greenhouse gas emissions and to promote cleaner transport.

To this end, Member States are to establish national action plans which set the share of energy from renewable sources consumed, amongst others, in heating, for 2020. These action plans must take into account the effects of other energy efficiency measures on final energy consumption (the higher the reduction in energy consumption, the less energy from renewable sources will be required to meet the target). These plans will also establish procedures for the reform of planning and pricing schemes and access to electricity networks, promoting energy from renewable sources. Each Member State has also a target calculated according to the share of energy from renewable sources in its gross final consumption for 2020. This target is in line with the overall '20-20-20' goal for the EU.

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73 Directive 97/23/EC of 29 May 1997 on the approximation of the laws of the Member States concerning pressure equipment
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1997:181:0001:0055:EN:PDF

74 Directive 2001/95/EC of the European Parliament and of the Council of 3 December 2001 on general product safety. OJ L11, 15.1.2002
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:011:0004:0017:EN:PDF

75 Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, OJ L140, 5.6.2009
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=Oj:L:2009:140:0016:0062:en:PDF

Gas appliances are indirectly affected by the measures taken by the Member States under the RED since the increasing use of gas from renewable sources (biogas) will have impact on the quality of gaseous fuels supplied thus safety and performance related impacts.

ANNEX IV: GOVERNANCE STRUCTURE OF THE GAD

Governance structure of the GAD - sector's actors and stakeholders

Various actors and organisations are involved in the management of the GAD. The co-ordination of implementation of the GAD is carried out through the Member States Working Group Gas Appliances (WG-GA), organised by the Commission services. It discusses implementation and interpretation issues of the GAD. It is composed of representatives of the Member States, the European federations, the notified bodies and CEN and is chaired by a representative of the Commission services.

In 2009-2010 a specific ad hoc Working Group GAD Revision (WG GAD Rev) set up by the WG-GA met several times to discuss issues to be examined in the revision process.

The majority of the members of both the WG-GA and the WG GAD Rev have been of the opinion that the scope of the GAD should be extended to cover all gas using products. This position has been justified by the fact the current GAD covers mainly consumer products and products to be used on commercial premises and in non-domestic environment, but the definition of the scope excludes certain products that may yet present gas risks. It is therefore stated that these products should be regulated by one single harmonising European Directive.

However, none of the groups could provide concrete evidence supporting their position. In order to examine with care whether any barriers to trade or unresolved gas safety problems with products outside the current scope of the GAD could be identified, both the Public Consultation (2011-2012) and the IA Study (2012) focused, among other things, to collection of information about potential problems requiring EU level intervention. The outcome of the undertaken examination work is presented in this IA Report.

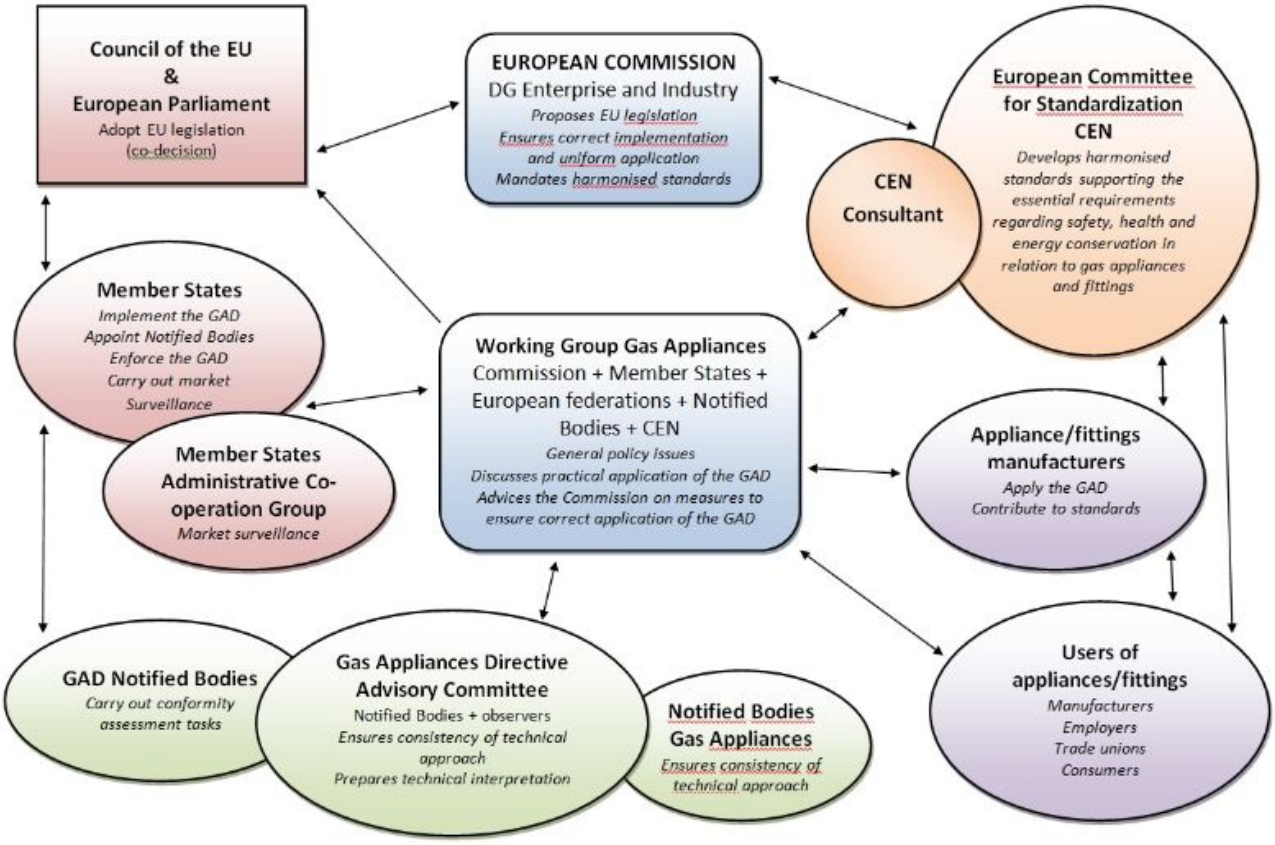
The co-operation of the competent market surveillance authorities is coordinated by the GAD Administrative Co-operation group (GAD ADCO). This group has met twice: for the first time in May 2012 and next in mid-April 2013. The revision of the GAD has not been subject to discussion at the GAD ADCO meetings.

The Gas Appliances Directive Advisory Committee (GAD-AC) is composed of the Notified Bodies designated under the GAD, but its meetings are attended also by representatives of few European Federations and Member State. GAD-AC discusses matters regarding the conformity assessment tasks and prepares proposals for technical interpretation documents necessary to ensure coherent application of the GAD by the Notified Bodies. These interpretation documents called GAD Guidance Sheets are submitted to the WG-GA for endorsement. The Notified Bodies Gas Appliances (NB-GA) group is a sub-group of the GAD-AC.

Standardisation work is being coordinated by the CEN Sector Forum Gas Utilization which is the CEN platform for gas appliances. The CEN and its Technical Committees are assisted by the CEN Consultant Gas Appliances.

Figure A.IV.1 shows the organisational scheme of the main actors involved in the management of the GAD.

Figure A.IV.1: Organisational scheme for the Gas Appliances Directive 2009/142/EC



ANNEX V: EX-POST EVALUATION OF DIRECTIVE 2009/142/EC ON APPLIANCES BURNING GASEOUS FUELS (GAD)

Ex-post evaluation of the Gas Appliances Directive

Methodology

Market data was collected from a number of sources, including studies[76] undertaken for the European Commission within the framework of the Ecodesign Directive 2009/125/EC and from Eurostat's Prodcom[77] and Structural Business Statistics databases[78], as well as the Competitiveness Study of the EU Gas Appliances Sector[18]. Data from Eurostat was prioritized. Data gaps were identified with respect to some product categories of gas appliances. This is because Eurostat data are often not available to the level of detail required enabling distinguishing between gas-fired appliances and products using other energy.

For instance, the gaps in the data included the following:

– Data gaps with respect to gas refrigerators, lighting and fittings and with respect to the use of gas appliances in the commercial sector (as opposed to home use);

– For most appliances, it was not possible to disaggregate between data relating to mobile and fixed appliances; and

– Some Prodcom[79] data were not available to the level of detail required by the study and as a consequence some of the data might have been overestimates which include non-gas appliances.

In order to address this, a survey of Member State officials, notified bodies, companies and 18 major industry associations was undertaken to obtain quantitative and qualitative information

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[76] Several preparatory studies for the Ecodesign Directive had been undertaken at the time the ex-post evaluation was carried out, e.g.:
BIO IS (2011a): Preparatory Studies for Ecodesign Requirements of EuPs (III) – Lot 22 Domestic and Commercial Ovens (Electric, Gas, Microwave), including when Incorporated in Cookers;
BIO IS (2011c): Preparatory Studies for Ecodesign Requirements of EuPs (III) – Lot 23 Domestic and Commercial Hobs and Grills included when Incorporated into Cookers;
BIO IS (2011d): Preparatory Studies for Ecodesign Requirements of EuPs (III) – Lot 23 Domestic and Commercial Hobs and Grills included when Incorporated into Cookers;
Eco-design of Boilers and Combi-boilers; and Eco-design of Water Heaters
The preparatory studies for Eco-design and Energy Labelling legislation can be found through: http://ec.europa.eu/energy/efficiency/ecodesign/eco_design_en.htm

[77] http://epp.eurostat.ec.europa.eu/portal/page/portal/prodcom/introduction

[78] http://epp.eurostat.ec.europa.eu/portal/page/portal/european_business/introduction

[79] In the framework of the Competitiveness Study (2009) a careful analysis of the usefulness of the Prodcom database was undertaken. It was concluded that it allows for analysis of the developments in production of gas appliances in the EU-27 beginning from 1995. However, the Prodcom data has limitations: many data points within the dataset are either unknown or estimated or confidential (thus not available). Initial time series analysis of the data showed that the results of such an analysis were not sensible or useful. In order to be able to present data on the developments in the sector, the Prodcom dataset was intra- and extrapolated, based on the available data.

regarding the implementation and functioning of the GAD. In addition, in the course of consulting with respondents, information was routinely requested on the stock of gas appliances and on the market. In total 83 responses were received as shown in Table A.V.1.

Table A.V.1: Responses Received to Questionnaire

Respondent	Responses	Further breakdown
Government Ministries	17	16 from EU Member States representing 13 different MS 1 from a non-EU Member State
Industry Associations and Companies	49	35 Manufacturers 8 Industry Associations 3 Importers 3 Supplier/Distributors Most respondents were from Germany, Italy and the UK but responses were also received from Belgium, France, Netherlands, Portugal and Romania
Notified Bodies and Standards	17	14 Notified Bodies 3 Standards Bodies Respondents from eight different countries (Czech Republic, France, Italy, Netherlands, Poland, Spain, Turkey and UK)

Source: Ex-post Evaluation Study (2011)

Case studies including interviews were undertaken in 10 EU Member States (Belgium, Denmark, France, Germany, Italy, Netherlands, United Kingdom, Poland, Slovakia, and Slovenia) and one candidate country (Turkey). Supplementary discussions were conducted with respondents in Germany, Slovakia, Slovenia, Denmark and Turkey.

Conclusions

The overall conclusion was that the GAD has been implemented successfully in all Member States and it has been functioning successfully. However, some areas of possible improvements were often mentioned by a number of consulted stakeholders, like:

- A number of barriers to trade remain, mostly due to different national gas installation regulations, qualification requirements for gas installers and building codes. However, these are outside the scope of the GAD which is a piece of product harmonisation legislation;
- The carbon monoxide (CO) poisoning is now the leading cause of fatalities associated with the use of gas. This appears to be largely be related to matters outside the scope of the GAD, such as ventilation requirements for buildings and increased insulation;
- The area of varying quality and types of gases could benefit from clarification. The issue of varying gas quality remains a potentially significant trade barrier, meaning the same appliances cannot be sold in countries with different gas quality at all or without adjustments. Therefore harmonising the format and content of the national communications on the types of gas and supply pressures could help in the aggregation of data and would also provide an overview for manufacturers;
- The lack of market surveillance activities in certain countries might increase the market presence and therefore the risks associated with the use of faulty or inefficiently operating products;
- The variability in the competence of different Notified Bodies;

– The compliance costs are most significant for SMEs and those with lower production volumes over which to spread the costs; and

– Regular maintenance is also seen as an important area for improvement of safety; while new installations come with increased safety measures, existing installations can carry product related errors and some faults can be a direct consequence of the lack of maintenance.

It was also concluded that further consideration should be given to expanding the scope of the GAD provided that a thorough impact assessment is undertaken prior to concluding whether additional products to be included.

Summary of the findings of the evaluation of the GAD is presented in Table A.V.2.

Table A.V.2: Summary of the ex-post evaluation of the GAD

Criterion	Sub-criterion	Evaluation
Effectiveness and Efficiency	Impact by product category	Limited evidence that the impacts of the GAD have varied by product category, except where categories were previously unregulated (e.g. catering equipment). The GAD market has grown significantly since the GAD was introduced. No evidence of significant price differences between Member States, however data availability on prices is limited
	Impact on trade	Major positive impact on the internal market, improving operation and increasing cross-border trade. Some barriers remain, due to national legislation in peripheral areas such as installation and building regulations but these areas are outside the scope of the GAD.
	Impact on consumer protection, health and safety	Numbers of accidents and incidents appear to be reducing over time, although available statistics are limited. GAD has made a positive contribution, although the extent depends upon the nature of the legislation previously in place. Some problem areas remain, particularly in relation to CO poisoning and installation. There are concerns over the degree of market surveillance in some countries. Both these matters are outside the scope of the GAD, since it covers the placing on the market and putting into service of products and not the installation works, qualification of gas installers or maintenance of products in service (all these aspects fall within national competence).
	Possible inconsistencies related to scope	Exclusions from the GAD scope do not appear to have led to safety or other problems, but some concerns remain, particularly related to fittings. The most innovative product categories, such as fuel cells and co-generation systems, are excluded from the GAD scope. They may thus not benefit from the single market. Some problems have been identified in relation to boundaries with other legislation like the more specific harmonisation legislation on energy efficiency and the simultaneous application of multiple legislation (e.g. the Construction Products Directive).
	Impacts on respondents	Industry appears to have a good awareness of the GAD but consumer awareness appears to be more limited. For instance, consumers do not always be aware of. the importance to ensure the compatibility of an appliance with the local gas supply conditions or they ignore the maintenance instructions accompanying the product. There is good alignment between the GAD objectives and those of businesses and consumers, and specific problem areas have

Criterion	Sub-criterion	Evaluation
		been effectively targeted.
Impacts	Impact on Innovation	The GAD appears to have had a positive influence, particularly in the early stages of its implementation. However, the rate of innovations seems to be slowing and products are becoming more uniform in some sectors. SMEs are thought to provide an important innovation route, and therefore the impact of the GAD on SMEs is significant[80]. There is no evidence that the GAD definitions have affected innovation, but the product categories showing the greatest current innovation are outside the GAD scope
	Impact on costs and benefits for companies	The main compliance costs relate to testing and certification; these vary between countries and product categories but probably account for less than 0.1% of the sales value of the market. The costs are most significant for SMEs and those with lower production volumes over which to spread the costs. The economic benefits are greatest for those marketing in several EU states, as they avoid the costs of separate certification in each country. There are also safety benefits.
Application and implementation	Barriers to effective application	All Member States have implemented the Directive but there is a lack of harmonisation in areas currently outside the scope of the GAD. Barriers remain through different national rules for installation and differences in gas supply conditions. These place limitations on the trade benefits of the GAD. There is also some inconsistency with certain other Directives. There is some evidence of variations in approaches adopted by different Notified Bodies, but this is mainly anecdotal and inconclusive.
	Inconsistencies and problems in functioning	No evidence that the GAD has led to problems with national legislation, but a minority of stakeholders believe that national variations in implementation have led to problems.
Utility	Need for improvement	Despite the general high level of satisfaction with the GAD, some issues to be further examined were identified.
	Scope for improvement	Potential areas for improvement identified by stakeholders included expansion of the GAD scope to other products and activities, improved information sharing, clarification of requirements for products falling under other Directives and improvements to the safeguard procedure.

Source: Ex-post Evaluation Study (2011)

The GAD has been transposed by the Member States in different ways. No failures with the national transposition measures[81] or their implementation was identified. Products covered by the GAD benefit from the free placing on the market and putting into service which ensures an even playing field for the sector's economic and other operators.

[80] The Competitiveness Study (2009) indicated that SMEs provide the main source of innovation, with a small sub-set of companies focusing on developing prototypes and products for field tests. However, SMEs often that lack their own laboratory and testing facilities may pay an increased fee as a result of their products being sent back by the notified body and having to be re-submitted. This implies that, due to their lower numbers of units per product, the costs of the GAD are relatively higher for SMEs. Consequently, SMEs are more sensitive to any changes of the legal framework established with the GAD.

[81] List of national transposition measures is provided in Table 2.1 (p 20-21) of the Ex-Post Evaluation Study.

The stakeholders' concerns about differences in national legislations related to aspects which fall within the competence of the Member States like the gas installation regulations (which however shall not have impact on the design of CE marked products), qualification requirements for gas installers, building codes (which may e.g. contain ventilation requirements for rooms and spaces where gas or other appliances are installed) and other regulations which are not subject to EU harmonisation legislation.

Regarding any potential problems in terms of complex regulatory environment, it is a fact that appliances and fittings may fall simultaneously within the scope of several EU Directives[82]. This is fully in line with the principles of the New Approach as long as there is no overlapping between the applicable Directives but they all deal with different aspects subject to harmonisation. Any legislative overlaps between different Directives would need be addressed as part of a revision.

It appeared that the awareness of the manufacturers and other stakeholders about the functioning of, on one hand, the EU harmonisation legislation and, on the other hand, the national legislation is not always sufficient to fully understand how these legal frameworks are intended to work.

The study provided estimates on the compliance costs showing that the costs of product testing and certification vary between € 900 and € 36,000. In carrying out the study, a relatively high average cost per test of €4,500 was used to estimate the total annual cost of testing and certification of gas appliances. On this basis, it was assumed that a total testing and certification costs of €25 million may account for about 0.1% of the annual sales value at €23 billion of gas appliances

No relevant statistics on accidents related to gas appliances are held at EU level, but certain number of RAPEX notifications have been made concerning gas-fired products that pose a serious risk to the safety of consumers.

The added value of the GAD across the EU Member States has not been experienced equally because of the differences in the national regulatory framework in place prior to the entering into force of the GAD. For instance, six out of the eight Member States analysed in the Ex-post Evaluation were of the opinion that that GAD had limited effect on, or even reduced their national safety standards. This result is clear as the GAD had the greatest impact in countries where the previous legislation had more limited requirements or had not been enforced. Correspondingly, there was less of an impact where the pre-GAD legislation on health and safety legislation had similar requirements to the GAD. In some countries previous standards included obligations on manufacturers that were not included in the GAD. Even in the latter countries no increase of accidents had been experienced since the introduction of the GAD,

[82] For instance, it is possible that the Construction Products Directive (CPD) applies to the combustion products evacuation duct which is incorporated into a gas appliance (the entire product unit covered by the CE marking for the GAD). The assessment whether or not the combustion products evacuation duct part must comply with the provisions of the CPD must be carried out on a case by case basis against the CPD, i.e. it is not a GAD related matter. However, manufacturers of gas appliances experience the potential application of the CPD as an extra burden although the two Directives deal with different aspects; the GAD deals with gas safety of the products concerned while the CPD harmonises the test methods for determining the performance of constructions products.

but there was some concern that risks could have been increased. However, it could not be demonstrated that the introduction of the GAD would have had negative impacts.

For instance, the Netherlands (Poland and the Netherlands were the two countries classified into the category "reduced safety standards") reported "*a dramatic improvement in the safety of LPG (Liquefied Petroleum Gas) appliances*". It was also highlighted that "*the nature of non-compliance has changed: whereas previously there were technical problems with certain appliances such as cookers, at present technical deficiencies have disappeared and instead it is shortcomings related to poor translations of instructions, or insufficient warnings that are prominent*". Consequently, the concerns appeared to relate to aspects that are already dealt with by the GAD (e.g. instructions, warnings) thus market surveillance authorities having means to intervene in case of identified failures to comply with the GAD. Furthermore, the previous national standards may have included in one single document such obligations on manufacturers, gas installers and other concerned parties falling under national competence (like the qualification requirements for installers, gas installation regulations, building regulations, etc.).

Regarding CO poisonings, the leading cause of fatalities associated with gas appliances, it was concluded that CO poisonings are largely related to matters which are outside the scope of the GAD[83], such as installation failures, ignorance of gas installation and building regulations (e.g. inadequate space ventilation for the installation as such or users closing the ventilation openings) or lack of maintenance. Also the more and more stringent energy efficiency requirements for buildings may have affected the reduction of ventilation thus increasing the risk that gas appliances are used in spaces without sufficient ventilation. All these aspects fall within the competence of the Member States

Two categories of adverse effects on SME were identified. The first is the impact of the adoption of the GAD in 1990 when it became the mandatory framework for the placing on the market of gas appliances and fittings. The other one would be the impact of any future modification of the scope of the GAD. In assessing what product categories have been impacted the most by the GAD over time, in terms of trade and employment, and how have the profitability of manufacturers and the average sales price of appliances change under the GAD, the analysis indicated that, on one hand, the costs of the GAD do not appear to be significant for the sector as a whole, but on the other hand, the costs caused by the change

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[83] The GAD deals with risks due to CO. It requires that appliances must be so designed and built as to operate safely and present no danger to persons, domestic animals or property when normally used ("normally used" means, amongst others, that appliances are correctly installed and regularly serviced in accordance with the manufacturer's instructions as well as used in accordance with their intended purpose or in a way which can be reasonably foreseen). A set of specific Essential Requirements (Annex I to the GAD) lay down objectives to be achieved in order to avoid risks due to combustion products (CO is a poisonous gaseous combustion product which is produced, if the sufficient supply of fresh air for the combustion process is not ensured).

The harmonized European standards the reference numbers of which have been published in the OJEU under the GAD provide the presumption of conformity to the Essential Requirements of the GAD. These standards may contain more specific limit values for emissions of combustion products and are expected to reflect the state of the art. In case a Member State considers that such limit values provided in a harmonized European standard do not entirely meet the Essential Requirements, it can launch a so-called formal objection against such standard in order to trigger a procedure containing a careful examination of the adequacy of the limits. As this is not the case with any of the harmonized European standards under the GAD, the Member States appear to be satisfied with the emission limits defined in the standards.

from the pre-GAD national legal frameworks to the single European GAD framework more than 20 years ago might have been significant for one-off or short run products. These products were assumed to more likely be made by smaller companies. The Ex-Post Evaluation Study noted that this could indicate a potentially adverse effect on SMEs due to higher per unit costs, if the scope was further changed.

It was found that trade within the EU market of gas appliances has increased significantly since the introduction of the GAD. The number of gas appliance related accidents appeared to have declined and the GAD has improved the safety of gas appliances since 1990s. The exchange of information through different platforms at a European level has supported the improvement of quality of products as well as harmonised standards.

Although the rate of innovation in the sector appears to be slowing, the GAD has had a positive influence. Innovation has focused particularly on safety devices, such as those for flame supervision, and combustion controls as well as improving energy efficiency. Further innovations are expected in response to the widening variation in gas quality as well as in combustion technology. Innovation might also has been enhanced partly by consolidation amongst gas appliance manufacturers and particularly their absorption into larger groups that manufacture both gas-fired and electrical goods implying that the higher innovation rate of the electrical sector has spread across to gas appliances. The GAD Essential Requirements have also allowed the appearance of new technology (electronic controls for example) that is not covered by the harmonised standards. However, more recently appliances fuelled by oil and electric appliances have caught up much of the lead of gas appliances and the current pattern of technological progress in space heating, hot water and air conditioning appliances is a step-by-step innovation with marginal improvements.

Overall, the implementation and functioning of the Directive appears to be efficient and the GAD has been effective in meeting its objectives.

For more detailed information on the appliances and fittings market, see ANNEX VI, and for examination of accident statistics, see ANNEX VII.

ANNEX VI: OVERVIEW OF THE APPLIANCES AND FITTINGS MARKET

Appliances and fittings market

Overall size of the European appliances and fittings market

In addition to the description of the gas appliances and fittings sector provided in chapter 3., other useful background information collected and analysed in carrying out the Competitiveness Study (2009), the Ex-post Evaluation Study (2011) and the IA Study (2012) presented below.

The Competitiveness Study (2009) provided useful data on the employment in the EU-27 gas appliance manufacturing sector. For 2005, employment in the gas appliance manufacturing sector was estimated at 476,000 full time equivalents, corresponding to around 1.46% of the total manufacturing workforce.

For fittings, no EU wide information on stock, lifespan, consumption, or costs is available. However, according to the Competitiveness Study (2009), the turnover in this sector was around €1.7 billion.

Growth of the European appliances and fittings market

The impacts of the GAD began at different times for different Member States; for the 'older' Member States, impacts began in the early 1990s whilst for 'newer' Member States, the GAD only took effect on accession. The effects of the GAD were greatest in the early years of application, when manufacturers needed to adapt to the new requirements.

The Competitiveness Study (2009) showed that the gas appliances and fittings sector grew steadily from 1995 onwards. The EU-27 market for heating, ventilation and air conditioning (called HVAC) comprising appliances for heating, hot water production and cooling grew between 1995 and 2001 at an average annual rate of 9.9% at current prices. In particular the growth of the HVAC subsector is notable, doubling over a 12 year time span between 1995 and 2007. HVAC grew at an average annual rate of 8.6%, whereas domestic appliances comprising refrigerators, freezers as well as cooking, lighting and washing appliances grew at an average annual rate of 3.8% in the period between 1995 and 2007. Indexed development of the production in EU-27 between 1995 and 2007 is presented in Figure A.VI.1.

Figure A.VI.1: Indexed development of gas appliances production and annual average growth rate in EU-27

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
HVAC	100	118	120	149	156	161	168	185	208	236	255	260	268
Domestic Appliances	100	132	141	144	143	154	151	154	156	156	156	156	156

	1995-2001	1995-2007
HVCA	9.0%	8.6%
Domestic Appliances	7.7%	3.8%

Source: Competitiveness Study (2009)

This rapid growth could be related to the effect of the GAD in freeing up the internal market, but it cannot be demonstrated. The Competitiveness Study indicated that the growth mainly related to an increased demand for gas appliances in the EU-12 from 1995 onwards, due to backlog demand and more rapid progress in the energy efficiency of gas appliances as compared to appliances that are run by other feedstock or by electricity.

A very wide range of factors affect the markets for different product categories within gas appliances, with the legal framework established by the GAD being only one of these. For instance, the distribution, installation, maintenance and repair are crucial for the marketing of gas appliances since most of the appliances and fittings are components which provide full benefit only as part of complete systems.

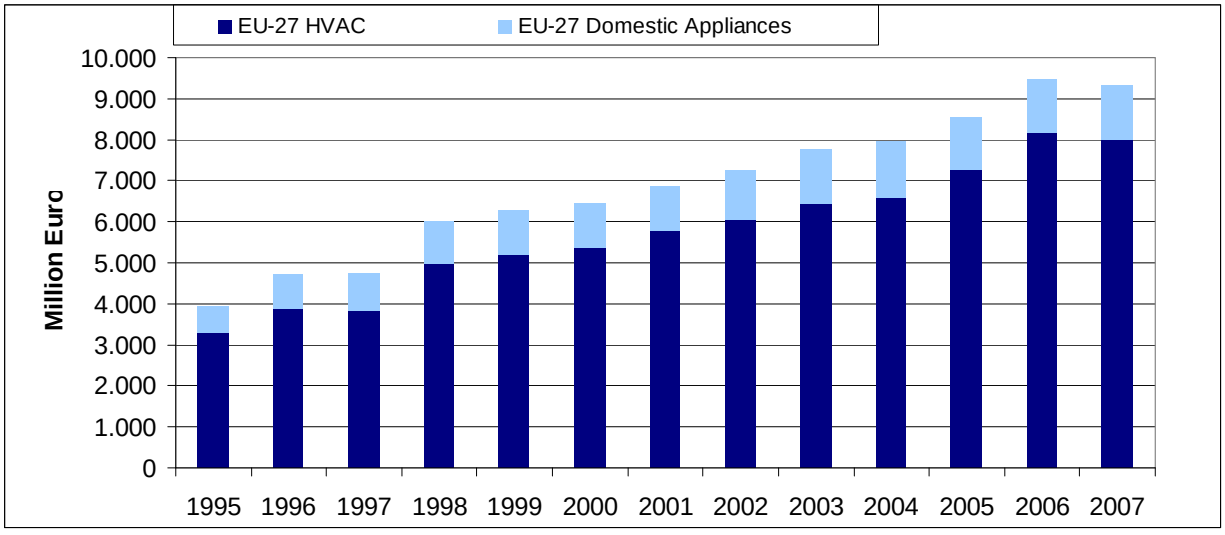
It is difficult to identify a direct link between the profitability of manufacturers and the introduction of the Directive. SMEs may have found it particularly difficult to adapt to the influx of products that was a result of the trade liberalisation, and this had ultimately resulted in a reduction of the number of SMEs active in the sector.

Currently, the markets for most types of gas appliances are considered to be mature, with numerous competitors and established market positions amongst the major manufacturing companies. For some product categories, they have largely become replacement markets (such as the boiler market in Germany, Belgium and the Netherlands). However, there may be scope for market growth in those Member States where access to mains gas is set to increase in the future.

Demand for appliances and fittings in Europe

As an indication for market developments in 1995-2007, Figure A.VI.2. provides an overview of the market development based on Prodcom data[90]. Overall demand in the EU-27 grew from 1995 to 2007. However, annual growth rates varied in magnitude. In the years 1997 and 2007 for instance the demand for HVAC decreased slightly. In the period from 2001 till 2007 the demand for HVAC and domestic gas appliances grew at an average annual rate of 5.5 and 3.9 percent respectively.

Figure A.VI.2: Market demand in the EU-27



Source: Competitiveness Study (2009), based on Eurostat Prodcom database

In terms of geographic distribution, the Competitiveness Study (2009) revealed that in the majority of the EU-27 countries the demand per household for appliances increased between 2003 and 2007. This was not the case in Germany, Spain and Hungary where demand per household slightly decreased. However German companies were able to compensate sluggish domestic demand by exports. The demand was highest in Luxembourg and the UK, followed by Italy and the Netherlands. Remarkable increases in household demand could be observed in Austria, Sweden and Slovakia where demand per household more than doubled between 2003 and 2007.

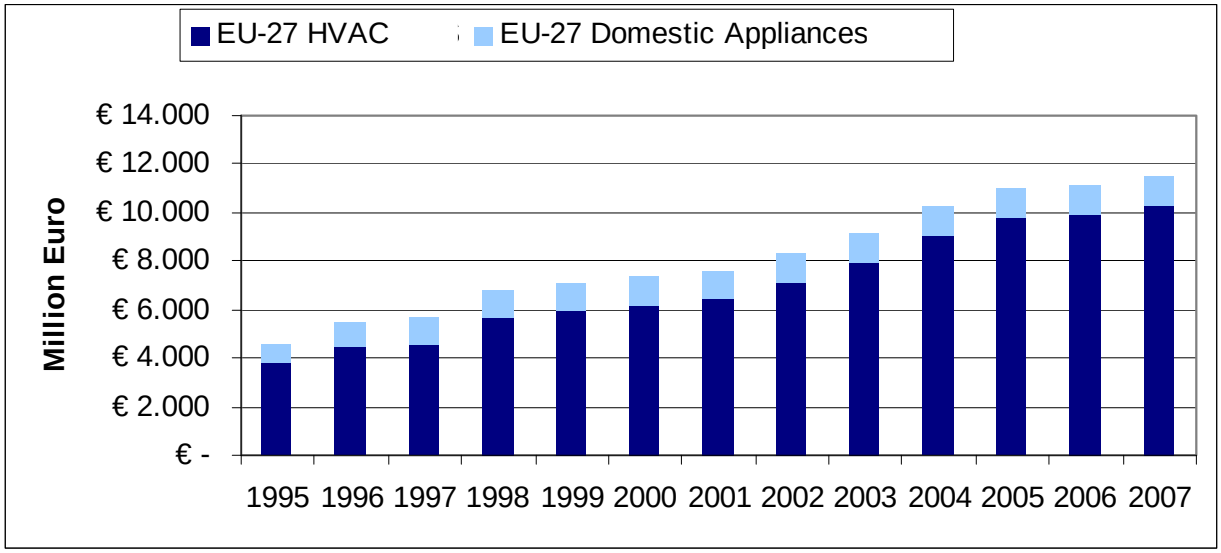
In general, clients can be divided into professional users (manufacturers, property developer and management companies, etc.) and private consumers. Most of the gas appliances are not plug-in products thus requiring qualified labour for the installation. Furthermore, for the installation of fixed appliances a broad range of mounting parts, taps, valves etc. in necessary.

The IA Study (2012) showed that almost 40% of natural gas is used in the residential and commercial sector, 28% is used by the industry, 29% in power plants, 0.3% for transport and the remaining 2% for other uses. On this basis and the number of appliances in use (appliance stock, Table 3) and their average gas consumption, it could be estimated that greater than 80% of the EU-27 inland sales of gas is used by products covered by the GAD.

Production of appliances and fittings in Europe

As noted above, the Competitiveness Study (2009) showed that the sector grew steadily from 1995 onwards to a total production value of nearly Euro 12 Billion in 2007 with the HVAC accounting for the majority of production. This production value compares with the value provided by the IA Study (2012) for the annual sales value which is based on the end-prices. Figure A.VI.3. shows the sector's developments in EU-27.

Figure A.VI.3: Production value per HVAC and domestic appliances



Source: Competitiveness Study (2009), based on Eurostat Prodcom database

Regarding the production share of the EU-27, the Competitiveness Study (2009) indicated that Italy was the main producer of gas appliances. Its production share had increased to 28.8% by 2007 and it had become the largest producing country within the EU-27. The UK and Germany followed with production shares of 15.7% and 15.4% respectively (2007). The UK's share fluctuated within a 15 to 20 percent bandwidth. Germany showed a steady decline in production share since 1995 since its production had not grown, whereas the other nations had shown significant growth. France (12.3% in 2007) had managed to double its production

share since 1995. The Netherlands remained at a steady level of approximately 7%. Further the Spanish production share declined from 5.3% in 1995 to 2.7% in 2007, and the production share of new member countries such as Poland and Slovakia rose. The average annual production share of gas appliances per country in 1995, 2001 and 2007 are presented in Figure A.VI.4.

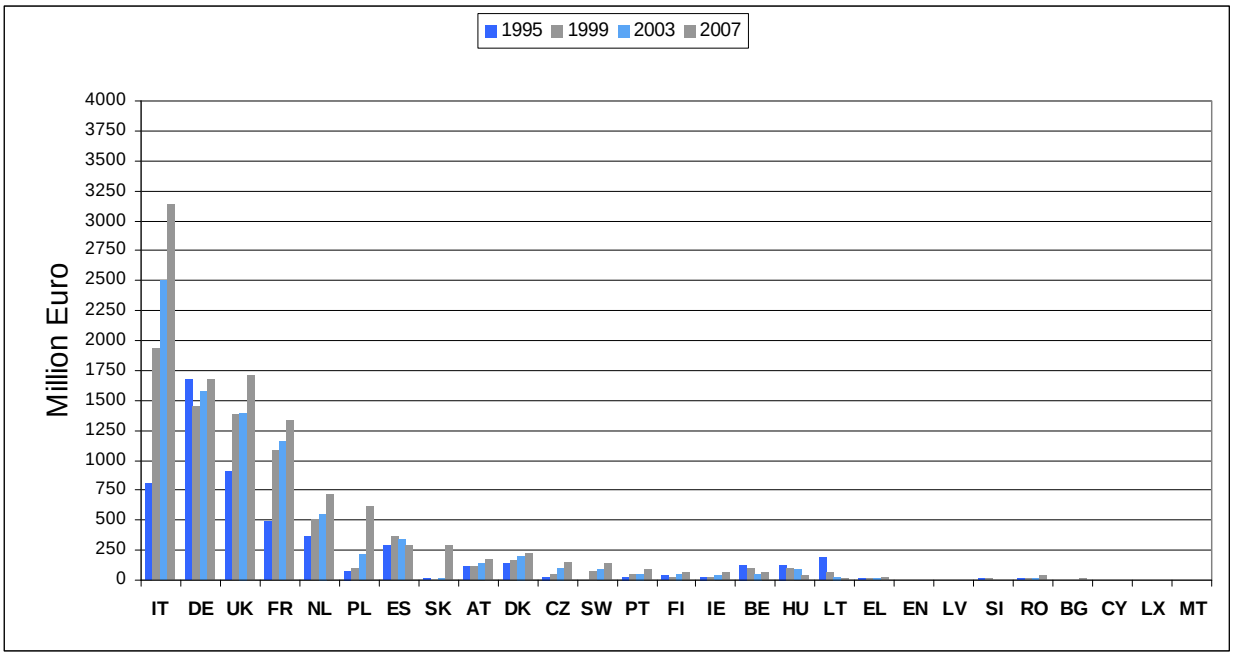
Figure A.VI.4: Average annual production share of gas appliances per country in 1995, 2001 and 2007

Country	1995	2001	2007
IT	14.8%	26.0%	28.8%
DE	30.6%	19.4%	15.4%
UK	16.5%	19.2%	15.7%
FR	8.9%	13.6%	12.3%
NL	6.8%	6.7%	6.6%
PL	1.3%	1.7%	5.7%
ES	5.3%	4.2%	2.7%
SK	0.2%	0.0%	2.7%
AT	2.1%	1.5%	1.7%
DK	2.5%	2.2%	2.1%
CZ	0.6%	0.8%	1.4%
SW	0.0%	0.8%	1.3%
PT	0.4%	0.6%	0.8%
FI	0.8%	0.4%	0.5%
IE	0.4%	0.4%	0.5%
BE	2.3%	0.6%	0.6%
HU	2.3%	1.0%	0.3%
LT	3.5%	0.4%	0.2%
EL	0.2%	0.2%	0.2%
EN	0.0%	0.0%	0.1%
LV	0.0%	0.0%	0.1%
SI	0.3%	0.1%	0.0%
BG	0.2%	0.1%	0.3%
CY	0.0%	0.0%	0.0%
EU-15	91.6%	95.8%	89.2%
EU-12	9.2%	4.4%	12.1%

Source: Competitiveness Study (2009), based on Eurostat Prodcom database

In order to further concretise the figures from the above Figure A.VI.4., Figure A.VI.5. presents the developments of total value produced in the gas appliances sector. One can easily relate the above findings on overall production share to the produced value. It becomes obvious that an increased production share for Italy between 1995 and 2007 went hand-in-hand with an increase in value produced. The same applies for the UK, German, Slovakian and Spanish cases.

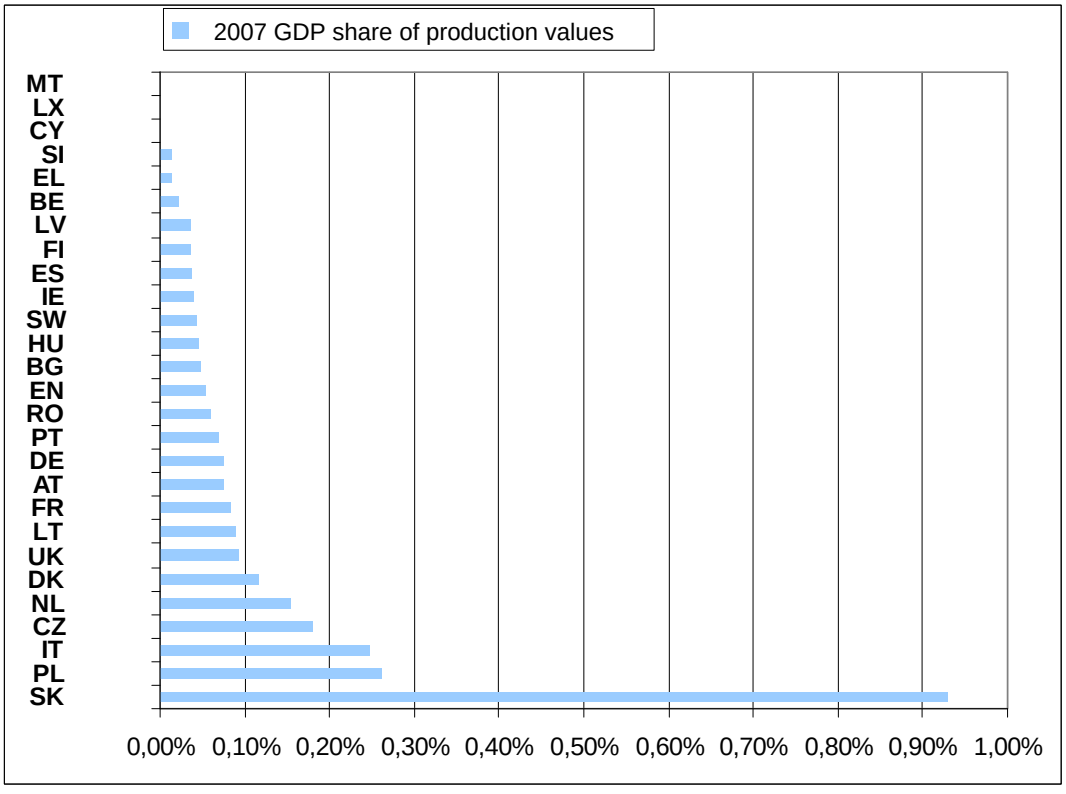
Figure A.VI.5: Production per country in million Euros at current prices for 1995, 1999, 2003 and 2007



Source: Competitiveness Study (2009), based on Eurostat Prodcom database

Figure A.VI.6. provides the overview of the Gross Domestic Product (GDP) share of production values of gas appliances per EU-27 thus showing the importance of the sector for each country. In Slovakia, the share of production in GDP is 0.9%. Both Italy and Poland have a share of GDP of 0.25%. Czech Republic and the Netherlands show a GDP share of GA of 0.15%. This implies that for these countries production of gas appliances is relatively important for their overall economic development.

Figure A.VI.6: GDP share of production values for 2007



Source: Competitiveness Study (2009), based on Eurostat Prodcom database

Main players in Europe

The Competitiveness Study (2009) provided analyses on the basis of Eurostat structural business statistics for the years 2005 and 2006[84] on the industry structure and the distribution of firms in the EU-25 (publicly available data on Bulgaria and Romania was not available) and EU-15. In order to get an overview (Figure A.VI.7.) of the industry structure, the distribution of employees and the output generated, firms were classified within the two categories available at Eurostat. One category included small companies with less than 250 employees; the other one comprises firms which have employed more than 250 persons. For each of these two categories the following three parameters have been analysed: the total number of firms; the total number of employees; and the production per employee.

Figure A.VI.7: Industry structure in the EU-25 and EU-15 in 2006

	EU-15		EU-25	
	2006	compared to 2005 change rate in %	2006	compared to 2005 change rate in %
Number of firms <250	24781	-1.08%	31417	-1.02%
Number of firms >250	321	-1.48%	412	1.29%
Number of employees <250	274990	-4.18%	323556	-3.60%
Number of employees >250	239645	-1.24%	303450	0.22%
Production per employee<250* (1000 €)	147,7	5.23%	132,0	5.05%
Production per employee >250*(1000 €)	196,4	9.28%	168,4	8.51%

Source: Competitiveness Study (2009), based on Eurostat Structural business statistics

The manufacturing strategies pursued by companies are diverse. Some firms pursue a high in-house production strategy while others focus on assembling and have outsourced large parts of the production process. As for fittings, burners and heat exchangers (components of appliances), few companies manufacture these parts themselves. Specialized manufacturers who are on the leading edge of product and process technology dominate the market. They exploit economies-of-scale and deliver components to most of the appliance manufacturers.

Most prominent manufacturing companies try to gain higher market shares than their competitors and get a lead by the exploitation of economies-of-scale. The standardisation of products and the reduction of costs in the manufacturing process by large-batch production using learning effects are high on the agenda. Small firms are focusing in niches. They design systems for specific applications and are customizing their products to the clients' needs.

Globalization of the domestic appliances markets is far more advanced than for HVAC. All of the big players command noteworthy market shares in Europe, the Americas and Asia. Domestic appliances are highly standardized products that are directly sold to the consumer. Many of the products are plug-in appliances and do not require qualified installation, maintenance and repair.

[84] At the time of undertaking the Competitiveness Study (2009), reliable and useful data was available for the years 2005 and 2006 only.

The key players in the EU market vary depending on the product category. For instance, the European heating equipment market is dominated by five major suppliers: BBT Thermotechnik (Germany), Vaillant (Germany), Viessman (Germany), Baxi (UK) and Ariston Thermo Group. These companies held 60% of the "EU-32"[85] market for heating equipment (commercial and domestic boilers and other equipments) in the mid-2000s. In cooling, dominant players are from Japan, Korea and Thailand (e.g. Daikin, Mitsubishi, Toyota and Samsung). The refrigeration sector is split between domestic and commercial refrigerators and freezers. In their production, Italy is in the lead, followed by Spain, France, the UK, Germany, Hungary, Poland and Denmark. A wide range of LPG fuelled refrigerators is offered by the Dometic Group (Sweden). Large controls (fittings) manufacturers include Siemens (Germany), Honeywell (US), with research and development (R&D) and production in the Netherlands, JohnsonControls (US) with subsidiaries in Germany and SIT La Precisia (Italy).

Competition and competitiveness

The Competitiveness Study (2009) estimated the total EU-27 employment of the sector at around 476 thousand employees or 1.46% of total manufacturing employment. The sector is well integrated in the European economy and has exploited regional comparative advantages The supply of advanced components on the leading edge of technology is available being a precondition for the manufacture of high performance appliances.

The major manufacturers of burners, heat exchangers etc. are located in the old Member States. They are driven as well by product and production technology and are pivotal for the performance of the European GAS in international competition.

The HVAC sector is in a situation of self-supply with the most important key components. Imports, in particular from Asia, concern commodities, such as small electronics and to a certain extent low-end mechanical components. The biggest HVAC manufacturing companies pursue market share related strategies and exploit economies-of-scale. Mergers and acquisitions have taken place but this has not led to the extinction of brands. The firms use their market value of brand names and regional preferences. Other big manufacturers with around 1,000 to 2,000 employees put much emphasis on technologies and try to gain a leading edge. They are permanently challenged by their bigger counterparts who are eager to catch up technology and further price competitiveness. Small firms in the market for final products are focusing in niches.

For the subsector domestic appliances the situation is a bit different. Large-scale production and global players exploit comparative advantages in production location to a higher degree. Globalization of the markets is far more advanced and all of the big players command noteworthy market shares in Europe, the Americas and Asia. Domestic appliances are highly standardized products and many of the products are plug-in appliances. The big global players of domestic appliances run production facilities all over the world. However, numerous brands are used in line with their regional awareness and reputation to meet differences in regional habits and preferences. Branding, consumer preferences and design are the most important action parameters in the sales market. There is only little room left for SMEs in final products.

[85] EU-27 as well as Croatia, Turkey, Iceland, Norway and Switzerland.

The market for portable/mobile appliances is strongly characterized by globalization. There are European manufacturers, but much of the demand is met by imports, above all from China. The imports are carried out by trading firms and by manufacturing companies. Only few market segments are served by European manufacturers that for instance have specialized in the equipment of vehicles, boats and cars used in the small trade and for leisure time activities.

The analysis of foreign trade does not show a European specialization on the manufacturing of gas appliances as compared to other important nations in the market. The contribution of European manufacturers to global trade shrank in value markedly from 54% in 1999 to 36% in 2007[86]. The underlying reason for this development was the access of emerging countries in the world market, in particular, China and Turkey.

The focus of Chinese exports to Europe is on domestic appliances and underscores the extremely high level of globalization in this subsector. The supply side is dominated by global players with stakes in the more important worldwide markets. The imports from Turkey are more balanced between HVAC and domestic appliances. Turkey has also become a production location with a broad industrial basis as the most promising market by size and growth. Many European manufacturers have invested in this country and the division of labour with the EU has been intensifying.

Research and innovation

Research and innovation has become an important issue for the sector. Growing requirements on energy efficiency and CO_2 abatement require new concepts and public schemes contribute to stimulate these activities. Advanced appliances with modulation of the combustion process, condensing boilers and co-generation units (combined heat and power production units, CHP) have been introduced to the market. High efforts will be necessary to further increase energy efficiency. The activities are dispersed and national co-operations prevail. This has been perceived as a disadvantage in particular with the stringent Japanese policies that interlink research activities for HVAC with support for extensive field tests coming close to market introduction.

One development direction will be towards complex systems using different fuels. In particular the use of renewables is in the interest of public authorities that have obliged themselves to meet objectives for the reduction of CO_2 emissions. In many cases the combination of different forms of energy is a precondition for the use of renewables.

The sector comprises start-ups and other small companies driven by advanced technologies, such as for heat pumps and fuel cells. With growing maturation of these technologies these firms increasingly attract the attention of the big players in the market. Currently a consolidation takes place and indicates that the marketability is perceived as a forthcoming reality in the medium-term.

The Competitiveness Study (2009) identified some overseas co-operations in research of European manufacturers, in particular in areas where non-EU players are on the leading edge. Dominant were activities together with Japanese firms. Their lead in prime drives and small

[86] This reduction in the contribution to world trade has not been caused by a noteworthy weakness of the European manufacturers or the current legal framework. A comparison with the other manufacturing industries indicated that the gas appliances sector did not perform worse than the other sectors but even much better than the average of manufacturing industries.

air conditioning is above all of importance. There are also co-operations with US and Canadian companies. In the latter case the focus is above all on fuel cells (which are mainly outside the scope of the GAD) and related high tech components. In these technologies US companies get a stimulus from the aerospace and defence industries.

ANNEX VII: EXAMINATION OF ACCIDENT DATA

1. Introduction

objective of the GAD is to ensure the free movement (placing on the market and putting into service) of products covered by its scope through technical harmonisation with regard to the risks due to gas, while guaranteeing a high level of protection of public interest objectives. Thus, one of the aims of any revisions proposed to the current GAD should be to address gas related risks through further harmonisation of gas appliances and their fittings, as well as for possible other products using gas as a fuel and which could benefit from being taken within the same regulatory framework.

In order to identify whether any such risks exist at present, the following activities were undertaken in the framework of the IA Study (2012):

- A review of the information collated during the Ex-post Evaluation Study (2011);
- A review of all documents and discussions of the Working Group GAD Revision (WG GAD rev) and of the Member States Working Group Gas Appliances (WG-GA) since 2008;
- Internet searches were undertaken to identify any statistics regarding safety risks arising from gas appliances in or outside of the scope of the GAD;
- Selected competent authorities were contacted to ask if they have any data on safety concerns not previously identified or to check whether there are safety reasons underlying particular positions or actions at the national level;
- Industry associations raising concerns over potential safety risks were asked if they have any data as evidence of these risks. In particular, the focus was on determining whether there is evidence of potential risks for appliances lying outside the scope of the GAD; and
- Analysis of the responses to the Public Consultation (2011-2012) responses and, where relevant, follow-up consultation to obtain specific evidence of safety concerns relating to gas products.

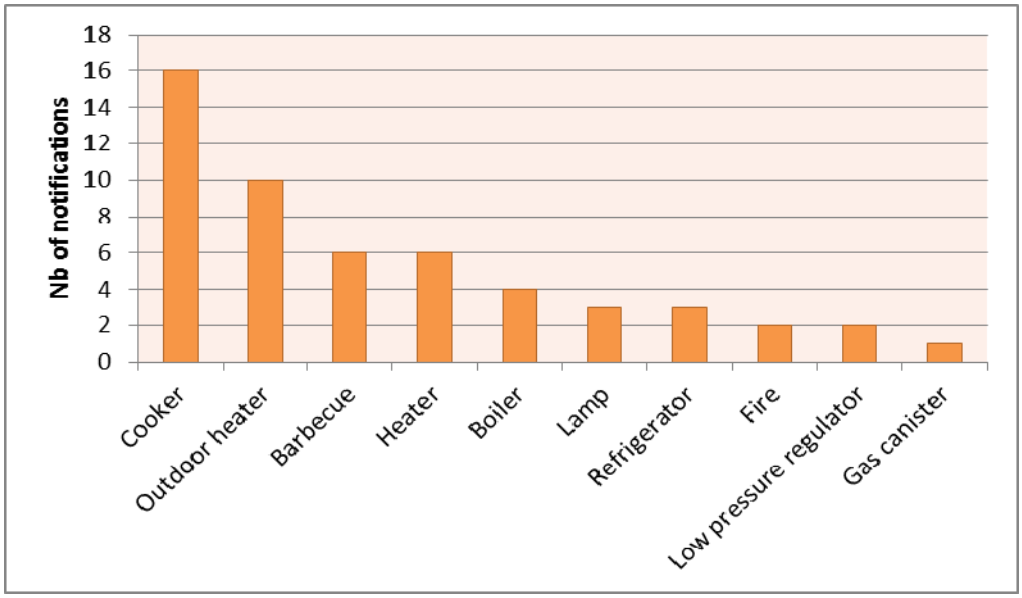
As a result, it could be concluded that the risks, if any, are very unlikely to be considered significant as otherwise there would be some authorities demanding action with supporting evidence.

2. RAPEX and ICSMS notifications

The analysis of the data available on RAPEX[61] on the types of safety risks notified by the Member States on non-compliant products provided an indication of the notifications by appliance type (Figure A.VII.1.). Most of them were associated with cookers and outdoor heaters. Figure A.VII.2. provides information by accident/incident type where incidents occurred prior to a restrictive measure.

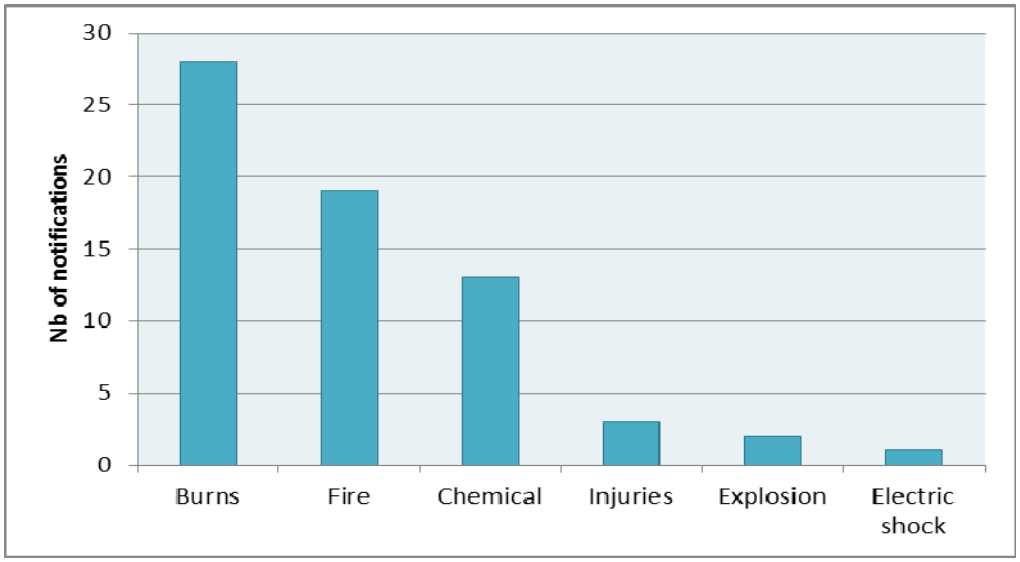
It can be noted that the total number of products notified is very low compared to the millions of gas appliances sold each year.

Figure A.VII.1: RAPEX notifications by type of product



Source: Impact Assessment Study (2012)

Figure A.VII.2: RAPEX notifications by type of hazard



Source: Impact Assessment Study (2012)

A further review of ICSMS[62] containing also confidential product information and test results revealed fewer results associated with gas-related products and fittings under the ICSMS than for the corresponding searches under RAPEX. Only few gas appliances and fittings were not within the RAPEX database. All cases were appropriately dealt with by the surveillance authorities.

3. National accident statistics

A careful examination of the available national accident data from Belgium, Denmark, Estonia, France, Germany, Ireland, Italy, the Netherlands and United Kingdom for products

either currently covered by the GAD or those that lie outside its scope did not produce any conclusive evidence of safety risks that are not under control. This result was verified by further consultation with authorities and other organisations undertaken in the framework of the IA Study (2012).

Belgium

Data was collected from a range of sources on domestic gas explosions related to a pipe, valve or material failure since 2010. These are reported in Table A.VII.1. below. As can be seen from the table, most of the accidents were related to gas leaks, with only three of the explosions linked to boiler failure. No further details were available from the various sources to enable to identify whether any of the accidents stemmed from, for example, failures or shortcomings in the gas installation or appliances, or if e.g. the lack of maintenance caused them.

Table A.VII.1: Domestic Gas Explosions in Belgium since 2010

Date	Location	Casualties	Comments
16/02/12	Woluwe-Saint-Pierre (Brussels)	None	Gas leak
5/02/12	Courcelles (Charleroi)	1 wounded	Gas leak
18/12/11	Léglise (Luxembourg)	None	Gas leak
20/10/11	Ath (Tournai)	2 wounded	Boiler explosion during repairing
4/10/11	Linter (Flemish Brabant)	2 wounded	Gas bottle explosion
25/09/11	Brussels	3 dead and 17 wounded	Gas leak
23/08/11	Brussels	1 wounded	Gas leak
31/07/11	Neufchateau (Luxembourg)	6 wounded	Gas tank explosion
15/07/11	Liege (rue du Champay)	1 wounded	Gas leak
4/04/11	Boussu (Mons)	4 wounded	Boiler failure
1/04/11	Faimes (Liege)	3 wounded	Boiler failure
14/01/11	Blandain (Tournai)	1 wounded	Gas bottle
23/06/10	Soumagne (Liege)	3 dead	Gas leak in a propane tank
27/01/10	Liege (rue Leopold)	13 dead and 21 wounded	Gas leak

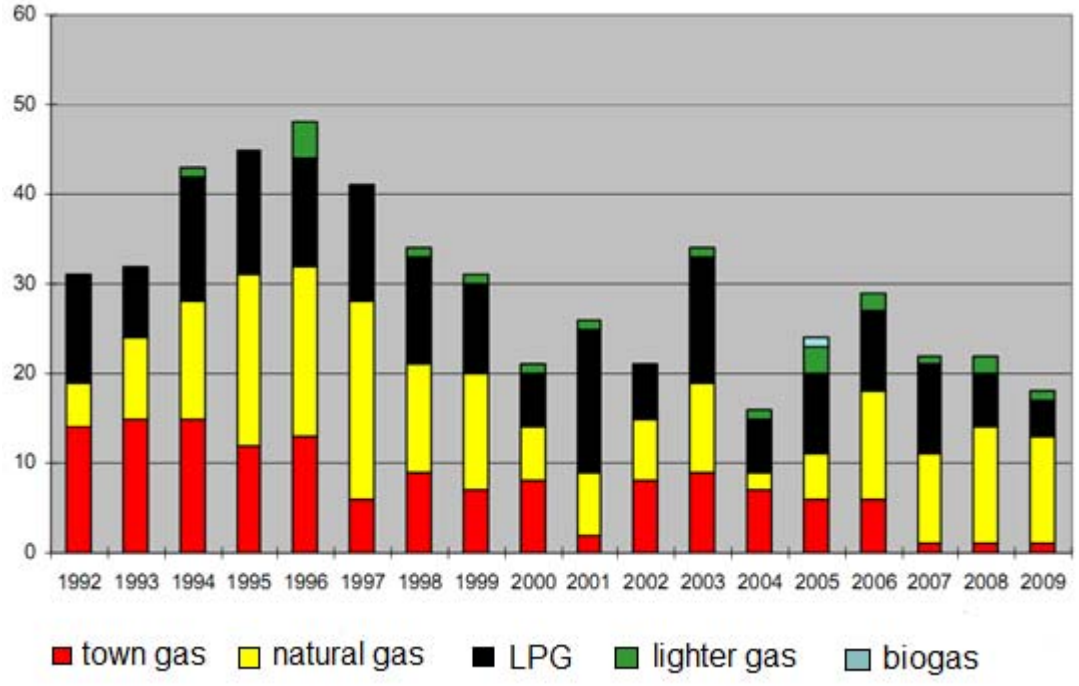
Source: Impact Assessment Study (2012)

Denmark

On average there are about 15-20 accidents per year related to the use and installation of gas appliances (see Figure A.VII.3.). According to statistics from the Ministry, the number of gas accidents in 2009 was the lowest since 1992, equating to 1.8 accidents per 100,000 consumers. The trend is away from fatal incidents and, during the past five years, the number of incidents resulting in injuries has dropped from 125% in 2005 to approx. 67% in 2009 (against a base year of 1992). The largest number of accidents was related to the use of natural gas fuelled appliances.

There are no general legislative requirements for annual inspection of gas appliances in Denmark; however, certain appliances, such as draught burners and flueless boilers, are subject to inspection every other year. The gas company responsible for the installation provides an annual inspection which covers approximately 1% of all appliances, the charge for which is included in the gas bill.

Figure A.VI.3: Number of Gas Accidents in Denmark



Source: Impact Assessment Study (2012)

Estonia

The Technical Surveillance Authority reports that in 2011 there were 253 gas-related calls to the Rescue Board, 30% of which involved liquefied gas cylinders, with the rest involving central gas or other reasons. The main problems identified during the supervision of gas installations were the absence of a supervisor or inadequate documentation, with this including e.g. the absence of the CE conformity marking.

Most of the problems with gas appliances are clearly related to installation. However, a campaign related to gas grills found that there were shortcomings in gas grills on sale in 18 of the 29 stores checked (and out of 69 grills that were inspected). The most common flaws were user-orientated risk warnings in Estonian and the absence of user and maintenance instructions, although the absences of the CE conformity marking and of manufacturer's mark were also an issue. Technical shortcomings or faults that would lead to dangers were not identified.

France

Data provided by French authorities indicates that there are around 11 million gas installations of various types in place in France. Information could be detected on nineteen domestic gas explosions in France since 2011. These are summarised in Table A.VII.2. on next page. As for Belgium, most of these explosions are related to gas leaks, although two are linked to boiler failures.

Table A.VII.2: Domestic Gas Explosions in France since 2011

Date	Location	Casualties	Comments
18/02/12	Moëlan-sur-Mer	1 dead	Boiler failure
27/01/12	Vannes	1 wounded	-
16/12/11	Colombes	1 wounded	-
29/10/11	Grenoble	1 dead	Gas tap inadvertently left open
16/09/11	Dijon	-	Gas leak
28/09/11	Le Havre	1 wounded	Gas leak
26/08/11	La Seyne	1 dead	-
23/08/11	Locunolé	1 wounded	Gas bottle explosion
23/08/11	Aramits	2 dead	Gas leak
19/8/11	Moustoir-Ac	1 dead and 1 wounded	Gas leak
08/08/11	Chambéry	2 wounded	Gas pipes badly jointed
06/06/11	Châtres	1 wounded	Gas leak
7/05/11	Aubergenville	2 dead and 11 wounded	Gas bottle explosion
26/03/11	Paris	8 wounded	Gas leak in a cellar
22/2/11	Saint-Jean d'Angely	3 dead and 2 wounded	Gas leak due to pipe corrosion
18/02/11	Saint- Lô	1 wounded	-
4/02/11	Sceaux	10 wounded	Gas tap inadvertently left open
27/01/11	Hasparren	2 wounded	Heating system failure
26/01/11	Carcassonne	2 wounded	Gas leak

Source: Impact Assessment Study (2012)

Summary statistics provided by French authorities indicates that there were 61 and 56 incidents in 2010 and 2011 respectively, resulting in fatalities and injuries associated with the domestic utilisation of gas. A further five incidents in 2010 and 15 incidents in 2011 were associated with the distribution of gas.

In 2011, 38 of the 56 events were caused by a defect in the gas equipment or gas appliance, with these events leading to 15 fatalities and 186 injuries. In 2010, 39 events were related to defects in gas equipment or a gas appliance, with both the number and proportion therefore being consistent over the two years. The French authorities use these data to justify their call for an extension of the scope of the Directive to include gas-related components (i.e. gas equipment which is currently outside an appliance) to ensure that the same safety requirements apply.

In this context it must be noted that many gas-related products (gas equipment) lying outside the scope of the GAD are covered by other Directives like the Construction Products Directive, Pressure Equipment Directive, etc. These sectors have not reported about any gas safety problems with the gas equipment referred to by the French authorities.

Germany

A study carried out by the Paul Scherrer Institut[87] in 2005 on natural gas accidents risks for the Swiss government used German data on fatal accidents associated with 'consumer installations', as part of a broader comparative assessment of gas-specific risks. This study considered accidents involving natural gas in Germany for the period 1981 to 2002. It is based on the results of an extensive survey carried out by the Deutsche Vereinigung des Gas-und Wasserfaches (DVGW), which include the numbers of accidents, fatalities and injured persons for the period 1981 – 2002, by types of accidents.

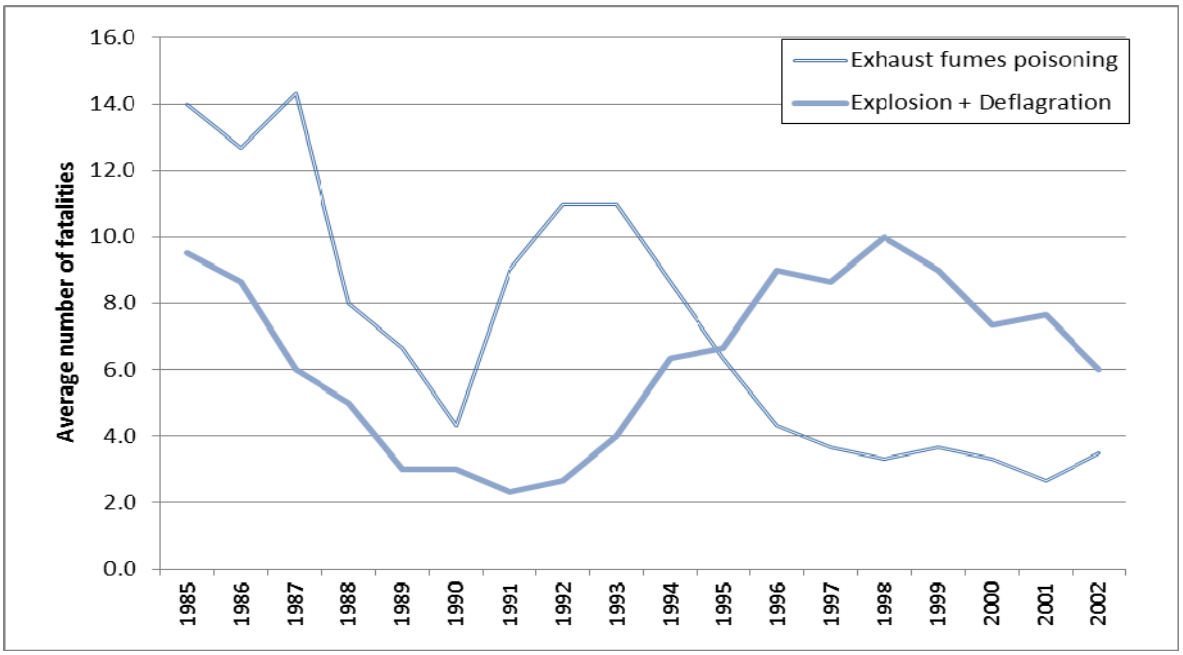
These data were considered by the PSI to meet the following criteria:

- sufficiently large amount of accident records, which enable a valid and coherent analysis;
- the data should be broadly representative of the situation for Central Europe, or EU-15;
- the data provide coverage of severe and smaller accidents with regard to completeness of records; and
- different damage indicators, i.e. fatalities and injured persons, are covered to the same level of detail.

Unfortunately, certain types of accidents were excluded from the analysis: accidents involving town gas, accidents involving LPG, and accidents involving an unspecified gas type.

Only part of the data is of relevance for the GAD it became applicable until later in time (not 1981). Figures A.VII.4. to A.VII.6. present the data of relevance to the GAD, with these figures providing an indication of the trends in numbers of different types of accidents and fatalities from 1985 to 2002.

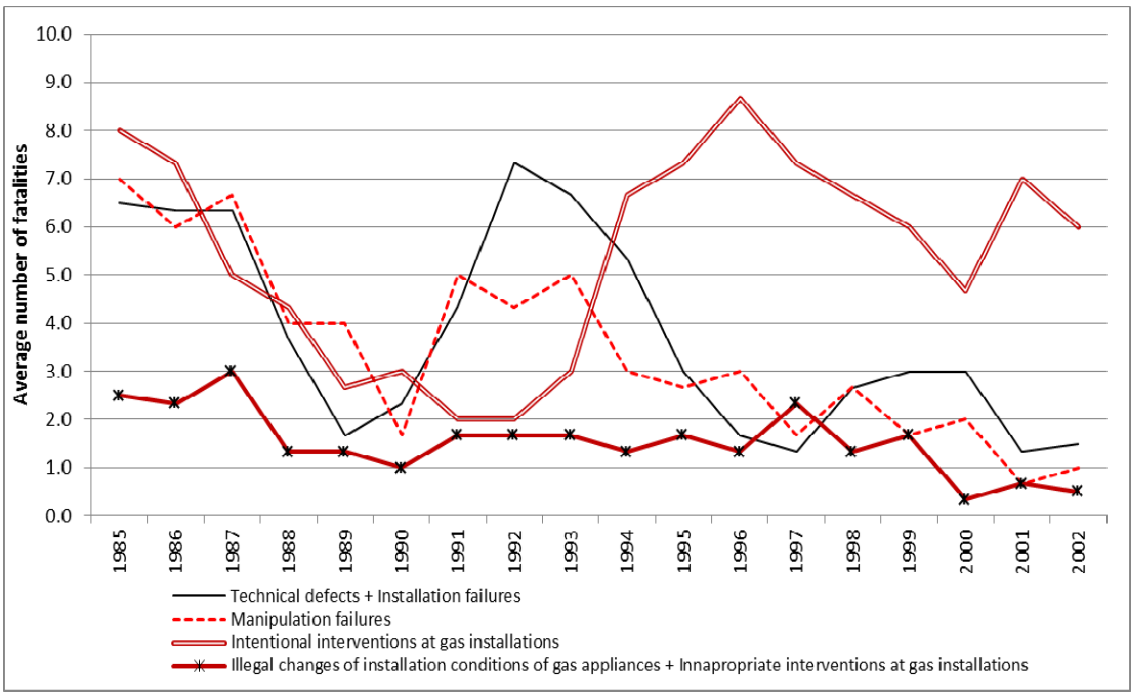
Figure A.VII.4: Fatality by accident type - Germany



[87] Paul Scherrer Institut (2005): Comparative Assessment of Natural Gas Accident Risks, report for the Swiss authorities, dated January 2005.

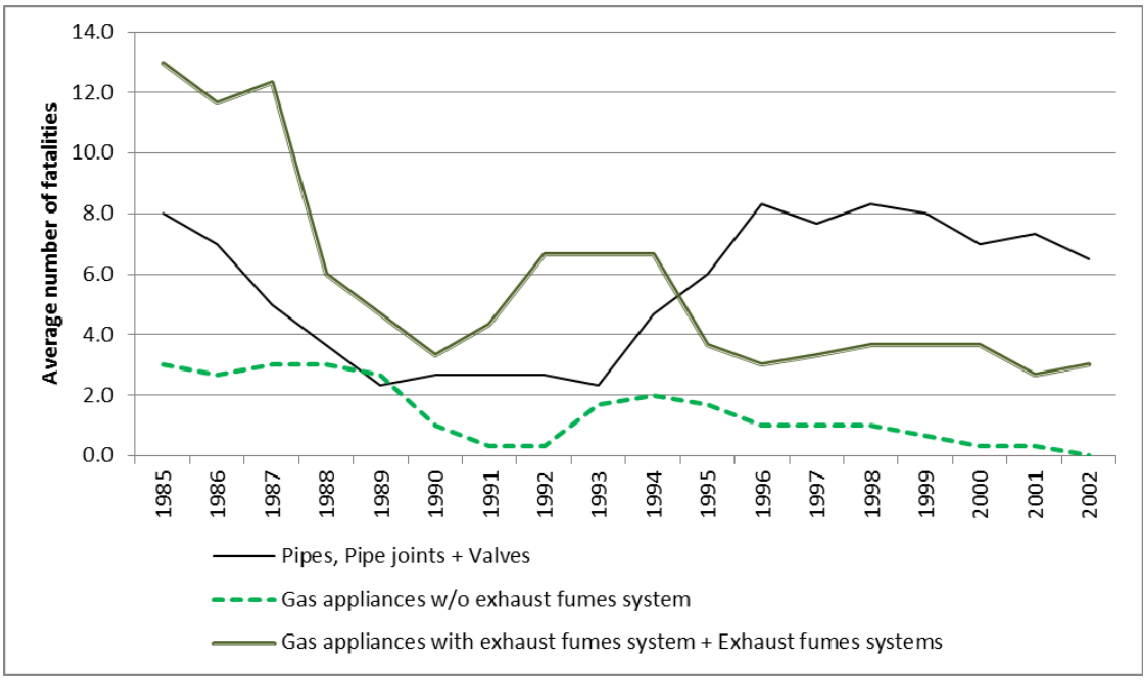
Source: Impact Assessment Study (2012)

Figure A.VII.5: Fatalities by accident cause - Germany



Source: Impact Assessment Study (2012)

Figure A.VII.6: Fatalities by Installation Type - Germany



Source: Impact Assessment Study (2012)

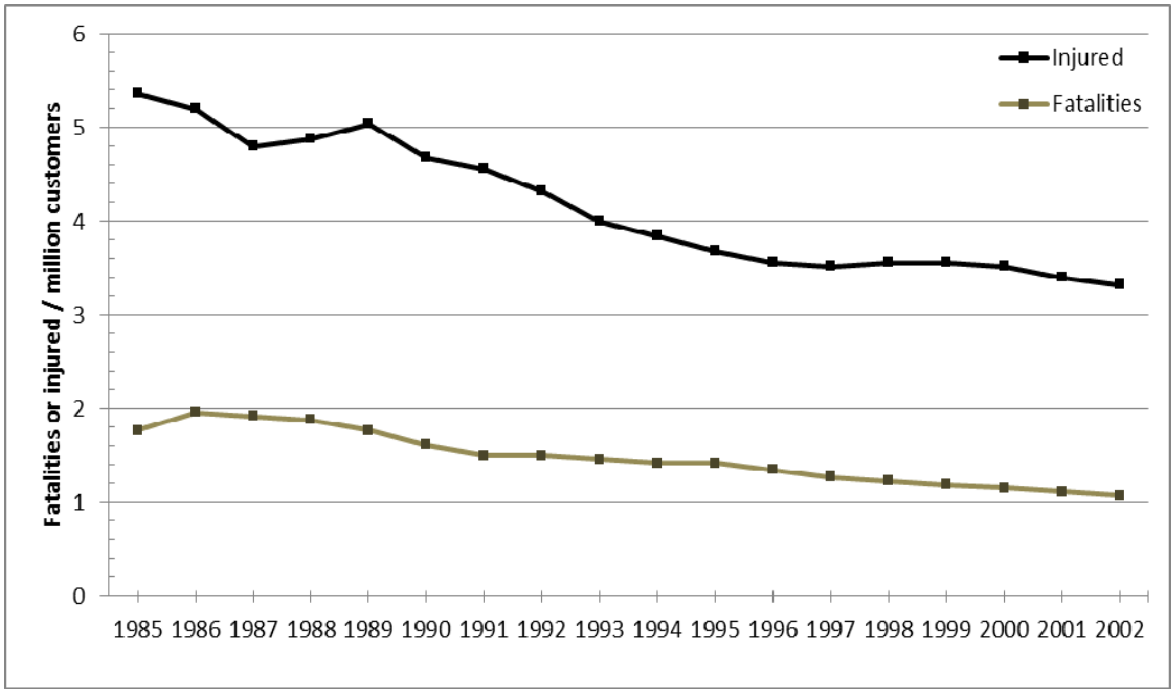
Unfortunately, it is not possible to be more specific as to what some of the headings for accident causes relate to; i.e. from the information presented in the report, it is not possible to determine whether technical defects are defects of the gas appliances or of the associated installation and components used. As a result, it is not possible to say with certainty whether

the causes of the defects fall within the scope of the GAD. Furthermore, in above Figure A.VII.6., which provides information on fatalities associated with different installation types, it is not possible to determine whether 'valves' in the category “pipes, pipe joints and valves” identified as the causes of the accident would be considered “fittings” under GAD.

The German data show different trends over time and by type of accident. As can be seen from these figures, since 1997, there has been a downward trend in explosions and deflagrations, although prior to this period there was an increasing trend in such accidents. With respect to the causes of accidents, technical defects and installation failures would appear to be a decreasing cause, as would manipulation failures, particularly after 1999. Intentional interventions at gas installations remain a significant concern, with no significant downward trend, while illegal changes of installation conditions and inappropriate interventions would appear to be decreasing from 1998. Across installation types, the number of fatalities associated with “pipes, pipe joints and valves” has shown little change over the period, with this ranging between 5 and 10 per annum. In contrast, the numbers of fatalities associated with gas appliances with exhaust fume systems and without such systems show a decreasing trend in the number of fatalities per annum, with the number of total fatalities per year reduced from being over 10 to no more than 5 after 1995.

Figure A.VII.7. provides an overview of failure rates for the period from 1981 to 2002 for consumer installations, with this providing data for both injuries and fatalities by million customers. As can be seen from these data, there is a clear downward trend across all accident types.

Figure A.VII.7: Fatalities by Installation Type - Germany



Source: Impact Assessment Study (2012)

Ireland

The Irish Gas Safety Committee was established to report and make recommendations in relation to hazardous or potentially hazardous natural gas incidents that have endangered life or property.

In 2003, three incidents of carbon monoxide were reported, two of which resulted in four fatalities whilst the third hospitalised two people. A further incident involving carbon monoxide from a gas fired cooking range was reported in 2005, this again hospitalising two people. The cause of the accident identified as the failure of the flue gas exhaust fan as well as a faulty safety device that failed to engage and stop the flow of gas to the burner. In 2006, another individual had to seek medical attention as a result of carbon monoxide poisoning from a flueless kitchen water heater. These heaters had previously been identified by Bord Gáis Éireann (gas suppliers) as potentially dangerous if operated for prolonged periods of time in an environment where there is inadequate ventilation. Finally, there was a further four incidents reported in 2007, only one of which involved carbon monoxide poisoning, the others caused by fire or explosion. Whilst there were additional reportable accidents between 2003 and 2007, these occurred because of vandalism, negligence or faulty or dangerous equipment beyond the scope of the GAD.

It is interesting to note that the Gas Safety Committee, whose remit is to address the most hazardous or potentially hazardous gas risks, is primarily concerned with carbon monoxide poisoning in respect of domestic gas consumption. Whilst the danger of a gas explosion is acknowledged, the main efforts of the organisation are directed towards raising awareness of the dangers of carbon monoxide.

Italy

Italian data collected from CIG (Italian Gas Committee) show a significant reduction in the numbers of accidents, deaths and fatalities caused by mains gas and LPG distributed in bottles and tanks following the implementation of the GAD in 1997. However, more (limited) recent data suggests that there have not been further reductions in recent years. Looking at the cause of accidents, it is noteworthy that accidents caused by lack of ventilation showed the greatest decrease (from 1998 to 2002) which also produced a significant reduction in asphyxia/poisoning accidents (see Tables A.VII.3. and A.VII.4.).

Table A.VII.3: Gas Statistics for Main Gas (1998-2002, 2009 & 2010) – Italy

	1998	1999	2000	2001	2002	2009	2010
Gas Accidents	218	175	138	132	137	201	195
Gas Fatal Accidents	25	24	22	27	17	?	?
Gas Injuries	425	361	311	286	273	415	385
Gas Deaths	33	34	33	43	21	28	23
Cause of Accident							
Lack of ventilation	130	110	68	49	51		
Misuse/interference with appliance	26	20	18	8	22		
Defective appliance or materials	11	8	6	9	10		
Installation failure	6	3	3	13	16		
Deterioration of appliance or lack of maintenance	7	3	8	10	11		
External Cause	0	1	1	6	4		
Other or unknown cause	38	30	34	37	23		
Type of incident							
Explosion	39	21	17	18	19		
Fire	23	21	12	10	21		
Explosion and fire	12	16	12	19	13		
Asphyxia/poisoning	144	117	97	85	84		

Source: Impact Assessment Study (2012)

In a recent report[88], it was noted that, in respect of mains gas, in 2010 more than half of the deaths and injuries continue to be caused by ventilation equipment which is not fit for purpose or is not regularly maintained. Whilst for LPG distributed in bottles and cylinders, 21% of accidents were caused by a lack of maintenance and a further 20% of accidents were a result of user error.

Table A.VII.4: Gas Statistics for LPG (1998-2002, 2009 & 2010) Italy

[88] CIG (2011): Incidenti da Gas – Comunicato Stampo Anno 2010, http://www.cig.it/incidenti-da-gas/

	1998	1999	2000	2001	2002	2009	2010
Gas Accidents	262	229	205	159	138	143	123
Gas Fatal Accidents	37	33	16	24	14	?	?
Gas Injuries	288	204	229	180	136	160	148
Gas Deaths	50	39	22	29	17	24	20
Cause of Accident							
Lack of ventilation	49	49	23	20	3		
Misuse/interference with appliance	53	48	26	23	42		
Defective appliance or materials	28	19	36	38	19		
Installation failure	7	7	6	14	10		
Deterioration of appliance or lack of maintenance	20	11	12	2	9		
External Cause	20	0	17	9	0		
Other or unknown cause	97	95	85	53	55		
Type of incident							
Explosion	76	64	78	65	59		
Fire	65	48	41	35	38		
Explosion and fire	70	64	55	41	33		
Asphyxia/poisoning	51	53	31	18	8		

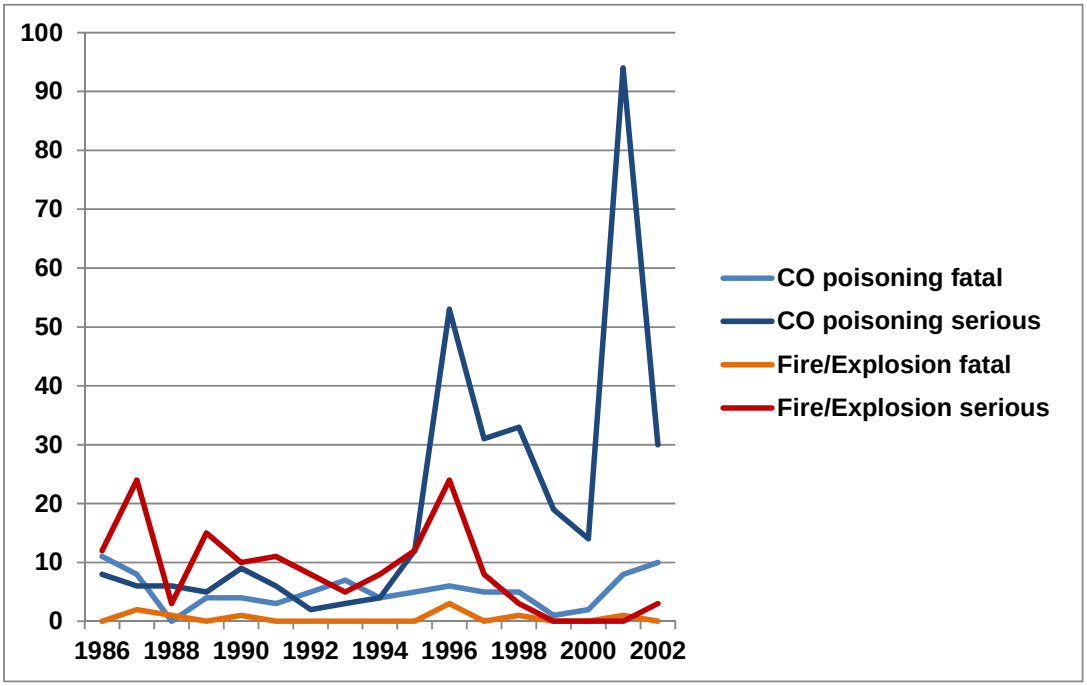
Source: Impact Assessment Study (2012)

The Netherlands

Data for 1986 to 2002 on domestic gas incidents is presented in see Figure A.VII.8. The high number of CO poisonings in the Netherlands could be attributed to unflued and open flued water heaters installed in kitchens and bathrooms. These were poorly maintained and were installed in rooms which had poor ventilation, a more common occurrence as improvements in home insulation were made. However, there was a noticeable reduction in the number of CO poisoning fatalities in 2001. This can be attributed to an increase in the installation of room space heaters, room sealed combination central heaters and hot water boilers. Equally, safety devices that shut off the gas supply to the burner if dangerous substances are detected have been fitted to gas appliances.

Dutch consultees to the Ex-post Evaluation Study (2011) indicated that the introduction of the Directive had no positive impact on the number of accidents in the Dutch market; the number of fatalities has (on average) remained unchanged for the past 20 years. As the Dutch market is a mature market, incidents are now primarily associated with the improper installation of flueless devices which, prior to the implementation of the GAD, were banned from the Dutch market. It is of note that the Dutch Authorities have been amongst the most active in notifying products to RAPEX, with the majority of those notified between the period of 2005 to 2011 being flueless radiant heaters and outdoor / patio heaters and grills.

Figure A.VII.8: Accidents for gas failure rates expressed – the Netherlands



Source: Impact Assessment Study (2012)

However, the Dutch stakeholders did indicate, though, that the GAD has led to a dramatic improvement in the safety of LPG appliances. By way of example, in 1996, 100% of LPG cookers failed to comply with the essential requirements, while today 90-95% of such appliances do comply. Similarly, they note that the nature of non-compliance has changed: whereas previously there were technical problems with certain appliances such as cookers, at present technical deficiencies have disappeared and instead it is shortcomings related to poor translations of instructions, or insufficient warnings that are prominent.

Some Dutch consultees noted that there may be a case for extension of the GAD to bring new products under its scope. The only example provided in this regard was blowtorches, which are currently not within its scope, but are widely used. However, it is of note that between 2005 and 2011, no such products were notified by the Netherlands to RAPEX. Further checking with the Dutch Authority has indicated that action was taken in response to one incident in which a user using a blow torch got burned.

It needs to be noted that blow torches intended to be sold for consumers are covered by the General Product Safety Directive while Directive 89/391/EEC (the Occupational Safety and Health Framework Directive), Directive 2009/104/EC on the use of work equipment as well as national legislation on the safety on workplace cover their professional use.

United Kingdom

UK data appear to indicate an increase in accidents, including explosions/fires as well as CO poisoning, with the latter being the main type if incident. These data are presented in Table A.VII.5. and are for incidents relating to the supply and use of flammable gas in the UK for the period from 07/2006 to 11/2010.

Table A.VII.5: Incidents relating to the Supply and Use of Flammable Gas - UK

Parameter	Incident Type	2006/07	2007/08	2008/09	2009/10	2010/11
Number of incidents[(b)]	Explosion/fire	22	31	27	21	33
	Carbon monoxide poisoning	115	147	172	196	219
	Other Exposure	-	12	4	6	12
	Total	**137**	**190**	**203**	**223**	**264**
Number of fatalities	Explosion/fire	2	2	2	1	3
	Carbon monoxide poisoning	10	13	15	9	14
	Other Exposure	-	3	1	-	1
	Total	**12**	**18**	**18**	**10**	**18**
Number of non-fatalities	Explosion/fire	27	37	30	27	44
	Carbon monoxide poisoning	184	191	289	292	343
	Other Exposure	-	10	5	11	12
	Total	**211**	**238**	**324**	**330**	**399**

Notes: (a) Mainly piped gas but also includes bottled LPG
(b) An incident can cause more than one fatality or injury
Source: HSE (2011): RIDGAS –incidents involving flammable gas (www.hse.gov.uk/statistics/tables/ridgas.xls)

Source: Impact Assessment Study (2012)

Similar numbers for CO poisoning are provided by the UK charity, CO-GasSafety[89], which reports that mains and LPG gas account for about 50% of accidental deaths associated with CO poisoning.

Further data available from the UK Health and Safety Executive (HSE)[90] provides an indication of the percentage of fatalities due to CO incident by appliance type confirm that central heating boilers are the greatest causes of such incidents, followed by domestic hot water heaters. The most common causes of incidents were a lack of servicing and flue/terminal faults, with flue and ventilation faults identified as being common in many domestic incidents boilers; older appliances and open flued boilers represent the highest risk (Frontline Consultants, 2007[91]).

4. Consultation of stakeholders

The stakeholders that had proposed taking new product groups within the scope of the GAD were further consulted in order to accurately determine the underlying safety problems and their drivers thus enabling formulation of respective policy options. For instance, the stakeholders were asked to indicate which products and/or product groups present unresolved gas risks.

89 The Carbon Monoxide and GAS Safety Society, http://www.co-gassafety.co.uk/index.html
90 HSE (2011): RIDGAS – incidents involving flammable gas www.hse.gov.uk/statistics/tables/ridgas.xls
91 Frontline Consultants (2007): Review of Domestic Gas Safety, Report for the Health and Safety Executive

None of the consulted parties was able to identify more than a few such issues relating to e.g. national variations in installation requirements, national requirements for installers, building codes, etc. These issues not concerning the product itself, go beyond the scope of the free movement of goods and fall under the competence of the Member States, therefore they are not relevant for the objective of the GAD which is to ensure the free movement of products covered by its scope.

5. Conclusions

There is a general paucity of data on safety risks for products either currently covered by the GAD or those that are outside its scope. Follow-up consultation with authorities and other organisations has also not produced any conclusive evidence of safety risks associated with products that currently lay outside the scope of the Directive.

Extensive searches have led only to the identification of reports produced by national authorities, with only the RAPEX data providing an indication of any risks associated with products outside the scope of the GAD – in this case gas regulators which are subject to the General Product Safety Directive.

Thus, on the basis of the available evidence, there is little to no justification for bringing new products under the scope of the GAD for safety reasons; i.e. there are no concrete identified problems that need to be addressed. The only specific examples which have been identified where there have been incidents with products outside the GAD are the documented case with a blow torch in the Netherlands and the RAPEX notifications on regulators and, potentially, hoses covered by the Construction Products Directive.

The overall number of accidents involving gas appliances appears low. Of those accidents that do occur, asphyxia and CO poisoning represent a far more significant threat to safety. As a broad indication, it is estimated that there are about 200 fatalities and 2,000 injuries associated with (non-industrial) gas-related products across the EU-27 per year – of which, perhaps, 75% are associated with CO poisoning.

Clearly, there continue to be incidents/accidents involving gas appliances, although the majority of these are associated with installation failures rather than safety issues with the appliances. In any event, one would expect that there will be some residual failure rate of gas appliances, their fittings and components for gas installations, even with compliance with CE marking requirements.

It is also worth noting that further consultation and extensive research has indicated that limited evidence exists to suggest that there are specific safety risks associated with components that are currently outside the scope of the GAD (i.e. outside of the gas appliance, but within the gas installation) or relating to innovations/future products using gaseous fuels not currently included within the GAD scope.

ANNEX VIII: ALIGNMENT OF THE GAD WITH THE NEW LEGISLATIVE FRAMEWORK DECISION NO 768/2008/EC

The alignment of the EU product harmonisation Directives with the NLF is a legal and political commitment taken by the institutions.

The changes resulting from aligning with the New Legislative Framework (NLF) were examined when the horizontal measure was adopted. The Impact Assessment on the Alignment Package[22] examined in depth the changes and different options to give effects to the NLF Decision in case of EU product harmonisation Directives similar to the GAD. As the impacts of the alignment are expected to be the same for the GAD, it is not deemed necessary to repeat the options and conclusions of the Impact Assessment on the Alignment Package in this Annex however a summary of the changes to the GAD resulting from its pure alignment with the NLF is provided below.

The alignment of the GAD aligns it to the "goods package" adopted in 2008 and in particular to Decision No 768/2008/EC establishing a common framework for the marketing of products. It includes introduction of the relevant horizontal definitions, traceability requirements, obligations of economic operators, criteria and procedures for the selection of conformity assessment bodies (notified bodies) and conformity assessment requirements in the GAD legal text.

The substance of the alignment of the GAD can be summarised as follows:

(1) Measures intended to address the problem of non-compliance:

- Obligations of importers and distributors to check that appliances bear the CE marking are accompanied by the required documents and carry traceability information. Additional obligations are imposed on importers.
- Obligations of manufacturers to provide instructions and safety information in a language easily understood by installers, consumers and end-users, and to carry out sample testing and product monitoring.
- Traceability requirements throughout the whole distribution chain: manufacturers and importers must put their names and addresses on products; every economic operator must be able to inform the authorities from whom he purchased a product and to whom he supplied it.
- Reorganisation of safeguard clause procedure (market surveillance) to clarify how the relevant enforcement authorities are informed about dangerous goods and ensure that the same action is taken in relation to that product in all Member States.

(2) Measures intended to ensure the quality of work done by notified bodies:

- Reinforcement of the notification requirements for notified bodies (including subcontractors and subsidiaries) such as impartiality, competence in carrying out their activity and the application of guidance developed by coordination groups.
- Revised notification process: Member States notifying a body must include information on the evaluation of the competence of that body. Other Member States can object to the notification within a certain period.

– Requirements for notifying authorities (i.e. the national authorities responsible for the assessment, notification and monitoring of notified bodies) such as objectivity and impartiality in carrying out their activity.

– Information obligations: Notified bodies must inform notifying authorities of refusals, restrictions, suspensions and withdrawals of certificates.

(3) Measures intended to ensure greater consistency among directives:

– Alignment of commonly used definitions and terminology.

– Alignment of the texts of the conformity assessment procedures.

The options relevant for the revision of the GAD are the same as those for the Directives included in the alignment package of the ten sectorial Directives, i.e.:

1. Do nothing

   This option proposes no changes to the current Directive and relies exclusively on certain improvements that can be expected from the NLF Regulation.

2. Alignment to the NLF Decision by non-legislative measures (soft law)

   This option considers the possibility of encouraging a voluntary alignment to the provisions set out in the NLF Decision by, e.g., presenting them as best practices in Guidance Sheets.

3. Alignment to NLF Decision by legislative measures

   This option consists in integrating the provisions of the NLF Decision into the GAD.

It is accepted that option 3 is the preferred option because

– it will improve the competitiveness of companies and conformity assessment bodies as a result of the definition of clear obligations for economic operators and clear and flexible conformity assessment procedures;

– it will improve the functioning of the internal market by ensuring equal treatment of all economic operators, notably importers and distributors, as well as conformity assessment bodies;

– it does not entail significant costs for economic operators and conformity assessment bodies;

– it is considered more effective than option 2: due to the lack of enforceability of option 2 it is questionable that the positive impacts would materialise under that option; and

– options 1 and 2 do not provide answers to the problem of inconsistencies in the regulatory framework and therefore have no positive impact on the simplification of the regulatory environment.

Regarding the general legislative framework, no problems specific to the GAD other than those already dealt with in a detailed way in the Impact Assessment on the Alignment Package were identified. Consequently, only a pure alignment of the GAD with the NLF Decision was deemed necessary.

Regarding the potential problems of the GAD other than those dealt with by the NLF, it was necessary to carefully investigate a number of issues raised by Member States, manufacturers and other stakeholders implying that the GAD was not included in the above alignment

package.

ANNEX IX: ANALYSIS OF THE INTERPRETATION NEEDS AS REFLECTED BY THE EXISTING GAD GUIDANCE SHEETS

General

In order to ensure a coherent application of GAD, so-called GAD Guidance Sheets[20] have been established and agreed in the framework of the Commission's Working Group Gas Appliances. The GAD Guidance Sheets are neither a legally binding interpretation on GAD nor they can formally commit authorities or Notified Bodies. However, as involvement of the Member States, manufacturers, Notified Bodies and the Commission in the preparation and adoption process of the GAD Guidance Sheets is always assured, the guidance issued is based on a lay consensus thus representing a reference for ensuring consistent application of the Directive by all those involved.

The legal ambiguity due to the absence of the definitions of terminology and other issues requiring interpretation of the current legal text is dealt with in each of the GAD Guidance Sheets by first formulating a well-defined question that the legal text cannot precisely answer. The question part is followed by an in-depth analysis of the matter. The conclusion section provides a clear explanation what is the common view of all the parties involved in the adoptions process.

All the GAD Guidance Sheets are to represent a "voluntary agreement" implying that in order a candidate GAD Guidance Sheet being adopted, unanimity by the Member States must be reached. The chosen approach to deal with interpretation issues by adopting GAD Guidance Sheets represents the “soft law” option examined in this IA Report however the implementation of the current guidance as currently available are considered to be part of the status quo.

Legal ambiguities dealt with by the existing GAD Guidance Sheets

A. Interpretations relating to the articles of the Directive

A1. Appliances and its fittings covered by the Directive[92]

This GAD Guidance Sheet seeks for clarification to the question which appliances and components are considered as covered by the Gas Appliances Directive. Under its discussion section, it notes that the GAD gives product categories, which are within the scope, but does not contain list of specific products covered.

In order to facilitate judgement whether an individual product is covered by the Directive, an illustrative list has been drawn up by all parties concerned. Furthermore, a note to the list explaining the meaning of some terminology used is included. The illustrative list is non-exhaustive and is intended to be amended as necessary. As example and for clarification, a list

[92] http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_a01_6-2003_en.pdf

of certain exceptions is also shown. Furthermore, some specific elements of certain product categories are clarified on separate GAD Guidance Sheets.

A2. Interpretation of "heating"[93]

The need to clarify what is referred to by “heating” derives from the fact that some linguistic versions of the Directive suggest that heating covers only space heating (e.g. the English version), whilst others allow a wider interpretation (e.g. the French version). The question therefore arises, whether “heating” covers only space heating or also other applications of heating. If this question was not answered, the manufacturers, Notified Bodies and the authorities would not be in a position to determine which products for heating are covered by the GAD. Different approaches could also have been adopted in different Member States.

The GAD Guidance Sheet notes that the scope gives a list of the types of applications (or uses) covered and concludes that it results from this list that when the application/use implies the heating of some material (e.g. food, water, etc.), this is separately indicated. Therefore, “heating” is considered to refer in the GAD context to space heating and not to the application of heat for other purposes. This conclusion allows judging whether an individual product for heating is covered by the Directive,

A3. Connecting hoses and regulators used to connect appliances to the fuel source; Other components affecting gas safety[94]

The GAD covers fittings which are safety, controlling and regulating devices and subassemblies, separately marketed for trade use and designed to be incorporated into an appliance burning gaseous fuel or assembled to constitute such an appliance. Consequently, the stakeholders have asked for clarification whether also connecting hoses and regulators used for connecting an appliance to the fuel source and other components affecting gas safety are to be considered as fittings thus covered by the Directive.

The discussion section of this GAD Guidance Sheet lists the different conditions under which the above components can be placed on the market and concludes on a case by case basis whether a component can be considered to be a ‘fitting’ in the meaning of the GAD. Consequently, the GAD Guidance Sheet facilitates the judgement whether an individual component is covered by the Directive.

A4. Forced draught burners and heating bodies[95]

The origin of the question whether forced draught burners and heating bodies to be equipped with such burners to be considered as appliance is the different linguistic versions of the Directive. Certain language versions refer to the heating bodies already equipped with forced draught burners. This raises questions as regards whether heating bodies to be equipped with these forced draught burners can be considered as gas appliances.

The GAD Guidance Sheet refers to the history of the adoption process of the Directive suggesting that it was the intention of the legislator was to cover such heating bodies as appliances. Therefore the scope is clarified by concluding that the GAD should be interpreted

93 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_a02_6-2003_en.pdf
94 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_a03_11-2009_rev1_en.pdf
95 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_a04_6-2003_en.pdf

that both forced draught burners and heating bodies to be equipped with such burners are considered as appliances.

A5. Industrial processes carried out on industrial premises[96]

The exclusion of appliances specifically designed for use in industrial processes carried out on industrial premises from the scope of the GAD has raised the question how the exclusion should be interpreted as several undefined notions not defined in the GAD are referred to. These notions are “industrial process”, “specific design” and “industrial premises”.

The GAD Guidance Sheet provides definitions for the above notions and concludes that the GAD exclusions should be interpreted in a strict way, i.e. it needs to be considered on a case by case basis whether the appliance is both specifically designed for use in industrial process and intended to be put into service on industrial premises. The scope is clarified by concluding that only if all these requirements are fulfilled, is the appliance excluded from the scope of the Directive.

B. Interpretations relating to the Essential Requirements of the Directive (Annex I)

B1. Hazard related to accessible flames (fire guarding)[97]

Since the Essential Requirements in Annex I to the GAD do not specifically deal with the risk due to open flames but only requires that appliances must be so designed and built as to operate safely and present no danger to persons, domestic animals or property when normally used, the question has been brought forward how do the essential requirements address the hazard of heating appliances with accessible flames or incandescent parts there causing a potential fire and injury risk where clothing or drapery might accidentally brush against them.

The GAD Guidance Sheet clarifies how the hazard identified must be addressed by design (Essential Requirement 1.1.) or by a combination of design and instructions for the installer (Essential Requirements 1.1. and 1.2.) thus facilitating the proper interpretation and application of the Directive.

B2. Safety in relation to electromagnetic phenomena[98]

This GAD Guidance Sheet deals with the question how are gas safety risks related to electromagnetic phenomena dealt with by the Directive for gas appliances incorporating electrical and/or electronic components. This is particular important as none of the Essential Requirements specifically refers to the electromagnetic phenomena.

The GAD Guidance Sheet draws the attention to the requirement that appliances must be so designed and built as to operate safely and present no danger to persons, domestic animals or property when normally used. As gas appliances incorporating electrical and/or electronic components can be sensitive to electromagnetic phenomena which may affect their proper functioning or safety, it is stressed that also the Electromagnetic Phenomena (EMC) Directive applies to gas appliances incorporating electrical and/or electronic components. It is clarified

96 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_a05_6-2003_en.pdf
97 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b01_6-2003_en.pdf
98 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b2_3-2009_rev1_en.pdf

that the issues associated with the proper functioning of the appliance are considered under the EMC Directive, whilst the risks associated with the safety of the appliance are considered under the GAD, and that the notified body has to verify that the applicable requirements are met. Appropriate test documentation provided by the manufacturer may be used to avoid the duplication of testing.

B3. Heating body/forced draught burner matching[99]

The GAD Essential requirement 1.2.1. stipulate that the technical instructions intended for the installer must contain all the instructions for installation, adjustment and servicing required ensuring that those operations are correctly performed and that the appliance may be used safely. In particular, the instructions must specify for forced draught burners and boiler bodies intended to be equipped with such burners, their characteristics, the requirements for assembly, to assist compliance with the Essential Requirements applicable to finished appliances and, where appropriate, the list of combinations recommended by the manufacturer.

The GAD Guidance Sheet answers the question how should the manufacturer(s) of the forced draught burners and boiler bodies provide the above information to ensure safe boiler body/burner matching as this is not described in the legal text itself.

In order to clarify what specific information should be provided to ensure that the burner-boiler matching can be carried out safely, the GAD Guidance Sheet separately defines the information that must be provided, on one hand, by the manufacturers of forced draught burners, who markets the burners separately, and on the other hand, by manufacturer of boiler bodies not equipped with burners.

In order to further clarify how to precede, an Annex providing detailed information on a procedure for ensuring safe boiler body - forced draught burner matching.

B4. Materials guaranteed[100]

The Essential Requirement 2.2. of the GAD requires that the properties of materials that are important for safety must be guaranteed by the manufacturer or the supplier of the appliance.

The manufacturers and Notified Bodies had asked for clarification what guarantee should be provided by the manufacturer to prove conformity with the Essential Requirement 2.2. for the purposes of EC type-examination.

The GAD Guidance Sheet clarifies that the manufacturer is responsible for the choice of the materials, which he judges to be appropriate. During production the manufacturer checks that the materials delivered are in conformity to the specifications. It is further explained that the manufacturer has the option to specify that the supplier has to supply materials with a certificate of conformity. A notified body can judge the materials used on the basis of the declaration provided by the manufacturer guaranteeing that he uses the material specified. The manufacturer's declaration of the properties of materials in so far as they are important for safety should be part of the technical file.

B5. Hazards of electrical origin[101]

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99 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b03_2-2005-rev_1-1_en.pdf

100 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b04_6-2003_en.pdf

The Essential Requirement 3.1.7. of the GAD stipulates that appliances must be so designed and constructed as to obviate hazards of electrical origin. In the area in which it applies, compliance with the safety objectives in respect of electrical hazards laid down in the Low Voltage Directive (LVD) shall be equivalent to fulfilment of this requirement.

As it has been necessary to clarify whether a manufacturers declaration of conformity to the LVD should be considered as a sufficient proof of conformity to Essential Requirement 3.1.7., the GAD Guidance Sheets has been elaborated to clearly explain what are the different aspects and areas of hazards to be examined by the Notified Bodies. The GAD guidance Sheet highlights that the GAD and the LVD apply in a complementary way. For the assessment of the conformity of the electrical components and parts to the requirements of the LVD, Notified Bodies shall take into account the results of the conformity assessment procedures of the LVD and accept a manufacturer's declaration. However, potential gas risks generated by the incorporation or the functioning of such components and parts in gas appliances or fittings are to be assessed under the conformity assessment procedures of the GAD by the Notified Bodies. Consequently, the GAD Guidance Sheet concretely defines the matters to be examined by the GAD Notified Bodies.

B6. Failure of a safety, controlling or regulating device[102]

The Essential Requirement 3.1.9. of the GAD requires that appliances must be so designed and constructed that failure of a safety, controlling or regulating device may not lead to an unsafe situation. As in modern appliances it frequently happens that an electronic reset device is applied to reset the appliance after certain lock-out modes (failure modes), the manufacturers and Notified Bodies have asked for clarification what kind of electric reset devices are acceptable and what the necessary safety requirements for the use of such devices.

This GAD Guidance Sheet deals with a highly technical subject and its elaboration has required involvement of very skilled technical experts. Consequently, the clarifications provided in the conclusion section of the GAD Guidance Sheet are of great value as otherwise the interpretation and application of the Essential Requirement 3.1.9. could be very difficult for e.g. SMEs.

B7. Unburned gas release[103]

This GAD Guidance Sheet has been withdrawn.

B8. Ignition and combustion[104]

This GAD Guidance Sheet clarifies what consideration shall be given to external influences which may affect ignition and combustion when testing gas appliances. The need is due to the Essential Requirement 3.3. requiring that appliances must be so constructed that, when used normally, their ignition and re-ignition is smooth and the cross-lighting is assured. Furthermore, the Essential Requirement 3.4.1. stipulates that appliances must be so constructed that, when used normally, flame stability is assured and combustion products do not contain unacceptable concentrations of substances harmful to health.

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101 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b05_6-2003_en.pdf

102 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b06_6-2003_en.pdf

103 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b07_2-2005-0withdrawn-002-2008_en.pdf

104 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b08_6-2003_en.pdf

The GAD Guidance Sheet provides response to the question by defining the tests to be carried out and the conditions under which these tests shall be performed thus facilitating the manufacturers to identify the tests to be applied and the subsequent conformity assessment tasks of the Notified Bodies.

B9. Combustion[105]

The Essential Requirement 3.4.3. of the GAD stipulates that appliances connected to a flue for the dispersal of combustion products must be so constructed that in abnormal draught conditions there is no release of combustion products in a dangerous quantity into the room concerned.

The manufacturers have asked for clarification to the question whether the above requirement means that a special safety device must be incorporated into appliances and whether there will be conditions where this safety device is not needed, since the release of combustion products does not create a dangerous situation.

The GAD Guidance Sheet notes that the Essential Requirement refers to the design of appliances, connected to a flue in a way where there can be possibilities that a release of combustion products into the room can occur in the event of blockage of the flue or as result of down draught of the combustion products in the flue. It clearly lists, on one hand, the types of installations which require the special safety device and, on the other hand, types of installations which are not considered to give rise to a dangerous quantity combustion products. Consequently, the GAD Guidance Sheet facilitates judging whether or not a special technical solutions is required.

B10. Prevention of the release of combustion products in abnormal draught conditions[106]

This GAD Guidance Sheet deals also with the Essential Requirement 3.4.3. but provides more concrete information on the requirements that should be set on electronic combustion discharge devices (TTB) used to guard against the release of combustion products into occupied areas.

B11. Rational use of energy, state of the art[107]

Due to the very generic way the Essential Requirement 3.5. on rational use of energy is written, it has been necessary to clarify how the manufactures can demonstrate compliance with this requirement.

For gas boilers with heat input 4 kW - 400 kW it is confirmed that these boilers shall satisfy the requirements of the Directive 92/42/EEC (BED). For all other appliances guidance on the state of the art can be found in the relevant harmonised European standards providing the presumption of conformity to the GAD. It is additionally highlighted that where no harmonised standards exist, other standards likely to reflect the state of the art can be used as a basis for assessment.

B12. Remote controls[108]

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105 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b09_6-2003-rev_0-1_en.pdf

106 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b10_6-2003_en.pdf

107 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b11_6-2003_en.pdf

108 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b12_2-2005_en.pdf

Since the adoption of the GAD in 1990 the product designs have evolved and many gas appliances have features which were not common more than 20 years ago.

As the Essential Requirement 3.1.9. requires that appliances must be so designed and constructed that failure of a safety, controlling or regulating device may not lead to an unsafe situation, and the Essential Requirement 3.1.12. stipulates that levers and other controlling and setting devices must be clearly marked and give appropriate instructions so as to prevent any error in handling, and their design must be such as to preclude accidental manipulation, the manufacturers and Notified Bodies had found it important to seek clarification on how these provisions should be applied with respect to remote controls for gas fires (a "gas fire" is understood to be an independent space heater for directly heating the area of the dwelling in which it is installed, it can be open or closed fronted, having an open fire or hot surfaces respectively, presenting a potential risk in case of unintended operation).

In order to cover as many as possible conditions of use and thus hazards to be taken into account by the manufacturers and the Notified Bodies, the GAD Guidance Sheet provides examples of situations where the use of remote controls can give rise to unsafe situations through accidental manipulation, component fault or external uncontrolled influences.

In order to concretely clarify which different solutions must be adopted in order to control the risks, the GAD Guidance Sheet analyses one by one each of the described situations and stipulates the minimum measures to be applied in order to deal with the risks.

B13. Electronic distribution of instructions and manuals (through the internet or by CD/DVD)[109]

When placed on the market, all appliances must:

- be accompanied by technical instructions intended for the installer,

- be accompanied by instructions for use and servicing, intended for the user,

- bear appropriate warning notices, which must also appear on the packaging.

The manufacturers and Notified Bodies had asked whether it is allowed for the manufacturer to use internet for the distribution to the installer and/or user of the technical instructions intended for the installer and the instructions for use and servicing intended for the user. Furthermore, it was asked whether it is allowed for the manufacturer to make the above mentioned instructions available to the installer and/or user on a CD or DVD, delivered together with the appliance.

The GAD Guidance Sheet carefully considers the different aspects to be taken into account and clarifies that the legal text to be complied with requires that hard copies of the instructions for installation, use and servicing shall be provided with the appliance. It concludes that distribution of the instructions for installation, use and servicing through internet or by a CD/DVD, without providing together with the appliance hard copies of these instructions in the appropriate language(s), is not complying with the provisions of the GAD.

B14. The use of a special device (e.g. FSD) to fulfil ER 3.2.3. – according to EN 30-1-1[110]

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109 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_b13_3-2009_en.pdf

110 The GAD Guidance Sheet B14 was approved in April 2013 and has not yet been published on the Commission's website.

This recent GAD Guidance Sheet deals with the Essential Requirement 3.2.3 and with the way how the requirement is responded in harmonised standard EN 30-1-1:2008 as the publication of the standard has caused confusion on whether the second paragraph of ER 3.2.3 is no longer an option for products covered by EN 30-1-1:2008. It was also asked if this can be the case if a Member State has defined the adequate space ventilation conditions according to the third paragraph of ER 3.2.3.

The GAD Guidance Sheets clarifies the issue by showing that EN 30-1-1:2008 does not require a flame supervision device (FSD) as was assumed by a number of stakeholders once the standard was published. The text of EN 30-1-1:2008 requiring the safety level of a FSD could be seen as an indication that having a FSD represents the current state of technical development and that the manufacturers have to provide proof that a solution without a FSD is at least as safe as an appliance with a FSD.

C. Interpretations relating to the procedures of the Directive (Annex II)

C1. Acceptance of manufacturers test results[111]

In order to carry out the EC type-examination of an appliance, the notified body must

- perform, or have performed, the appropriate examinations and/or tests to check whether the solutions adopted by the manufacturer meet the essential requirements where the standards referred to in Article 5 have not been applied (Annex II: 1.3.2.); and
- 1.3.3. perform, or have performed, the appropriate examinations and/or tests to check whether the applicable standards have effectively been applied where the manufacturer has chosen to do so, thereby assuring conformity with the essential requirements (Annex II: 1.3.3.).

The Notified Bodies has submitted the question whether a notified body can accept, as the basis for certification, the results of testing carried out in a manufacturer's laboratory.

The GAD Guidance Sheet clarifies that the manufacturer's application for the EC type-examination must include among other things the design documentation that can also contain test reports. The notified body must check and certify that an appliance, representative of the production envisaged, meets the provisions of the Directive which apply to it. As part of this work the design documentation is subject to direct assessment by the notified body. Consequently, the notified body can use the manufacturer's test results however it has to verify that all relevant criteria have been met.

C2. On-site checks[112]

This GAD Guidance Sheet explains what measures a notified body should take in case where tests as defined in GAD Annex II: 2.3. reveal a nonconformity. Consequently, the GAD Guidance Sheet is to ensure that appropriate and harmonised actions are taken by all the notified bodies.

C3. On-site checks surveillance[113]

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111 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_c01_6-2003_en.pdf

112 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_c02_6-2003_en.pdf

113 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_c03_2-2005-rev_1_en.pdf

This GAD Guidance Sheet explains how the Notified Bodies should organise on-site checks of gas appliances and fittings in order to ensure compliance referred to in GAD Annex II: 2.3. It explains that Notified Bodies may take into account of all activities, initiated by the manufacturers to assure conformity with the CE type-examination certificates, but must assure that all relevant principal controls are carried out on the basis of a specific list annexed to the GAD Guidance Sheet.

Consequently, the GAD Guidance Sheet is to ensure that appropriate and harmonised actions are taken by all the Notified Bodies.

C4. Quality system[114]

This GAD Guidance Sheet provides clarification to two questions concerning the certification of a manufacturer's quality system and whether specific certification is obligatory to meet the requirements of GAD Annex II sections 3 and 4.

C5. Examination and evaluation of the quality system[115]

This GAD Guidance Sheet explains how the notified bodies should carry out the examination and evaluation of the quality system for production of gas appliances and fittings referred to in GAD Annex II, sections 3.3.3. and 4.3.3. It further explains that both the manufacturer and the notified body have roles to play when preparing a quality system for a subsequent audit; these roles and related responsibilities are further clarified.

Consequently, the GAD Guidance Sheet is to ensure that both the manufacturers and notified bodies are aware of their duties and that harmonised procedure are applied by all those concerned.

114 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_c04_6-2003_en.pdf

115 http://ec.europa.eu/enterprise/sectors/pressure-and-gas/files/guidance_c05_6-2003-rev_0_en.pdf

ANNEX X: ADDITIONAL INFORMATION ABOUT THE APPLIED METHODOLOGY

The aim of the assessment was to determine whether the proposed revisions under each option would deliver net benefits.

Regarding the potential problems of the GAD other than those dealt with by the NLF, a number of issues raised by Member States, manufacturers and other stakeholders were investigated. After the IA Study (2012) had been carried out, it appeared that there is no need to extend the scope of the GAD implying that no major change is necessary. Consequently, the impacts of the revision are not significant as the issues to be dealt with concern clarification of the existing legal provisions without changing the scope. No new product groups are brought within the GAD legal framework..

As the scope and the provisions of the GAD remain unchanged, it can be concluded that the proposal does in practise not have significant economic, social or environmental[116] impacts except those minor economic and social impacts of proposed clarifications which will yet highly facilitate the application of the GAD by the economic operators through improved legal clarity and certainty. Consequently, it was impossible to derive quantitative data on any specific impacts however the expected marginal benefits have been dealt with in a proportionate way carrying out a qualitative assessment.

Economic impacts

It has been assessed whether implementation of the proposed change will entail costs to manufacturers and market surveillance authorities. For instance, clarification and technical updating of the provisions of the GAD will facilitate the application of the GAD (and the simultaneously applicable EU legislation) contributing to reduction of administrative burden and costs. This is also expected to improve the conditions for placing on the market of products across Europe by ensuring that safety and performance relevant information on the gas supply conditions will be made available for manufacturers.

As noted above, it was not possible to monetise the effects since the proposed changes do not change in practise the legal framework for gas appliances and their fittings.

Social impact

The social impact consists mainly of benefits to the health and safety of the installers and users of gas appliances. Since some of the proposed changes may slightly contribute to the reduction of accidents and fatalities caused by gas appliances like the initiative to better define the contents of the communication of the gas supply conditions in the Member States and improving the Essential Requirements, the number of gas incidents can be expected to reduce. In particular, the proposed changes may contribute through the following two mechanisms:

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[116] Environmental impacts are not considered even relevant for the proposal because they are not expected to be identifiable as none of the options are aimed at addressing aspects of gas appliances or changing their technical requirements (such as emissions of gases) in a manner which would affect their environmental impacts

- ***Proportion of unsafe products on the market:*** many of the proposed changes are likely to slightly decrease the number of products not compliant with the local gas supply conditions; the introduction of the specific design principles will slightly increase the inherent product safety and, in particular, will facilitate the work of the market surveillance authorities who will be able to more easily justify their measures in case they detect potentially unsafe products placed on the market.
- ***Reduction of legal ambiguity:*** clarification of the scope of the GAD and the relationship between the GAD and the EU energy efficiency legislation would reduce need for legal interpretation and facilitate the application of EU legislation thus enabling the manufacturers more efficiently identify which legal requirements apply to their products.

The assessment of each proposed change is based on its benefits including health and safety benefits, as well as improvements in legal clarity.

Criteria

The criteria used in the options appraisal included those being the most important directly related to achieving the objectives of the GAD as follows:

- Effectiveness of the option: the extent to which the option achieves the objectives;
- Efficiency of the option: the extent to which the objective can be achieved for a given level of resources/at least cost (cost-effectiveness); and
- Coherence of the option: the extent to which the option is coherent with the overarching objectives of EU policies, strategies and priorities.

In order to carry out the qualitative appraisal of the options, the likelihood for the generated impacts had to be determined. Thus, the gas appliance sector's expert assessment was used to estimate the extent and certainty of the impacts of an option against the efforts to be put in order to accomplish it. The findings and conclusions presented in the IA Study were carefully taken into account. A greater certainty of effect was given more weight by providing the option respectively with a lower or higher score. Consequently, the impacts of the amendments aiming to improve the legal clarity and certainty were considered in the following situations:

- Where health and safety as well as product performance related effects were considered marginal;
- Where health and safety as well as product performance related effects were considered (proportionally) significant; and
- Where there was insufficient data to determine the health and safety as well as product performance related effects.

ANNEX XI: IN-DEPTH ANALYSIS OF THE POLICY OPTIONS AND COMPETITIVENESS PROOFING

1. Scope - Product coverage

1.1. General remarks

The amendment proposes to include in the Directive appliances with a normal water temperature that exceeds 105°C. The 105°C limit was undertaken, at the time of adoption of the GAD, to avoid overlapping with national legislation covering pressure vessels. As the risks due to pressure are subject to EU product harmonisation legislation, the outdated exclusion that has required interpretation of the Directive and has enabled avoiding the application of the GAD in case the normal water temperature has been adjusted above 105°C can be removed. This will clarify the application of the GAD and ensure a more level playing field for manufacturers of products concerned.

The majority of respondents to the Public Consultation (2011-2012) were of the opinion that this exclusion can be removed (see ANNEX I for more details).

The proposal to remove the exclusion will not lead to any conflict with the current EU harmonisation legislation that has replaced the national legislation, i.e. the Pressure Equipment Directive 97/23/EC (PED), because the PED deals purely with hazards due to pressure while the GAD deals with risks due to the use of gas. Consequently, these two Directives do not overlap. Only some very low pressure hazard products already regulated by the GAD are exempt from the scope of the PED i.e. the GAD applies instead of the PED. This is considered appropriate as some of the Essential Requirements of the GAD require that gas appliances must withstand certain mechanical and thermal stresses. However, the fact that there is no risk of conflict is because of the non-overlapping scopes of these two Directives.

Despite of the removal of the exclusion of appliances with a normal water temperature exceeding 105°C, the scope of the Directive will in practise remain unchanged. Domestic appliances and appliances used in commercial and non-domestic environments do not generally have a normal water temperature above 105°C. Such appliances would include appliances used in industrial processes however they will remain excluded from the scope.

As noted earlier in this report, the market for new products moved within the scope by the amendment is assumed to be extremely marginal, if exists. It appeared not possible to identify any designs or manufacturers which would be affected. Consequently, the removal of the exclusion can be considered to have only minor or no impacts but the definitive improvement of the clarity of the scope.

Impact score: + +

1.2. Social impact

Since no data or information about incidents with gas appliances with a normal water temperature exceeding 105°C could be detected, it is assumed that the market for these products is either extremely marginal or it does not exist. The proposed change does therefore not have identifiable impacts on the number of non-compliant products.

However, the proposed change will ensure that avoiding the application of the GAD in case the normal water temperature has been adjusted above 105°C will not be possible any more

implying that it will be ensured that only safe designs can be placed on the market implying that the consumers would benefit from enhanced safety.

Impact score: 0/+

1.3. Economic impact

Since the scope of the GAD remains unchanged, the removal of the exclusion of appliances with a normal water temperature that exceeds 105°C has no identifiable economic impacts.

The Ex-Post Evaluation Study (2011) showed that the testing and certification costs account for about 0.1% of the annual sales value of gas appliances thus the costs do not appear to be significant. The costs of testing and certification under the GAD also need to be offset against the costs of meeting different requirements in different countries where a product is not subject to EU product harmonisation legislation. In general, industry considers that GAD compliance leads to benefits, particularly through reducing barriers to intra EU trade and increasing sales, while also improving safety.

If there were manufacturers affected, the balance between the additional compliance and other costs to companies from complying with the GAD and the benefits to companies from the more level playing field as well as the free movement of goods provided by the GAD should be compared.

Impact score: 0

Impact on cost competitiveness

Since the scope of the GAD remains in reality unchanged, the removal of the exclusion of appliances with a normal water temperature that exceeds 105°C has no identifiable impacts on cost competitiveness.

Impact score: 0

Impact on the capacity to innovate

The scope of the GAD will remain unchanged implying that the proposed change is neutral as regards the capacity to innovate.

Impact score: 0

Impact on international competitiveness

The scope of the GAD will remain unchanged implying that the removal of the 105°C is not considered to have any impact on the international competitiveness of EU-based manufacturers.

Impact score: 0

Impact on SMEs

The scope of the GAD is considered to remain unchanged. Consequently, no impacts on SMEs have been identified.

Impact score: 0

Table A.XI.1: Comparing the options for the proposed change 1. Scope - Product coverage; preferred option is highlighted in grey colour

	Effectiveness	**Efficiency**		**Coherence**
		Costs	**Benefits**	
Scope - Product coverage (from 7.3.1.)				

Do nothing (see 7.3.1.1.)	**0**	**0**	**0**	**0**
Soft law (see 7.3.1.2.)	**0** Specific objective not met as the outdated temperature limit of 105°C remains in the legal text making it possible to avoid applying the GAD	**-** Costs due to need for interpretation and examination on case by cases basis whether products covered by the GAD	**0** None identified because the outdated temperature limit remains in the legal text making it possible to avoid applying the GAD	**0** No change implying that the options does not contribute to better regulation and Single Market Act, but the outdated reference to 105°C remains
Legislative measure	**++** Specific objectives fully met as outdated exclusion removed; improvement of health and safety by ensuring that only safe designs can be placed on the market; clear legal situation	**0** No impact as no products with a normal water temperature exceeding 105°C were identified; in theory a more level playing field for manufacturers; one-off adaptation of the legal text	**+** Legal clarity reduces administrative burden thus costs; proactive measure ensuring safety of products with a normal water temperature exceeding 105°C	**++** Will optimally contribute to better regulation including and Single Market Act; clear legal situation

2. Sector specific terminology and definitions

2.1. General remarks

The proposal will introduce definitions for the sector specific terminology used in the GAD to clarify the definition of the scope and the Essential requirements. This change aims to significantly facilitate the use of the GAD and to reduce significantly the need for GAD Guidance Sheets. However, the proposed change will not modify the scope. Consequently, the proposal has minor impacts to the sector's stakeholders and products.

Impact score: + +

2.2. Social impact

The proposal improves the clarity of the GAD without modifying its scope or provisions. The improved legal clarity facilitating the manufacturers to deduce if their products are covered by the GAD and which requirements apply will contribute to reduction of non-compliant products on the market.

Impact score: + +

2.3. Economic impact

By adopting GAD Guidance Sheets based on a lay consensus it has been possible to ensure the consistent application of the Directive. However, occasionally need for new interpretation is required as products based on new technologies or innovative designs are placed on the market requiring determining whether they are covered by the GAD. To a great extent, this is caused by the absence of definitions for the sector specific terminology used in the Directive.

For instance, the GAD does not define what e.g. the concepts of 'cooking' or 'refrigeration' cover. If the definition was made perfectly clear then there would not be a need for any guidance on this matter. Clarification of definition will assist relevant organisations in deciding whether an appliance falls within the scope of the GAD or not. This should prevent any confusion and also reduce the administrative burden as the guidance document would not need to be referred to. The addition of clearer definitions will thus enhance the functioning of the internal market.

Impact score: + +

Impact on cost competitiveness

The existing interpretation of the terminology used in the GAD has ensured that the problem has remained small. Consequently, only very marginal positive impacts on the cost competitiveness can be expected.

Impact score: +

Impact on the capacity to innovate

Both the scope and the provisions of the GAD will remain unchanged implying that the proposed change is neutral as regards the capacity to innovate.

Impact score: 0

Impact on international competitiveness

Incorporation of the definitions for the sector specific terminology used in the GAD will be done in order to improve the clarity of the Directive. As it will not imply any changes in the scope or GAD specific requirements, the proposed modification does not have any impacts on international competitiveness of EU-based manufacturers.

Impact score: 0

Impact on SMEs

The GAD is not changed implying that there are no impacts on SMEs.

Impact score: 0

Table A.XI.2: Comparing the options for the proposed change 2. Sector specific terminology and definitions; preferred option is highlighted in grey colour

	Effectiveness	**Efficiency**		**Coherence**
		Costs	**Benefits**	
Sector specific terminology and definitions (from 7.3.2.)				
Do nothing (see 7.3.2.1.)	**0**	**0**	**0**	**0**
Soft law (see 7.3.2.2.)	**+** Specific objectives partly met but legal clarity and stability not reached as new time-consuming and burdensome interpretation needs will arise due to new technologies and innovative products being placed on the	**-** Elaboration of new interpretation will cause costs as time-consuming and burdensome examination on case by case basis will be required	**+** Slight reduction of non-compliant products as tailor-made interpretation reduces legal ambiguity resulting in some cost savings for manufacturers of products concerned	**+** Will slightly contribute to better regulation and Single Market Act; but the definitions for the sector specific terminology will remain missing from the legal text

	market			
Legislative measure	**++** Specific objectives fully met as the scope and Essential Requirements are clarified by introducing the necessary definitions in the legal text; clear legal situation	**0** No specific costs; clarification of the scope and Essential requirements will reduce administrative burden and facilitate implementation resulting in savings	**++** Legal clarity reduces administrative burden thus costs; verification whether the GAD applies is facilitated; reduction of non-compliant products thus improved safety	**++** Will optimally contribute to better regulation and Single Market Act; clear legal situation assured

3. Communication of the types of gas and the corresponding supply pressures

3.1. General remarks

The proposal is to ensure that adequate information on the types of gas and corresponding supply pressures on the territories of the Member States is made available for the manufacturers, notified bodies and other stakeholders who need this information relevant for the safety and correct performance of appliances; both of these aspects may have an impact on the design of a gas appliance and/or its fittings.

The obligation to communicate the types of gas and corresponding supply pressures used on the territories of the Member States is already included in Article 2(2) of the GAD, without however providing any requirements for the contents of the communications. The established practise is to communicate the gas families and groups, the gross Wobbe indices of these gases and the minimum/nominal/maximum supply pressures of gaseous fuels. The proposal will include a given list of parameters to be communicated as well as a template to be used.

The issue of variations in the gas qualities between the Member states will remain a framework condition affecting significantly in the free movement of gas appliances and restricting their installation and putting into service as each individual appliance is designed to be compatible with certain specific gas qualities and supply pressures. As the gas quality can also vary within one single Member State, the only means to ensure the compatibility of the product unit with the gas supply conditions at the place of its installation is to have all the necessary information on the gas supply conditions made available by harmonising the format and content of the national communications required under Article 2(2) of the Directive.

Approximately three quarters of respondents to the Public Consultation (2011-2012) would like to see additional information relating to gas supply conditions in Member States be made available. The remaining quarter considered that the harmonised European standards could deal with the gas quality issue. Also CEN needs accurate data on the types of gas and their supply pressures.

The feedback from stakeholders shows that in the short term the proposed improved Article 2(2) communication will have marginal impacts on the sector. However, the gas supply conditions in the EU are developing fast and the use of gaseous fuels from non-conventional sources increases constantly. This implies the identified problem with the inaccurate data on the gas supply conditions will get worse and worse in longer term if no action is taken. Consequently, the proposal will have significant positive impact in the long term.

Impact score: + +

3.2. Social impact

The proposed solution will be the best solution in terms of technical and legal clarity since it will stipulate precisely the parameters to be communicated as well as the format to be applied

thus ensuring that all safety and performance relevant data on the gas supply conditions would be made available.

Enabling the manufacturers to design appliances compatible with the different gas supply conditions across Europe, the overall safety of users as well as those involved in installation of appliances will be improved[117] due to reduction of non-compliant and thus unsafe designs marketed for use in the different regions of the EU. The compatibility of products with gases supplied is particularly important not only for their safety but also for ensuring and improving their energy efficiency. Adequate data on gas qualities will enable controlling the composition of the combustion products (emissions) of appliances.

Impact score: + +

3.3. Economic impact

Providing manufacturers of gas appliances with sufficient information regarding the gas supply conditions in different regions of the Member States will ensure that products are designed and developed to ensure that they operate efficiently and safely throughout the EU. Also, specifying the additional gas supply conditions along with the format in which these should be provided to the Commission by relevant national authorities will simplify the communication procedure, both for Member States and the European Commission, thus preventing confusion and reducing the administrative burden.

Improving and clarifying the methodology to determine the compatibility of individual gas appliances designs, i.e. enabling determining the "appliance category" of each design unambiguously, would also ensure that one harmonised method to refer to the compatibility of products with the gas supply conditions in the different regions of the EU in all other pieces of EU legislation thus ensuring legal clarity and consistency. Such harmonisation together with making available of adequate information on the gas supply conditions would greatly facilitate market access and bring cost savings to manufacturers.

So far that no concrete evidence of safety issues or barriers to trade have been identified that would be removed as a result of requiring additional gas supply information. Consequently, only minor immediate economic impacts can be expected. However, in medium and long term the positive impacts of the adequacy of the data on the gas supply conditions will bring significant cost savings as the means to deal with the increasing use of gases from alternative sources (e.g. different qualities of biogas) would be in place.

As the obligation to the types of gas and the corresponding supply pressures on the territories of Member States is already included in the current Article 2(2) of the GAD, the Member States already have the necessary mechanisms in place (since the adoption of the GAD in

[117] The safety of constructions workers, gas installers and users can be endangered in the future if adequate information on the types of gas and supply pressures is not available at the design phase of an appliance. As gas appliances are very sensitive to the quality of gas supplied and the supply pressure, the correct functioning of a specific appliance designs cannot be guaranteed without the safety and performance relevant information on the type of gas and its supply pressure. This may result situations where constructions workers and gas installers installing, testing and using appliances may be exposed high concentrations of substances harmful to health (e.g. high CO emissions; CO cannot be smelled or seen but even very low concentrations may lead to a serious CO poisoning and death). Also the energy efficiency level achieved by a specific design depends on the quality of the data on the type of gas and its supply pressure.

1990). Consequently, the proposal better clarifying the contents and format of the communication does not imply any economic impacts to the Member States.

Impact score: + +

Impact on cost competitiveness

It is assumed that technical (i.e. safety and performance relevant data made available) and legal (i.e. clear and stable legal provisions on the obligation to make data available) clarification will result in savings in the future though difficult to quantify. Since all stakeholders of the sector are equally affected by the proposed change, the competitive positions between different companies and other economic operators are not changed.

Impact score: +

Impact on the capacity to innovate

Availability of adequate information on the types of gas and their supply pressures is the only means to ensure that appliance designs are safe and the required energy efficiency level can be achieved. Consequently, that the adequacy of the information is guaranteed by amending the legal text itself by defining the parameters and their ranges to be communicated as well as the harmonised form of the communication to ensure the comparability of the data can be expected to contribute to the readiness of appliance manufacturers to invest in product development and facilitate the market access of advanced and even tailor made products.

Impact score: + +

Impact on international competitiveness

No specific impact on the on the international competitiveness of EU-based manufacturers can be foreseen because of the fact that the improved technical and legal clarity provided by the proposed change is limited to improving availability of intra-EU related data. The data will be available also for manufacturers located outside EU.

Impact score: 0

Impact on SMEs

No special effects on SMEs could be detected, as the proposed change affects all companies in the same way.

Impact score: 0

Table A.XI.3: Comparing the options for the proposed change 3. Communication of the types of gas and the corresponding supply pressures; preferred option is highlighted in grey colour

	Effectiveness	**Efficiency**		**Coherence**
		Costs	**Benefits**	
Communication of the types of gas and the corresponding supply pressures (from 7.3.3.)				
Do nothing	**0**	**0**	**0**	**0**
Soft law (see 7.3.3.1.)	- Specific objectives not met since adoption of guidance might result in reliance on safety relevant data without cross-checking implying that unsafe designs might enter the market,	- Costs related to developing guidance which would need to be frequently updated, lots of administrative burden due to difficulties to obtain adequate	- Issuing guidance does not guarantee reduction of non-compliant products and may even mislead stakeholders to believe that reliable data is provided although guidance is	- Will not contribute to better regulation and Single Market Act as unclear legal situation prevails

	no guarantee on adequate safety and performance related data	safety and performance related data	not legally binding interpretation	
Legislative measure (see 7.3.3.2.)	++ Specific objectives fully met as it is ensured that adequate health, safety and performance relevant information is made available; clear legal situation	++ Cost savings due to reliability of the data; reduction of administrative burden as contents and form of communication defined; means to verify the compatibility of products facilitates market access thus enabling benefit from wider markets	++ Reduction of non-compliant products; legal and technical clarity reduces administrative burden and contributes to readiness to invest on new products; product development facilitated as adequate information is available	++ Will optimally contribute to better regulation and Single Market Act; clear legal situation assured

4. Rational use of energy

4.1. General remarks

The proposal clarifies the principle issue of the relationship between Directive 2009/142/EC, in particular its Essential Requirement 3.5. on rational use of energy, and the EU legislation relating to energy efficiency like the implementing measures under the Ecodesign Directive. Furthermore, the proposal clarifies the relationship between the GAD and the other relevant EU legislation regarding e.g. the energy performance of buildings[118], the promotion of the use of energy from renewable sources[119] and cogeneration[120].

Aligning the Essential Requirement 3.5. with the main requirements as defined in the EU legislation relating to energy efficiency will facilitate interpretation and implementation of EU harmonisation legislation on the free movement of products and on environmental protection and energy savings in a comprehensive and coherent way.

The majority of respondents to the Public Consultation (2011-2012) did not consider it necessary to deal with energy efficiency within the framework of the GAD in a more concrete way, because other Directives (such as the Ecodesign Directive and Eco-labelling Directive) will specifically consider this aspect. However, a number of stakeholders highlighted that the GAD should be harmonised with the Ecodesign Directive to ensure that the requirements under each do not conflict.

Impact score: + +

4.2. Social impact

The proposal will reduce significantly need for legal interpretation and clarify the application of simultaneously applicable EU legislation thus enabling the manufacturers more efficiently comply with the legal requirements applying to their products. This will have also some positive effects on employment as it will provide clarification of the specific energy efficiency

[118] Directive 2002/91/EC on energy performance of buildings

[119] Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC

[120] Directive 2004/8/EC on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/42/EEC

requirements that manufacturers must comply with thus facilitating achieving the Europe 2020 target of a 20% increase in energy efficiency.

Legal clarity will enable and facilitate manufacturers' decision making to invest on product development which was impossible or at least difficult in case not being able to identify which those legal provisions which apply to products. It is obvious that manufacturers refrain from developing new products in case not being able to expect that the investments will bring profits. This implies that the manufacturers could not benefit from the wider range of business opportunities created by the evolution of the EU energy efficiency legislation towards more demanding performance level requirements if legal ambiguity would remain. This would affect negatively the creation of jobs.

No significant benefits to the health and safety of consumers are expected since the amendment deals with an aspect not directly influencing the safety of products. The number of products not compliant with the specific energy efficiency legislation might slightly decrease however this aspect is not an issue to be dealt with in the framework of the GAD.

Impact score: + +

4.3. Economic impact

The change is unlikely to result in any significant cost benefits in the short term except that the improved legal clarity is expected to reduce the administrative burden. However, identification of the legislation that must be complied with will be facilitated resulting in savings in the long term in comparison to the current situation where often also the national and European authorities' involvement is required in order to provide manufacturers with advice on how to interpret different pieces of harmonisation legislation, which seems to be overlapping.

In the long term, it is assumed that the manufacturers readiness to invest on product development will bring economic benefits also in the form of increasing turn-overs and profits as the probabilities to fail in product development will reduce: safe and correctly performing appliances can be placed on the market with lower costs.

Impact score: + +

Impact on cost competitiveness

As explained above, legal and technical clarification will result in some savings in the future though it is not possible to quantify them. However, it is clear that reducing the need for legal interpretation and clarifying the application of simultaneously applicable EU legislation will enable manufacturers more efficiently comply with the legal requirements applying to their products. Consequently, the unit costs per product (line) will reduce in comparison to the current situation where complex legal interpretation is often required before designing an appliance.

Impact score: +

Impact on the capacity to innovate

The proposal clarifies the application of the EU energy efficiency legislation thus enabling the manufacturers to focus on product development under stable legal conditions. This expectation concerns the future operating environment of gas appliance manufacturers implying that no specific quantitative data on the potential impacts of the change towards higher legal clarity has been possible to obtain.

Impact score: +

Impact on international competitiveness

The improved legal clarity will enable allocation of resources to research and product development with the aim of introducing sophisticated products with high energy efficient providing potentially competitive advantages.

Impact score: +

Impact on SMEs

No special effects on SMEs could be identified, as the proposed change affects all companies in the same way.

Impact score: 0

Table A.XI.4: Comparing the options for the proposed change 4. Rational use of energy; preferred option is highlighted in grey colour

	Effectiveness	**Efficiency**		**Coherence**
		Costs	**Benefits**	
Rational use of energy (from 7.3.4.)				
Do nothing (see 7.3.4.1.)	**0**	**0**	**0**	**0**
Soft law (see 7.3.4.2.)	**+** Specific objectives partly met as coherence of EU legislation only partially achieved, improved clarity regarding more specific energy efficiency legislation provided but the outdated terminology used in the GAD legal text and the very generic nature of the Essential Requirement 3.5. would continue to make it difficult to identify which regulations should be applied	**-** Costs related to developing guidance would occur because of the fast evolving situation with EU energy efficiency legislation, costs for manufacturers due to administrative burden to identify applicable legislation	**+** Guidance would slightly facilitate identification of legislation applying to products thus reducing costs; minor reduction of non-compliant products however impact falling outside the scope of the GAD where implementing measures under the Ecodesign Directive apply instead of the GAD	**0** Will contribute to better regulation and Single Market Act; but unclear legal situation remains unchanged
Legislative measure	**++** Specific objectives fully met as coherence of EU legislation is achieved; legal clarity regarding the relationship between the GAD and the more specific energy efficiency legislation is provided	**+** Administrative burden is reduced, identification of legislation applying to products is facilitated and possible overlapping of requirements is avoided resulting in cost savings; stable legal conditions and clarity may contribute to increasing turn-overs and profits	**++** Legal clarity reduces administrative burden; reduction of non-compliant products as legal clarity facilitates identifying applicable regulations; enables allocation of resources to product development as legal framework is clearified	**++** Will optimally contribute to better regulation and Single Market Act; contributes to Europe 2020 objective to improve energy efficiency; increases coherence of EU legislation; clear legal situation assured

5. Requirements

5.1. General remarks

The proposal deals with a concrete way with the few identified clarification and improvement needs of the Directive. These issues do not relate to any shortcomings, but aim to improve the readability of the legal provisions and highlight the importance to guarantee, as far as justified, the high inherent safety of products. In substance, the Essential Requirements and other legal requirements of the GAD will remain almost unchanged except the introduction of the general design principles in Annex I of the Directive. Incorporation of a specific Article on more specific legislation will simplify the application of the EU harmonisation legislation.

Impact score: +

5.2. Social impact

There are no changes regarding the health and safety or performance of products except the introduction of the general design principles implying that the proposal has minor social impacts. Improved legal clarity and readability of the GAD is assumed to facilitate manufacturers to more efficiently comply with the legal requirements thus decreasing the number of non-compliant and unsafe products on the market. The integration of explicit written design principles takes place on the request of the Member States and other stakeholders in order to highlight the importance of the application of these principles and to proactively avoid products not presenting the highest standard of inherent safety being placed on the market. Highlighting the need to carefully consider the risks due to carbon monoxide (CO) where possible will also have a minor positive impact on improvement of the safety of products.

Impact score: +

5.3. Economic impact

The responses to the Public Consultation (2011-2012) and the conclusions made in the IA Study (2012) confirmed that there are no shortcomings in the Articles, Essential requirements or other provisions of the GAD. Consequently, the proposed improvements to the GAD's legal text are mainly semantic without any or with only marginal impacts on manufacturers or product designs.

The introduction of the general design principles will not cause additional costs, because they are already part of the existing system based on the New Approach. Consequently, as the introduction of the general design principles does not add any new elements on the already existing design and manufacturing requirements, but will stress what is the approach manufacturers are expected to continue to apply in making their designs to comply with the existing requirements, there are no additional costs for those manufacturers complying already with the law.

The proposal will facilitate the work of the market surveillance authorities who will be able to more easily justify their measures in case they detect potentially unsafe products placed on the market and find it obvious that the general design principles have not been applied. Some cost savings are therefore expected.

Where manufacturers would need to modify their product designs due to introduction of the general design principles, one-off compliance costs could occur. However, neither the studies executed nor the responses to the Public Consultation (2011-2012) identified any products or manufacturers who would be affected by the change.

Impact score: 0/+

Impact on cost competitiveness

The improved legal clarity will slightly reduce the costs since legal provisions to be complied with can be identified more easily and the need for interpretation will reduce. The general design principles are already applied by the sector's stakeholders implying that no additional costs due to their incorporation in the GAD can be expected.

Impact score: +

Impact on the capacity to innovate

Since the requirements of the GAD will remain in practise unchanged, this proposal is assumed to be neutral as regards the capacity to innovate.

Impact score: 0

Impact on international competitiveness

The clarification of the Articles, Essential requirements and the other provisions of the GAD will not have impact on the on the international competitiveness of EU-based manufacturers.

Impact score: 0

Impact on SMEs

The proposal will have, in general, minor impacts. Furthermore, all economic operators are equally will be equally concerned implying that there are no specific impacts on SMEs.

Impact score: 0

Table A.XI.5: Comparing the options for the proposed change 5. Requirements; preferred option is highlighted in grey colour

	Effectiveness	**Efficiency**		**Coherence**
		Costs	**Benefits**	
Requirements (from 7.3.5.)				
Do nothing (see 7.3.5.1.)	**0**	**0**	**0**	**0**
Soft law (see 7.3.5.2.)	**0** Specific objectives partly met but impacts are marginal as no shortcomings with the current requirements were identified	**-** Minor costs related to developing guidance	**+** Improved understanding of the requirements may slightly reduce the number of non-compliant products	**+** Will slightly contribute to better regulation and Single Market Act
Legislative measure	**++** Specific objectives fully met as clarity of legal requirements is ensured; importance of inherent product safety is highlighted in the legal text; clear legal situation assured	**+** No specific costs except cost savings for market surveillance who can more easily justify measures in case of unsafe products thus some cost savings	**+** Improved readability of requirements reduces slightly administrative burden; provides means to proactively deal with potentially non-compliant products; facilitates the work of market surveillance	**+** Will contribute to better regulation and Single Market Act; improves slightly the clarity of the legal framework

6. Competitiveness Proofing

Considering the minor changes suggested to the GAD, a brief Competitiveness Proofing was carried out in order to reinforce the overall assessment of the impacts of the revision of the Directive. The aim of the exercise was to check whether the suggested changes in the legal framework for gas appliances and fittings would have direct or indirect impacts on the sector's competitiveness.

The Competiveness Study (2009), the Ex-post Evaluation Study (2011) and the IA Study (2012) all considered also aspects relevant for a sectorial Competitiveness Proofing. In particular the first two studies focused, amongst others, to aspects like cost competitiveness, capacity to innovate and international competitiveness of the European gas appliances sector while the last one carefully examined the impacts of the alternative policy options presented in this Impact Assessment Report.

In Table A.XI.1. overview of the types of impacts to the competitiveness that might be relevant to revision of the GAD. The table summarises the findings of the above sectorial studies and the outcome of the in-depth analysis presented in chapter 7. and this annex.

Since the legal framework established by the GAD will remain unchanged, the economic operators and the other stakeholders affected by the GAD will also remain the same as currently. As noted earlier, the revision represents an exercise to improve the legal clarity and stability in the sector. All the current rights, responsibilities and obligations of the different parties affected by the GAD will be maintained without introducing any new sector specific provisions except the general design principles in Annex I to the GAD.

Table A.XI.1: The types of impacts to the competitiveness which are most relevant to revision of the GAD

Impact	Positive – None – Negative
Cost and price competitiveness	
Cost of inputs	None
Cost of capital	None
Cost of labour	None
Other compliance costs (e.g. reporting obligations)	None
Cost of production, distribution, after-sales	Positive (but minor; mainly due to availability of adequate information about gas supply conditions in the Member States)
Price of outputs (directly not through the cost, e.g. price controls)	None
Capacity to innovate	
Capacity to produce and bring R&D to the market	Positive (but minor; mainly due to adequate information about gas supply conditions and clarity regarding the energy efficiency legislation)
Capacity to product innovation	Positive (mainly due to adequate information about gas supply conditions and clarity regarding the energy efficiency legislation)
Capacity for process innovation (including distribution, marketing, and after-sales services)	None
Access to risk capital	None
International competitiveness	
Market shares (single market)	None
Market shares (external market)	Positive (but minor and indirect;

	readiness to invest on highly energy efficient products for EU market improves also the Global competitiveness of industry)
Revealed comparative advantages	None

Since the legal framework established by the GAD will remain unchanged, the economic operators and the other stakeholders affected by the GAD will also remain the same as currently. As noted earlier, the revision represents an exercise to improve the legal clarity and stability in the sector. All the current rights, responsibilities and obligations of the different parties affected by the GAD will be maintained without introducing any new sector specific provisions except the general design principles in Annex I to the GAD.

The impacts identified in Table A.XI.1. have been estimated in proportional manner: as the proposed changes to the GAD are mainly aim to improve its readability and legal clarity, the impacts referred to in the table should be seen as relative to the extent of the modifications, i.e. a positive impact in the framework of the revision of the GAD would not be considered as an identifiable impact in another context dealing e.g. with concrete modification of the scope of legislation concerned.

In executing the Impact Assessment for the revision of the GAD no particular effects related to SMEs and their competitiveness have been identified.

Consequently, it can be concluded that this Impact Assessment does not need to look in greater depth at the above impacts on sectorial competitiveness.