ORGALIME

Position Paper

Brussels, 31 January 2013

Implementation Energy Efficiency Directive (EED): Comments on Draft Commission Guidelines

Orgalime fully supports the objectives of the Energy Efficiency Directive that establishes a common European framework of measures for the promotion of energy efficiency to achieve the 2020 EU objectives and pave the way for further energy efficiency improvements. As regards its implementation, it should be ambitious, harmonised and timely to succeed in its goals.
The Commission is currently developing guidelines, in cooperation with Member States, on the main provisions of the Directive with this in mind. We strongly support this Commission initiative. We particularly appreciate the open dialogue and the opportunity given to stakeholders to contribute to these guidelines.

1. Comments on Article 4 on building roadmap

Article 4 foresees that Member States shall establish a long term strategy for mobilising investments in the renovation of residential and commercial buildings, both public and private, by 30 April 2014.

To really move on the uptake of the energy efficiency in building renovations, Member States should, in our view, take into account the following principles when setting their roadmap:

- Set up a clear and simple target for all types of buildings: the building roadmap should include indicative national targets (kwh/m2) to be achieved according to the type of building (residential buildings, commercial buildings and public buildings). Such targets might be linked to incentive programmes, for example, giving negative/positive bonuses for building performance.
- Ensure consistency with existing legislation impacting the building envelope and technical installations, especially the Energy Performance of Buildings and the Ecodesign Directives.
- Use the actual energy consumption as a baseline: the reference should be made to all forms of energy usages as well as to actual energy consumption to avoid creating a gap between a theoretical approach of the building's energy performance and the reality (which could go up to 20%). The energy performance should therefore take into account three core elements related to the energy use in buildings: the reduction in energy use (via 'passive' solutions), active management and local renewable generation.
- Focus on commercial buildings: it is important to develop a distinctive roadmap for this type of buildings taking into account the current state of play:
    - Non-residential buildings represent approximately 30% of the building stock.
    - Nearly 40% of the building sector's total energy consumption is used in commercial buildings (Eurostat data, 2008)
    - Commercial buildings have a higher increase rate of energy consumption (1.5%/year) compared to residential buildings (households: 0.6%/year) since 1990.
    - There is a large gap between residential (200 kWh/m2) and non-residential (295 kWh/m2) energy consumption.

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ORGALIME aisbl | Diamant Building | Boulevard A Reyers 80 | B1030 | Brussels | Belgium
Tel: +32 2 706 82 35 | Fax: +32 2 706 82 50 | e-mail: secretariat@orgalime.org
Ass. Intern. A.R. 12.7.74 | VAT BE 414341438

This gap is increasing every year. Today, the energy consumption of non-residential buildings is increasing much more rapidly than that of households. In addition, the frequent change of activity in commercial buildings (every 3 to 5 years) as well as the higher energy bills gives a strong financial incentive to develop renovation policies tailor-made to this specific sector.

- Include reference to the standard EN 15232 ("Energy performance of buildings – Impact of Building Automation, Controls and Building Management"), which describes methods for evaluating the influence of building automation and technical building management on the energy consumption.
- Initiate or support the funding of energy saving measures, such as the UK's Green Deal or the Dutch National Energy Fund, in order to stimulate the market that is stuck in all Member States due to the current economic crisis.

Orgalime recommendations:

The guideline on Article 4 should include key recommendations for Member States to develop a long term strategy for mobilising investments in the renovation of buildings renovations, including the following principles:

- Set up a clear and simple target for all buildings according to the type (residential buildings, commercial buildings and public buildings)
- Ensure consistency with existing legislation impacting the building envelope and technical installations
- Use the actual energy consumption of buildings as a baseline scenario
- Develop a specific roadmap for commercial buildings
- Make reference to existing standards
- Initiate or support funding schemes for energy saving measures.

2. Comments on Article 5 on the exemplary role of public bodies' buildings

Regarding the definition, it would be useful to include the definition of "central government" (provided in Article 2.9) in the main part of the guideline document rather than in the annex. In addition, the guideline document refers to two possible references (Annex IV of the Public Procurement Directive 2004/18/EC and Eurostat) to help in establishing which institutions are qualified as central government. These definitions might also be included in the guideline.

As regards the scope of the obligation, Article 5 requires Member States to ensure that 3% of the total floor area of heated and/or cooled buildings owned and occupied by their central government is renovated. In addition, Article 5 states that Member States may extend the renovation "*to floor area owned and occupied by administrative departments a level below central government*".

The guideline should, in our view, specify that the renovation of central government buildings is the minimum to achieve, but the annual renovation target might also be extended to buildings owned and occupied by administrative departments a level below central government, i.e.: local authority.

The guideline should encourage the public authorities to adopt an energy efficiency plan (including specific energy saving, efficiency objectives and actions) to be used as a roadmap to ensure consistency and coherence of renovation of public buildings. The guideline should, in our view, also list different available alternatives to finance building renovations, such as the use of Energy Performance Contracting (EPC) and Energy Service Companies (ESCOs), which are mentioned in Article 5.7.(c) and have already proved to be cost effective in some EU Member States.

To facilitate the EED's implementation, the guideline should, in our view, help Member States to enforce its provisions consistently with other EU legislation, such as the Energy Performance of Building Directive. For example, the EED refers to various words to designate building renovation,

ORGALIME aisbl | Diamant Building | Boulevard A Reyers 80 | B1030 | Brussels | Belgium
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Ass. Intern. A.R. 12.7.74 | VAT BE 414341438

such as “deep renovations” in Article 4, “comprehensive renovation” in Article 5 or “substantial refurbishment” in Article 2, while the EPBD refers to "Major renovations" (Articles 2 and 7). We therefore suggest specifying a common understanding in the guideline to ensure that all provisions related to building refurbishment will be enforced, in the same way.

In addition, Article 5 further specifies that Member States “*may choose to consider the building as a whole, including the building envelope, equipment, operation and maintenance*”. This option should also be highlighted in the guideline.

Besides the renovation of the building envelope and its technical installations, it is of utmost importance to change the behaviour of its occupants so as to achieve measurable improvements in term of energy reduction. As this is complementary to the renovation of the building itself, the need to encourage behavioural change of occupants should be mentioned in the guideline, since it will allow the investments in renovation to deliver their full potential. Measures impacting occupants’ behaviour include a wide range of active energy management technologies and solutions. The guideline should also emphasise the need to give further visibility on the actual energy consumption in the guideline. Indeed, the visualisation of the energy performance achieved is an indispensable prerequisite to effective energy management and can lead to up to 10% incremental energy saving. It is also the starting point for energy renovation as it allows a better understanding of patterns related to energy uses per room in a building and/or usage zones, which is one of the most powerful ways to achieve significant energy savings.

As regards the example of options to fulfil the target (Section 4, pages 4&5), the figures shown in the example 2 calculation tables seem to contain some inconsistencies:

- ‘Alternative’ approach table: the column ’d’ suggests that the building floor area is expressed in 1000m2, while the figures entered are shown in m2
- Sub-Option one and Sub Option two tables: in both cases, the column ‘d’ heading again, is expressed in 1000m2 yet the figures entered are shown in m2

Orgalime recommendations

The guideline on Article 5 should be amended as follows to:

- Include the definition of “central government” (provided in Article 2.9) in the main part of the document
- Include the content of the two indicated references in the guideline to explain which institutions might be qualified as central government
- Specify that the renovation of central government buildings is the minimum to achieve and that the annual renovation target might also be extended to buildings owned and occupied by administrative departments at a level below central government
- Encourage adoption of national energy efficiency plans for public building renovation
- List different available alternatives to finance building renovations, such as the use of EPC and ESCOs
- List different available alternatives to finance building renovations, such as the use of EPC and ESCOs
- Specify a common understanding of all terms used in the EED and the EPBD to designate building refurbishment to ensure consistency in the implementation of EU legislative framework
- Specify that Member States “*may choose to consider the building as a whole, including the building envelope, equipment, operation and maintenance*”
- Encourage Member States to adopt measures to change behaviours of public building occupants and make visible the actual energy consumption of the building for occupants

ORGALIME aisbl | Diamant Building | Boulevard A Reyers 80 | B1030 | Brussels | Belgium
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3. Comments on Article 6 on the purchasing by public bodies

Orgalime recommendations:

If this is not already done, Orgalime suggests foreseeing the process to update the guideline on Article 6 according to the outcome of the review Public Procurement Directive (2004/18/EC) that is currently on-going.

4. Comments on Article 7 on the energy efficiency obligation schemes

In establishing the total amount of energy to be saved, Article 7.1 of the EED allows Member States to exclude partially or fully the energy used in transport. However, points 8, 12, 13 & 30 of the guideline (version of 29.10.2012) suggest that "energy used in the transport sector" could be exempted. This is, in our view, a misinterpretation of Article 7.1 that actually states "energy (…) used in transport". The difference in wording is important as the energy in the transport sector could include energy used in buildings associated with transport whereas the EED text relates to the energy used in transport itself. The word sector should be deleted so that buildings in the transport sector could be included as part of the obligations under the EED. The reference to the transport sector should therefore be amended in order to clarify that only the energy used in transport might be exempted, while the energy used in other activities in the transport sector, such as buildings, is not excluded.

As regards savings arising from individual actions, Annex V (part 3.c) states that "*the activities of the obligated, participating or entrusted party must be demonstrably material to the achievement of the claimed savings*". Point 34 (version of 09.11.2012) illustrates this with an example that allows understanding the spirit of the legal provision. However, the significant contribution should be further specified. Indeed, the example given shows that a €1 contribution to a measure costing €300 is not a material contribution, but there is no indication of what level of contribution to the €300 cost would be classified as a significant material contribution. We would therefore suggest adding a minimum percentage contribution.

As regards the measurement of energy savings to be attributed to individual actions (point 50, version of 29.10.2012), the guideline suggests that 'deemed' and 'scaled' estimates are the most commonly used. However, there is no mention that the data obtained from metered savings can be used in further schemes to move them from a 'scaled' estimate to a 'deemed' estimate. This should, in our view, be specified since this would improve the accuracy of the energy saving assessments.

In addition, there is a recommendation to publish deemed and scaled estimates "*to ensure that all stakeholders have access to a common database*". However, the maintenance of such databases and their access is not addressed. Indeed, it would be very useful to have a common repository for such information, but it will need to be constructed and maintained by somebody: who will take on this responsibility?

As regards the design features of policy measures, the guideline should, in our view, propose advice to ensure an ambitious implementation of an energy efficiency obligation scheme or alternative measures. We have identified the following recommendations that would facilitate the objective of Article 7:

- Opening the system and measures to any interested party enabling long-term investment in demand side management technologies.
- Ensuring a fair level playing field for all key players of the Energy Supplier Obligation
- Protecting Energy Services Companies (ESCOs) from unfair practices and giving them the right to deliver energy savings on behalf of obligated parties (e.g. in Italy).

- Nominating independent authorities to select technologies eligible to achieve a cumulative 1,5% energy savings objective and consulting all stakeholders (including technology providers) in the process.
- Promoting technology combining a good "Return On Investment" and positive environmental impact in the lifetime savings methodology, besides common methods and principles already provided in the Directive for calculating the impact of energy efficiency obligations schemes (based on either deemed, metered, scaled or surveyed savings)
- Applying the Energy Supplier Obligation (ESO) to all sectors (residential, commercial and industry) in order to achieve the highest energy savings potential
- Promoting measures on energy efficiency in the distribution grid: the energy network loss is about 6.5% in Europe. This figure is often higher in the distribution network and is a serious issue for some countries (as stated in the Eurelectric Report, 2010, "Power Statistics").

The EED foresees a review of provisions laid down in Article 7 and their implementation by 30 June 2016. This review may result in changes, in particular the final date and extension of the requirements. We suggest mentioning the review and its possible consequences in the guideline since it may impact Member States implementation and long term measures.

Orgalime recommendations:

The guideline on Article 7 should be amended as follows to:

- Clarify that only the energy used in transport might be excluded from the energy efficiency obligation scheme, while the energy used in other activities in the transport sector, such as buildings, is not excluded.
- Specify further the principle of "significant contribution" for savings arising from individual actions, for example in giving a minimum percentage for contribution.
- Specify that data obtained from metered savings can be used in further schemes to move them from a 'scaled' estimate to a 'deemed' estimate.
- Mention the review of Article 7 provisions and their implementation, scheduled by 30 June 2016.
- Include key recommendations for Member States to put in place energy efficiency obligation schemes or alternative measures, including the following ones:
  - Opening the system and measures to any interested party
  - Enabling long-term investment in demand side management technologies.
  - Ensuring a fair level playing field for all key players of the Energy Supplier Obligation
  - Protecting ESCOs from unfair practices and give them the right to deliver energy savings on behalf of obligated parties
  - Nominating independent authorities to select technologies eligible to achieve energy savings objectives and consulting all stakeholders
  - Promoting technology combining a good "Return On Investment" and positive environmental impacts in the lifetime savings methodology, besides common methods and principles already provided in the Directive
  - Applying the Energy Supplier Obligation (ESO) to all sectors: residential, commercial and industry
  - Promoting measures on energy efficiency in the distribution grid

5. Comments on Article 8 (energy audits and energy management systems)

The definition of "micro, small and medium-size enterprises" traditionally varies from one EU Member State to another. We therefore welcome the reference to the Commission recommendation 2003/361/EC that provides a harmonised definition of "micro, small and medium-

ORGALIME aisbl | Diamant Building | Boulevard A Reyers 80 | B1030 | Brussels | Belgium
Tel: +32 2 706 82 35 | Fax: +32 2 706 82 50 | e-mail: secretariat@orgalime.org
Ass. Intern. A.R. 12.7.74 | VAT BE 414341438

size enterprises", which ensure an EU wide approach. This necessary harmonisation avoids inconsistent requirements for companies operating in different EU Member States.

Annex VI (b) states that energy audits must "*comprise a detailed review of the energy consumption profile of buildings or groups of buildings, industrial operations or installations, including transportation*". The guideline should, in our view, specify further this requirement to ensure an EU-wide harmonised approach thereby helping companies to draw the line between what to include and not (i.e.: should clusters be handled as one unit or many buildings? What about companies with different units, some of which might fall under the SME definition?). The energy audit of a building should, in our view, include the building envelope, but also the technical installation, the internal equipment, the controls equipment and the operation of the building (see also currently developing standard EN 16247-1) and the impact of occupant activity on energy consumption. The guideline might provide an indicative checklist to carry out the energy audits of buildings, including a series of items such as the lighting systems, the HVAC equipment and controls as well as the building automation management, the insulation of the building's shell and occupants' activities. Annex VI includes "transportation" in the energy audit. This term should also be further specified (what transport activities are meant to be included in the energy audits? Transport within a site? Transport between sites?).

As regards energy management systems, point 17 (version of 26.10.2012) should list relevant European and International standards available today, such as EN ISO 50001 (energy management systems), EN 16247-1 (energy audits) or EN ISO 14001 (environmental management systems), or make reference to the ones listed in point 22. The reference to European or international standards will ensure an identical implementation in all EU Member States and allow companies with activities in many countries to use the same system in all locations.

It is of utmost importance that mandatory audits for large companies do not hamper investments already made by industries and Member States in the context of national voluntary and long term agreements. With this in mind, Article 8.5 guarantees that companies implementing energy audits in the context of voluntary agreements, under specific conditions, are considered as compliant. A concrete example might be added to point 24 (version of 26.10.2012) to illustrate this provision and make it better understandable.

The EED requires Member States to put in place certification schemes for energy auditors. The guidelines states that "*a standardized curriculum for energy auditors can lead to more high-quality performed energy audits*". Therefore, the guideline should go further and encourage Member States to share best practices, but also to harmonise training and certification schemes to ensure consistency of energy audits across the EU as well as to open the European market for energy auditors.

Orgalime recommendations:

The guideline on Article 8 should be amended as follows to:

- Specify further the Annex VI.b provision requiring energy audits to include a detailed review of the energy consumption profile of buildings
- Include an indicative checklist to carry out the energy audits of buildings, including the building envelope, technical installations, the controls equipment, the operation of the building and impact of occupant activity on energy consumption
- Include a list relevant European and International standards available today as regards energy management systems
- Add a concrete example illustrating Article 8.5, which guarantees compliance with Article 8 requirements for companies implementing energy audits in the context of voluntary agreements
- Encourage Member States to share the best practices as regards certification schemes for energy auditors
- Encourage Member States to harmonise training and certification schemes to ensure consistency of the energy audits across the EU as well as to open the European market for the energy auditors

6. Comments on Article 9 (Metering)

Article 9.1 adopts the wording of the End-use Efficiency and Energy Services Directive from 2006 (2006/32/EC). The formulation: "*in so far as it is technically possible, financially reasonable and proportionate in relation to the potential energy savings*" leaves great room for interpretation – and enough loopholes for Member States that may not want to implement smart metering. More explicitly, with a view on article 9.1(a), we believe that potential energy savings are not the only quantifiable positive benefits resulting from a smart meter roll out. Not quantifying other benefits such as improved reading and switching processes, increased competition, improved process handling of consumer complaints, etc. leaves too much room for subjective interpretations on the cost-effectiveness of smart meter roll-out in relation to the estimated potential savings in the long term. It should be recommended that Member States quantify all realistic benefits in their CBA and report them to the European Commission.

In Article 9.2 reference is made to the Interpretative Note on Directives 2009/72/EC and 2009/73/EC (the so-called 3rd Energy Package). In this note, the Commission makes clear that the smart meter "*should promote services that facilitate energy efficiency with the home*." In the Commission Recommendation on the preparations for the roll-out of smart metering systems, C (2012) 1342, the Commission lists what it sees as minimal functional requirements for smart metering. Virtually all of the functionalities listed in the Recommendation correspond to the requirements in the EED:

- Remote reading/two-way communication (a)
- Allow frequent readings
- Advanced tariff systems
- Secure data communications (b)
- Provide information on import/export (d)

The installation of smart meters as foreseen by the abovementioned Directives is a crucial enabler for energy efficiency within the home. Member States should be made aware that the stipulations in article 2 in fact refer to the additional functionalities identified by the European Standardisation Mandate 441. Of key importance in this respect, is the functionality to provide real-time information on energy consumption/generation via an in-home interface.

ORGALIME aisbl | Diamant Building | Boulevard A Reyers 80 | B1030 | Brussels | Belgium
Tel: +32 2 706 82 35 | Fax: +32 2 706 82 50 | e-mail: secretariat@orgalime.org
Ass. Intern. A.R. 12.7.74 | VAT BE 414341438

Article 9.2(a) stipulates that "*the metering systems provide final customers information on actual time of use and that the objectives of energy efficiency and benefits for the final customers should be taken fully into account when establishing the minimum functionalities of the meters and the obligations imposed on market participants*." Again, there is no reason to re-invent the wheel: the minimum functionalities described in C (2012) 1342, as well as the additional functionalities identified by the Smart Metering Coordination Group (SM-CG) accompanying standardization mandate, M441 will meet this requirement.

a. Sections (c) and (d) of Article 9, Paragraph 2, deal with the import of electricity into the grid from the final customer's premises. Smart meters can measure electricity fed into the grid, as well as electricity consumed. Today there are meters on the market that are able to measure import and export energy in one meter. The energy types stored in different internal registers and can be displayed or transmitted separately.
b. Paragraph 2, section (e) requires that "*appropriate advice and information be given to customers at the time of installation of smart meters*". Public information is often the deciding factor in a successful rollout of smart metering. Therefore, an information campaign and objective information to individual consumers on the technology being deployed as well as the functionalities and benefits of smart metering is crucial.

To ensure consistency with other EU legislation, the guidelines (especially point 17) should be more precise and state that all metering instruments, including utility metering for electricity, natural gas, district heating, district cooling and domestic hot water should be compliant with Directive 2004/22/EC on measuring instruments.

Orgalime recommendations

As regards the implementation of Article 9, Orgalime believes that the following key principles should be adopted:

- Quantify all realistic benefits from smart meter roll out into Member States' cost benefit analysis (CBA) and report to the European Commission
- Take into account all minimal functional requirements, set out in Commission Recommendation (C (2012) 1342), for the roll-out of smart metering as well as additional functionalities identified in the European Standardisation Mandate 441
- Give particular emphasis to providing real-time information to consumer on energy consumption/generation via an in-home interface
- Set up an information campaign and supply objective information to individual consumers on the technology being deployed as well as its functionalities and benefits in order to support a successful rollout of smart metering

In addition, the guideline on Article 9 should specify that all metering instruments, including utility metering, should be compliant with Directive 2004/22/EC on measuring instruments.

7. Comments on Article 12 (Consumer information and empowering programmes)

Article 12.1 requires Member States to take appropriate measures to promote and facilitate an efficient use of energy by small energy consumers, including domestic customers. Orgalime believes that the most crucial instruments to inform and empower consumers include the support of a consumer interface and informative billing. These tools will incentivise and encourage consumers to control and manage their energy consumption better, making more energy-efficient choices leading ultimately to more sustainable energy consumption patterns and significant energy savings. This is in line with the recommendation of the Council of European Energy Regulators (CEER), which recommends that information should be fed back to final consumers through a choice of at least two communication channels, for example an in-home display, website, SMS, via

smartphones etc. Numerous studies have shown that direct feedback on consumption is crucial to achieving maximum energy savings, and In-Home Displays achieve the best results.[1]

Regarding the behavioural change of energy customers, it is important that consumers can quickly understand their historic consumption, actual consumption and prices, and compare themselves to their peers. Article 12.2.b provides examples of measures to engage consumers during the possible roll-out of smart meters. The Commission guidelines should, in our view, more specifically include awareness-raising campaigns and education, as well as active engagement in demand response programmes as these are necessary preconditions to make consumers actively participate in the new energy age. Indeed, consumers need to be encouraged to take up offers provided by new innovative technologies. Ultimately this will enable consumers to make informed, beneficial and energy-efficient choices in the future, laying the foundations for the consumer to become smart.

Finally, we believe that the best way to introduce the smart meter concept to consumers is to initially focus on delivering timely and accurate readings; and subsequently to utilise fully (or facilitate other market players in introducing) the more advanced technologies such as in-home displays and more intelligent energy management. This would bring consumers along on a step by step process.

Orgalime recommendations

As regards the implementation of Article 12 and the drafting of a specific guideline, Orgalime believes that the following key principles should be adopted:

- Support the roll out of a consumer interface and informative billing to comply with information provision and consumer empowerment
- Set up awareness-raising campaigns and education as well as active engagement in demand response programmes as these are necessary preconditions to make consumers actively participate in the new energy age
- Bring consumers along on a step by step process by introducing first the smart meter concept (initially focusing on delivering timely and accurate readings) and subsequently utilising the more advanced technologies, such as in-home displays and more intelligent energy management

8. Comments on Article 15 (energy transformation, transmission and distribution)

Article 15 sets objectives and requirements for key actors in the energy transformation, transmission and distribution chain. The engineering industries can contribute to the achievement of these objectives through providing energy efficient products services and technologies, such as energy efficient power transformers that improve network efficiency. Our industries welcome the initiative on the deployment of smart grid and energy storage technologies, and are committed to support customers as required. The role that technology providers can and must play should not be underestimated.

It is in our view of utmost importance to ensure the development of demand response programmes in energy markets. Open, transparent and easily accessible markets will be developed through the removal of existing barriers (especially for ancillary services) and by ensuring that all qualifying demand-side options are fully able to participate in these markets, both directly and through aggregators. Today, national regulations do not recognise the potential of demand-side resources.

[1] Complementary information on historical consumption (any day, week, month, year from the start-up of intelligent metering) and other useful information allowing for more detailed self-checks by the consumer (e.g. graphic evolutions of individual consumption; benchmarking information, cumulative consumption/savings/spending from the beginning of each contract, proportion of the individual consumption from renewable sources of energy and related CO2 savings, etc.) can be made easily accessible either directly through *the in-home display and at least one other type of direct feedback.*

ORGALIME aisbl | Diamant Building | Boulevard A Reyers 80 | B1030 | Brussels | Belgium
Tel: +32 2 706 82 35 | Fax: +32 2 706 82 50 | e-mail: secretariat@orgalime.org
Ass. Intern. A.R. 12.7.74 | VAT BE 414341438

However, a comparable treatment should be reserved for both demand-side and supply-side resources, that should recognize at the same time that their characteristics are different.

Although it is not required in the Directive, the guidelines should, in our view, suggest to Member States to set up a roadmap promoting the implementation of demand-response programmes at national level. A coordinated and speedy deployment of technologies is necessary to facilitate the participation of end-users in demand-response programmes, such as building automation and control technologies. It is recommended to promote a roadmap that will demonstrate how the demand-side resources' potential will be unlocked in various critical markets (from capacity to ancillary services) in liaison with others articles of the Directive, such Article 4 for buildings and Article 7.

Orgalime recommendations:

The guideline on Article 15 should be amended as follows:

- Highlight more strongly the need to develop an open, transparent and easily accessible energy market through the removal of existing barriers and to ensure that all qualifying demand-side options are fully able to participate in the market
- Suggest to Member States to develop a roadmap promoting the implementation of demand-response programme at national level