ORGALIME

Position Paper

Brussels, 8 June 2012

ENERGY ROADMAP 2050
Tackling tomorrow's challenges now:

Recommendations for realising the transition to an ever more modern, energy sustainable while competitive and worth-to-live in European society

Orgalime is pleased to provide its contribution to the ongoing debate on the Commission's Energy Roadmap 2050 in view of European and national regulators' further proceedings on the matter and in preparing its implementation.

Our contribution is structured as follows:

- Section 1: Introducing the background to Orgalime's perspective on Energy Policy
- Section 2: Orgalime's assessment of the Energy Roadmap 2050
- Section 3: Orgalime's recommendations for the implementation of the Roadmap
- Annex of Orgalime's main Energy Policy Related Positions

EXECUTIVE SUMMARY

Orgalime comments the Energy Roadmap 2050 from multiple perspectives: The industry is the key enabling industries of an energy efficient European society throughout all areas and market segments, be they professional or private. At the same time the industry is a major energy using industry and most of its sectors are being deemed exposed to a significant risk of carbon leakage, hence, energy costs impact the global competitiveness of the sector. Finally, our industries are the "only" target of the Ecodesign and related Energy Labelling Directives and their implementation on some 42 different product groups.

Orgalime warmly welcomes the Energy Roadmap: it launches an urgently needed thorough discussion on the modernisation of Europe's current energy supply and seeks to develop **a long term European technology neutral framework** in which European and national policies should become more effective, with a view to providing greater predictability and certainty for investment, growth and jobs in Europe and overall welfare for its people in a modern society.

We are convinced that Europe's future energy supply is the basis for shaping our future: **closing the gap in European-wide harmonisation with ambition while realism** to not hamper the competitiveness of European industries on a global scale and its growth in the internal market is the common responsibility, and we believe, also the common interest.

Orgalime, the European Engineering Industries Association, speaks for 34 trade federations representing some 130,000 companies in the mechanical, electrical, electronic, metalworking & metal articles industries of 22 European countries. The industry employs some 10.2 million people in the EU and in 2011 accounted for some €1,666 billion of annual output. The industry not only represents some 28% of the output of manufactured products but also a third of the manufactured exports of the European Union.

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Orgalime widely agrees with the findings, conclusions and identified scenarios and options of the Energy Roadmap, and feels that the Energy Roadmap is a comprehensive and promising step for shaping the future of Europe's energy systems. However, **clear, determined and unequivocal action has to urgently follow:**

Our industry has the following core recommendations for the implementation of the Roadmap:

- A competitive, secure and environmentally sustainable future energy system is feasible: now is the time to act
- Europe cannot compete on labour, but on excellence: each Euro invested in infrastructures (energy, transport and digital) creates growth, jobs and welfare in Europe and for its citizens
- Whatever scenario, smart grids are a "no alternative option": hence, we request establishing a common understanding and framework for the future
- Enabling a framework for research, development, innovation and investment is an additional "no regrets option"
- We recommend establishing a comprehensive, integrated and holistic EU framework for the new system, including the common denominators for future national energy mixes, for support schemes, for avoiding carbon leakage and for driving research, development and innovation in a low carbon economy,
- Improve energy efficiency where it is most cost efficient: According to the Roadmap, the High Energy Efficiency scenario and also the Diversified Supply Technology scenario lead to the lowest electricity price.
- Security and reliability of supply require (at least in the medium term) "Gasification" next to "Electrification" and "Renewables"
- Technology neutrality is key – let market forces play
- Investments are needed throughout the market segments: solving the financial crises and developing competitive, new financial products is urgent
- Consumer empowerment programmes are needed to develop "Prosumers" of the future
- Common challenges require common answers, at EU and global level and across the different stakeholder groups and interested parties affected

Our industry's role, assessment and more detailed recommendations for the implementation of the Energy Roadmap 2050 are specified hereafter:

1. Introduction: Background to Orgalime's perspective on Energy Policy

The European engineering industries, which Orgalime represents at European level, are involved throughout the different stages of the energy and electricity value chains:

- The industry as the key technology provider for the generation, transmission and distribution of energy from all energy sources, including electricity, gas and RES, and thereby **the enabler** of a low carbon, environmentally friendly and generally sustainable energy system in Europe.
- It is the core business of the industry to provide **ever more sustainable and energy efficient end use equipment to other energy use-industries** (such as chemical, automotive or food) to better manage their energy consumption, **as well as to private consumers** for their daily life.
- As the ("only") target of the Ecodesign of Energy Related Products and Energy Labelling Directives, **Orgalime industries are** through the implementation of the initial Ecodesign Working Plan "only" already **contributing with an estimated 222 TWHs estimated energy savings to the realisation of Europe's energy efficiency objectives**. Being noted that most promising product groups with most savings potentials remain to be finalised.

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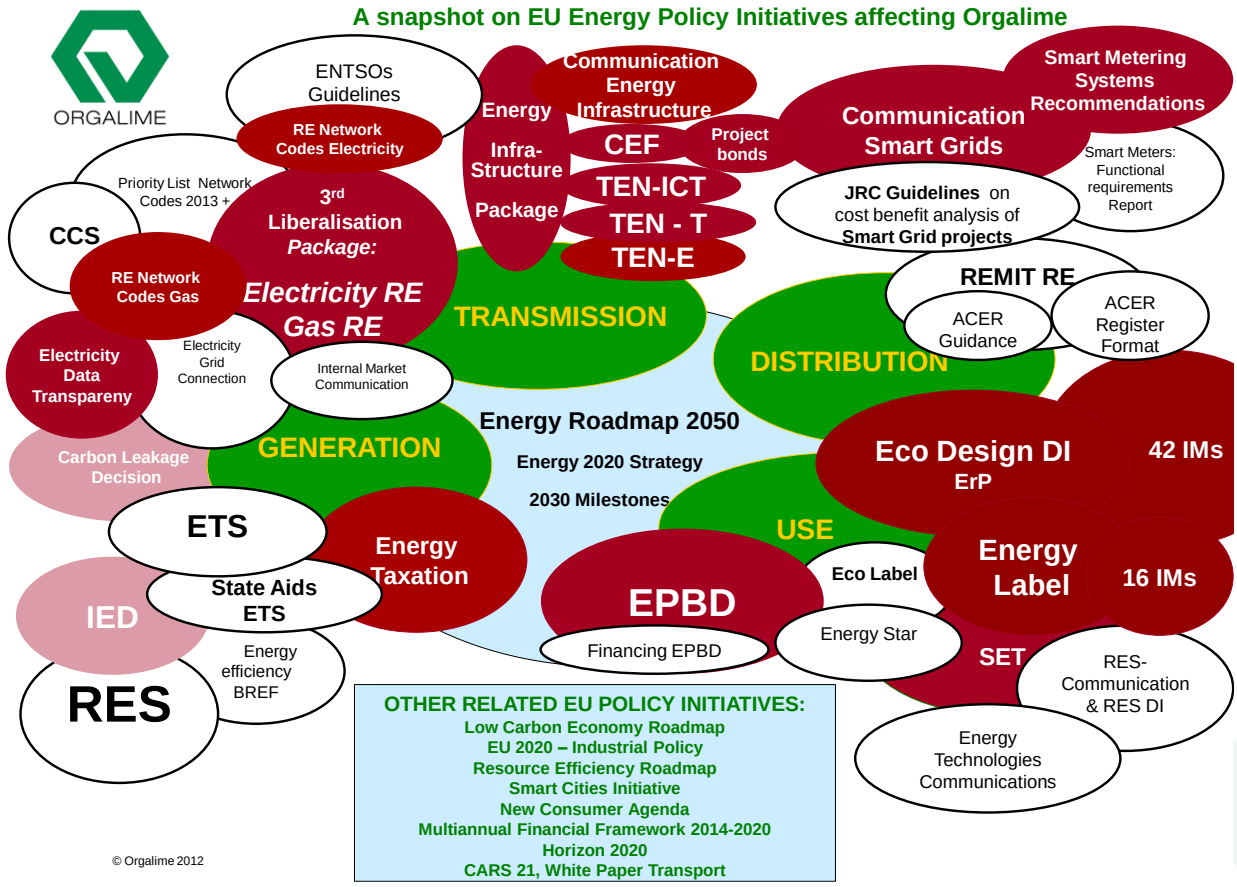
- At the same time, the industry is a significant energy user for its own manufacturing processes and related operations in Europe and hence, a major client of energy utilities – as such, there are cases, where our industry suffers from negative knock on effects and costs, such as from the implementation of the EU Emission Trading System.
  This is essential as most of Orgalime's sectors are listed in the Commission's Decision 2010/02/EU as being deemed exposed to a significant risk of **carbon leakage. Energy costs** are thus **a competitiveness factor in our industry,** and can directly impact investment decisions of companies.
- Finally, the industry is a **major export industry** and world leader in many sectors and technologies that deliver future growth and jobs in Europe and elsewhere in the world.

Considering this mix of roles in the energy/electricity value chain, the following energy policy initiatives affect Orgalime industries, by either representing an opportunity or risk, or both:



2. Assessment of the Energy Roadmap 2050

Orgalime warmly welcomes the Energy Roadmap: it launches an urgently needed thorough discussion on the modernisation of Europe's current energy supply and seeks to develop **a long term European technology neutral framework** in which European and national policies should become more effective, with a view to providing greater predictability and certainty for investment, growth and jobs in Europe and overall welfare for its people in a modern society. This, we fully support.

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However, the task ahead is tremendous: it requires overcoming barriers and existing behaviour, building confidence and an atmosphere of trust and cooperation throughout affected stakeholders, national and European regulators and the different societal groups.

We are convinced that Europe's future energy supply is the basis for shaping our future: **closing the gap in European-wide harmonisation with ambition while realism** to not hamper the competitiveness of European industries on a global scale and its growth in the internal market is the common responsibility, and we believe, also the common interest.

Orgalime widely agrees with the findings, conclusions and identified scenarios and options of the Energy Roadmap and in particular the following:

- The findings that postponing investments will create greater disruption in the longer term and increase overall costs: the IEA World Energy Outlook 2011 argues that on a global level, for every 1 US-Dollar of investment avoided in the power sector before 2020 an additional 4.3 US-Dollar would need to be spent after 2020 to compensate for the increased emissions.
- The important role identified for technologies, and that investments in power plants and grids, in industrial energy equipment, heating and cooling systems, smart meters, insulation material, more efficient and low carbon vehicles, devices for exploiting local renewable energy sources, sustainable energy consuming goods will have a widespread impact on the economy and jobs in manufacturing, services and other sectors and create major opportunities.
- While forecasting the future is not possible, however, this is indeed the time to determine the routes towards a new energy system, to address its challenges and to develop a common understanding of the key features for the transition to a low carbon energy system, albeit respecting the boundaries for decarbonisation, namely security of supply and competitiveness of EU industries, including European engineering industries.
- Identifying the "no regret" options of "more renewables", "more energy efficiency" and "new, flexible infrastructures" as the way forward to bringing down emissions in an economically viable way.
- Identifying the High Energy Efficiency scenario and also the Diversified Supply Technology scenario as leading to the lowest electricity price.
- Promoting the integration of local resources and centralised systems (more decentralisation) with new flexible infrastructure development at the core, increased demand response, flexible gas capacities at competitive prices and new gas infrastructures along the North-South axes to foster the creation of well functioning gas wholesale markets in the whole EU: An electricity market that is opened to competition, smart grids, energy service companies, flexible consumption and demand side management gives a lot of possibilities for customers to make rational and cost effective decisions to save electricity and reduce the effects of fluctuations in renewable generation.
- The important future role acknowledged for Carbon Capture and Storage, if commercialised, to significantly contribute in most scenarios.
- The inclusive approach of all sources of energy for existing and future (national) energy mixes.
- Concluding that any of the scenarios requires better, smarter and more flexible infrastructures and therefore more European harmonisation and integration.
- Promoting a unified and effective approach to energy sector incentives to mobilise investors.
- Engaging the public as a fundamental prerequisite for change: citizens need to be better informed and convinced of the advantages to make them finally "buy in".
- Identifying the key challenge for Europe to enable market actors to drive down the costs of renewable energy through improved research, industrialisation of the supply chain and more efficient policies and support schemes.

- Proposing that the EU should contribute directly to scientific projects and research and demonstration programmes, building on the Strategic Energy Technology Plan (SET Plan) and the next Multiannual Financial Framework, and in particular Horizon 2020, to invest in partnership with industry and Member States to demonstrate and deploy new, highly efficient energy technologies on a large scale.
- Driving the change internationally as Europe does not stand alone: the EU's commitment to reduce Greenhouse gas emissions to 80-95% below 1990 levels by 2050 is very challenging, but not impossible. It is however clear that developed countries must act simultaneously as a group as Europe cannot solve the global challenge of climate change.

Hence, we feel that the Energy Roadmap is a comprehensive and promising step for shaping the future of Europe's energy systems and we call for its urgent implementation.

Nevertheless, there are some concerns that we wish to summarise as follows and which we request regulators to take into account in their further proceedings and the future implementation of the Roadmap:

- While the costs of postponed action are mentioned, the **cost of not acting** presents the highest risk in our view and should therefore equally be taken into account.
- The **increased role that is** announced for **energy from renewable energy sources** to play in the future energy mix, which we support in general, gives nevertheless rise to a series of uncertainties and risks, which need to be addressed: these include the issues of network stability, availability of reliable backup energy sources/systems or the negative impacts of long term subsidies on market and investment to name but a few.
  An increase in RES should in our view not compromise security of supply, network stability and affordability of energy, as this would seriously impact the competitiveness of European engineering industries at global scale.
  The promotion of RES should at the same time not create other negative, unsustainable environmental impacts, such as overuse of land and raw materials, metals or biomass. Targets need to be realistic.
- **The level of the future energy price and wider energy costs**: the Roadmap suggests accepting an increase of energy prices until 2030 and relying on its decrease afterwards. The challenge for sectors exposed to carbon leakage is therefore imminent: how can they survive until 2030? Appropriate provisions in the Energy Taxation Directive and ETS State Aid Guidelines and perhaps a mechanism similar to the allocation of free allowances in the ETS can play some role to alleviate the immediate risks, but sustainable long-term solutions, perhaps in the context of creating the internal market, should be sought.
- The outlook that "*All decarbonisation scenarios show a transition from today's system, mainly based on high fuel and operational costs, to an energy system based on higher capital expenditure and low fuel costs*" may be overoptimistic: fuel costs depend also on economic growth. Demand for fossil fuels especially in rapidly growing Asian countries, may continue to keep fuel prices high.
- We are, to say the least, sceptical that **the 2014 deadline for the implementation of the 3rd energy liberalisation package** will be met. Some even argue that Europe would have never been further away from an internal energy market as today. This is unacceptable, immediately conflicts with the Energy Roadmap and should consequently be addressed as a matter of priority.
- **Smart grids** are the entrance point for future smart technology applications, including e-mobility, smart lighting, smart buildings or e-health infrastructures: this should be made clearer.
- Considering the risks associated with a high carbon price for sectors exposed to carbon leakage, we believe in **technology as the key driver for change**. It is very important to create an enabling framework for enterprises to invest in new technologies.

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Binding targets, obligations and extra taxes often have a counterproductive effect on investments and render it more difficult to achieve the decarbonisation targets.

- We acknowledge the increase of the **role of electricity** with its share of final energy demand which it is stated will rise to 36-39%. However, this also means that 60% of the demand would still be satisfied by sources other than electricity. For example, gas provides a flexible heat source for high temperature heating and melting of metals. Switching to electricity is not practicable or affordable in all cases. **More focus should therefore also be placed on these other areas, notably gas and gas infrastructures, besides digital infrastructures, which provide an essential accompaniment.**
- **Decoupling economic growth from energy consumption** should indeed be taken into account; however, it **should not result in setting an absolute cap on European growth**, as it is currently at risk under the Draft Energy Efficiency Directive. For example, the EEE sector grew by 33% since 2005 and managed to keep its increase of energy consumption at 12%. "*Doing more with less*" is possible, however "*doing something with nothing*" is not.
- **The establishment of energy savings obligations on energy utilities** must fully respect **the right of the consumer to determine his own energy supplier and his own energy savings measures.** Energy service companies should develop attractive energy saving products so that properly informed consumers are empowered to take sensible decision.
- Notions on **district heating** should equally refer to **district cooling**.
- We could not agree more on the **ten conditions for achieving a new energy system** as outlined on pages 19 and 20 of the Roadmap, namely: full implementation of the Energy 2020 Strategy, more energy efficiency, more attention to the development of RES, higher public and private investment in R&D and technological innovation, full market integration by 2014 and addressing related regulatory and structural shortcomings, better reflection of costs in energy prices to avoid energy poverty, the urgency of the development of new energy infrastructures and storage capacities, no compromise on safety or security and concrete milestones to give certainty for investments.
  However, implementation of each of these conditions is, at best, lagging behind, at worst, inconsistent or not happening at all.

  Clear, determined and unequivocal action therefore has to urgently follow.

3. Recommendations for the implementation of the Energy Roadmap

3.1 A competitive, secure and environmentally sustainable future energy system is challenging but feasible: now is the time to act

- The biggest risk is the risk of being paralysed, unable to act and thereby further delaying urgently needed action. Also, the largest share of future energy generation does not even exist today, but remains to be built. Political decisions therefore need to be taken now to set directions, to establish a common framework and common conditions for the pending investment decisions so as for incentives and support schemes to effectively kick off the transition.
- Delaying action means increasing costs (see IEA Energy Outlook 2011): by picking low hanging fruit first, namely bringing existing energy efficient technologies in the market, significant contributions to the EU's 20:20:20 objectives would be realised straight away.
- Regulation needs to be clear, unequivocal and determined: conflicting targets and objectives should be avoided. Different legislative measures need to better tie in with each other. For example:
  - Discussions on the Resource Efficiency Roadmap and the Roadmap to a Low Carbon Economy are ongoing in parallel and do not always develop consistently (e.g.: promoting resource efficiency parameters under the Ecodesign Directive risks undermining energy efficiency measures and investments).

- The Energy Roadmap identifies an increased role for electricity, which is not always reflected in the implementation measures under the Ecodesign Directive (i.e.: the draft implementation measure on boilers and water heaters discriminates electricity against other energy sources).
- The proposed provisions on public procurement under the draft Energy Efficiency Directive depart from Ecodesign implementation measures and their performance classes.
- The current Energy Performance of Buildings Directive should not be sidelined via conflicting provisions in the future Energy Efficiency Directive (i.e.: by limiting measures to buildings owned and occupied by central governments, which only represent a small fraction of the publicly-owned building stock).

- Finally, EU energy policy legislation adopted need to be fully implemented, and the 3rd internal energy market package as a matter of priority.

3.2 Europe cannot compete on labour, but on excellence: each Euro invested in infrastructures (energy, transport and digital) creates growth, jobs and welfare in Europe and of its citizens

- Initiatives should be launched to make science and technology attractive to young people.
- Benchmarks could be developed on the measures taken by Member States to improve and foster science teaching and learning.
- The focus should be on "*permeability*", facilitating an exchange between vocational education and training and higher education activities to be seen in an overall system.
- A European Technology Research Council should be established, as requested in the final report of the High Level Experts Group on Key Enabling Technologies with the goal of setting up a world class of engineers and technologists.

3.3 Whatever scenario, smart grids are a "no alternative" option: therefore, establish a common understanding and framework for the future

- Create a pan European electricity grid for the future that is capable of interconnecting and integrating large-scale energy streams from a variety of energy sources, notably renewables and decentralized production: the management of increased share of RES requires the modernisation of existing grids. All scenarios forecast an increase of RES. Thus, there is "*no alternative*" to the modernisation of future grids, addressing interoperability, flexibility, smartness and intermittence.
- A horizontal approach to the issue of smart grids is needed, which would not only focus on individual components, but address the whole, integrated system. Overall strategic legislation needs to ensure that the different grid components are able to communicate with each other, with the aim of reducing greenhouse gas emissions, increasing energy efficiency, empowering the consumer and making future European cities smart.
- Harmonised European Standards play a key role for creating smart grids.
- The more electrification, the more demand response will be needed with the consequent need for more harmonisation at EU level.
- Lowering peak demand reduces overall plant and capital cost requirements: again, demand response programmes are the answer.
- A cross-national smart grid project should be launched.
- Decentralised energy production and storage systems need to be pursued and implemented, as they represent an important means to levy overall costs and to help peak shaving: Combining decentralised, local electricity generation from RES with local energy storage technologies are offering a solution (e.g.: heat pumps, batteries for the future).

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- An EU Conference on Public Acceptance of Infrastructure Projects should be held.
- It is urgent to increase the transmission capacity of electricity and abolishing bottlenecks. CO2 infrastructures should be developed at the same time as CCS becomes commercialised.
- The permitting procedures for new energy projects should be improved.
- Establishing competitive production of highly efficient energy storage, with technologies such as pump storage hydro power or batteries in electric vehicles, will be key for exploiting future applications of the smart grid and for backing up an increased share of RES. Establishing such storage systems needs to be a political goal. Strategic public investment into energy storage, smart grid and e-mobility research projects will be necessary in addition to private investment.

3.4 Enabling a framework for research, development and investments is an additional "no regrets" option

3.5 Establish a comprehensive EU framework for the new system, including the common denominators for future national energy mixes, for support schemes, for avoiding carbon leakage and for driving research, development and innovation in a low carbon economy

- Whatever (national) energy mix(es) may be, reliable and easy access to energy at affordable costs, avoiding pitfalls and guaranteeing network stability should not be compromised as these are prerogatives for economic growth, competitiveness and social welfare in Europe.
- A well functioning carbon pricing system should include mechanisms such as incentivising cost effective emission reductions outside Europe to levy risks of carbon leakage.
- Appropriate provisions in the Energy Taxation Directive and ETS State Aid Guidelines can help to levy the risks of carbon leakage to some extent. The creation of the internal market should be a matter of urgency and could provide a more sustainable solution for sectors exposed to carbon leakage.

3.6 Improve energy efficiency where it is most cost efficient

- Bringing existing, mature technologies to the market can already realise the 20/20/20 objectives today: these include energy efficient automation, ICT, lighting, medical, electricity generation, transmission, distribution equipment, smart meters, to name but a few. The Recommendations of the Electra Communication and Report should be implemented without delay.
- Comprehensive energy efficiency programmes throughout the different market segments, but in particular covering buildings, transport, municipal planning and agriculture should be promoted.
- The overall ambition of the Commission's proposal for a Draft Energy Efficiency Directive (EED) should be maintained and extended to a large extent to the European Parliament's approach (see annex: Orgalime position papers on EED).
- Shortcomings in the implementation of Ecodesign Directive should be overcome. We firmly believe that a modification of its scope would be premature at this stage (see annex: Orgalime position papers on the Ecodesign Directive).

3.7 Security of supply requires (at least in the medium term) "Gasification" next to "Electrification" and "Renewables"

- A common European framework needs to be the base for future energy mixes, which may nevertheless continue to be decided at national level.

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- Avoiding pitfalls requires reliable energy supply, which in the absence of storage technologies cannot be guaranteed for RES in all weather and/or national conditions: Gas can fulfill this function and therefore needs to remain in the energy mix.
- Flexible gas capacities at competitive prices and new gas infrastructures along the North-South axes are needed to foster the creation of well functioning gas wholesale markets in the whole EU.
- At the international level, the development of shale gas is changing the energy outlook: it is important that Europe should stay open to the development of shale gas which is proving in the USA not only to be providing a secure and independent national source of supply but is also leading to considerable reduction in primary energy prices.
- After 2020 the targets for renewable energy should be indicative and not mandatory. There should be only one binding target, i.e.: for CO2 emissions. Simultaneous binding targets lead to contradictions and inflexible subsidy schemes, which are not cost-efficient.
- The new market design should link the subsidies for renewables to electricity market price, thereby becoming flexible rather than fixed: If the price of electricity is high, the subsidies should be lower and vice versa. Support schemes in general should only be a means until RES maturity is achieved. Long term subsidies are not sustainable but distort the market. A fully integrated European energy market bears the potential to provide a sustainable solution.

3.8 Technology neutrality is key – let market forces play

- Clear policy objectives, a stable, predictable and consistent regulatory framework is essential.
- Incentives and support schemes to kick off market response for new technologies should be based on common principles and conditions. Financial support should, however, not become the rule as this would be unsustainable and distorting the market in the long term.
- Standards, as peer assessed codification of best engineering practices, establish a basis for the interoperability of products.
- Standardisation has an important role to play as basis for innovation and competition: it should be promoted throughout all areas in line with the New Legislative Framework (NLF), standards on safety and security infrastructures to quote as one example for urgent action.

3.9 Investments are needed throughout the market segments: solving the financial crises & developing competitive, new financial products is urgent

- Financing Low Carbon Technologies represents a unique opportunity for banks to benefit from the significant growth of this sector while contributing to climate change objectives in itself. However, new business models and financial products need to be developed.
- Policymakers should provide for a general policy on tax incentives, leveraging public funding, supporting the introduction of LCT, standardising “green bonds” and opting for local government infrastructure projects.
- Corporate and investment banks should address green bond securitisation, provide debt finance for energy efficient and micro-generation asset leases, use equity to provide capital for development, integrate project finance, provide structured LCT investment products and in their role understand the technical solutions and benefits of LCT.
- Demand response and decentralised electricity and storage can help lowering the costs for energy utilities and should be rapidly implemented (see entry 3.3).

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- It is important to direct budgets from all different sources, including the EU structural and cohesion funds, EBRD, EIB or financial resources from fines for non-compliance with energy policy legislation, into energy investments.
- Amendment 63 of the first reading position of the European Parliament on the Draft Energy Efficiency Directive suggesting the set up of a Financing Facility for energy efficiency measures should be supported.
- The Commission's proposal for a Regulation establishing the "Connecting Europe Facility" needs to be fully endorsed, and ongoing discussions on the Multiannual Framework must by no means diminish its budget, which per se is already somewhat insufficient considering the estimated overall investment costs.
- The 12 priority corridors identified in the CEF should be equally supported.
- The Commission's recent Communication on Project bonds initiative should be supported and rapidly implemented.

3.10 Consumer empowerment programmes are needed to develop "prosumers" of the future

- Today's' consumers need to be supported in their development of becoming "prosumers" (energy producers and consumers at the same time).
- Smart meters with consumer interfaces, which would provide consumers with energy consumption and related (daily, or at least monthly) price information and allow regular consumer feedback, are a prerequisite for informed consumer choices for its own local energy production and consumption in the future: with smart meters that provide real time pricing (vs. fixed rate pricing), users have a direct incentive to reduce their use at high-demand.

3.11 Common challenges require common answers

- We advocate for a truly integrated European market to be established as the basis for EU energy policy and EU industrial policy.
- Fostering dialogue and cooperation amongst all affected stakeholders is important: Citizens are at the core of the change and need to be taken along in first instance.
- A global challenge requires a global answer: a global deal for climate change is needed; international trading partners need to be convinced of taking similar action.

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ANNEX: List of main Orgalime Position Papers related to Energy Policy Initiatives

1. Energy Efficiency

- 25/5/2012 - Recommendations & priorities on further proceedings on the Proposal for an Energy Efficiency Directive
- 15/3/2012 - Recommendations on further proceedings in the Council on the Proposal for an Energy Efficiency Directive
- 23/2/2012 - Recommendations on further proceedings on the Proposal for an Energy Efficiency Directive
- 25/11/2011 - Comments & recommendations on draft report of rapporteur Claude Turmes on the proposal for an Energy Efficiency Directive
- 10/11/2011 - Commission proposal for an Energy Efficiency Directive
- 2/5/2011 - Energy Efficiency Plan - 2011
- 4/3/2011 - Energy Efficiency Action Plan - 2011

2. Ecodesign Directive

- 21/5/2012 - Comments on Commission Working Document on the review of the Ecodesign Directive 2009/125/EC
- 14/2/2012 - Orgalime comments on the Draft Working Plan 2012-2014 under the Eco design Directive 2009/125/EC
- 31/1/2012 - Comments on CSES Draft Final Study Report: Evaluation of the Eco Design Directive 2009/125/EC
- 16/1/2012 - European Commission/JRC Project: “Development of resource efficiency and waste management assessment methods to identify eco design requirements”
- 3/10/2011 - Comments on the study for the amended ECO DESIGN WORKING PLAN
- 9/8/2011 - Comments on the study for the amended ECO DESIGN working plan

3. Smart Grids

- 9/7/2010 - Smart Grids: a vision and recommendations from technology providers

4. E-Vehicles

- 21/11/2011 - Integrating e-vehicles into modern infrastructures
- 1/2/2010 - Electric Vehicles: Issues for the European Engineering Industries

5. Related Policies and Positions

- 24/04/2012 Electra2 report : The Smart World
- 5/4/2012 - Orgalime contribution to the Consultation on Delivering more Sustainable Consumption and Production
- 16/1/2012 - Resource efficiency: An economic necessity while remaining societal challenge
- 2/7/2010 - Orgalime contribution to stakeholder consultation energy strategy 2011-2020
- 3/5/2010 - Orgalime Priorities for the Barroso II Commission in the field of Environment, Energy & Climate Change Policy

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