Procedure file

Basic information

INI - Own-initiative procedure	2009/2228(INI)	Procedure completed
Mobilising information and communication technologies to facilitate the transition to an energy-efficient, low-carbon economy Subject 3.30.06 Information and communication technologies, digital technologies 3.60 Energy policy 3.60.08 Energy efficiency 3.70.02 Atmospheric pollution, motor vehicle pollution		

Key players

European Parliament	Committee responsible	Rapporteur	Appointed
	ITRE Industry, Research and Energy		12/10/2009
		S&D TOIA Patrizia	
		Shadow rapporteur	
		PPE KARIŅŠ Krišjānis	
		ALDE ROHDE Jens	
		ECR FORD Vicky	
	Committee for opinion	Rapporteur for opinion	Appointed
	ENVI Environment, Public Health and Food Safety		04/02/2010
		S&D SÂRBU Daciana Octavia	
	TRAN Transport and Tourism	The committee decided not to give an opinion.	
Council of the European Union	Council configuration	Meeting	Date
	Competitiveness (Internal Market, Industry, Research and Space)	2999	01/03/2010
European Commission	Commission DG	Commissioner	
	Energy	OETTINGER Günther	

Key events

12/03/2009	Non-legislative basic document published	COM(2009)0111	Summary
17/12/2009	Committee referral announced in Parliament		
01/03/2010	Resolution/conclusions adopted by Council		Summary
07/04/2010	Vote in committee		Summary
14/04/2010	Committee report tabled for plenary	A7-0120/2010	
05/05/2010	Debate in Parliament		
06/05/2010	Results of vote in Parliament		
06/05/2010	Decision by Parliament	T7-0153/2010	Summary

06/05/2010	End of procedure in Parliament		

Technical information

Procedure reference	2009/2228(INI)
Procedure type	INI - Own-initiative procedure
Procedure subtype	Initiative
Legal basis	Rules of Procedure EP 54
Other legal basis	Rules of Procedure EP 159
Stage reached in procedure	Procedure completed
Committee dossier	ITRE/7/01777

Documentation gateway

Non-legislative basic document		COM(2009)0111	12/03/2009	EC	Summary
Committee draft report		PE438.144	16/02/2010	EP	
Amendments tabled in committee		PE439.383	03/03/2010	EP	
Committee opinion	ENVI	PE439.100	22/03/2010	EP	
Committee report tabled for plenary, single reading		A7-0120/2010	14/04/2010	EP	
Text adopted by Parliament, single reading		T7-0153/2010	06/05/2010	EP	Summary
Commission response to text adopted in plenary		SP(2010)4415	06/09/2010	EC	

Mobilising information and communication technologies to facilitate the transition to an energy-efficient, low-carbon economy

PURPOSE: to encourage Member States and the private sector to use information and communication technologies (ICT) in order to improve energy efficiency.

CONTEXT: the ICT sector is responsible for 2% of carbon emissions in Europe: .75% resulting from the use of ICT products and services, and 0.25% from their production. While the ICT sector should set itself ambitious targets for improving its own energy and carbon footprint it will lead to the biggest energy-efficiency gains when used in the wider economy. The use of ICT across all sectors of the economy and society can reduce the remaining 98% of European emissions. ICT-enabled systems can reduce, for example, energy consumption of buildings in the EU by up to 17% and carbon emission in transport logistics by up to 27%.

On 10 January 2007, the Commission adopted an energy and climate change package, endorsed by the European Parliament and by EU leaders at the March 2007 European Council, targeting a 20% increase in the use of renewable energy and a 20% reduction in greenhouse gas emissions compared to 1990 levels by 2020. On 13 May 2008 the Commission announced that it would promote the role of ICT in meeting these goals by improving energy efficiency throughout the economy (COM(2008)0241) In December 2008, the EU reiterated its commitment to meeting these targets and stressed the urgency of improving energy efficiency. The potential of ICTs to improve energy efficiency is generally accepted. However, in the absence of specific policy measures to coordinate fragmented efforts and to incentivise action, this potential may not be realised in the timeframe of the 2020 targets.

Though legislation is being enacted and implemented, data suggest that energy savings are not being realised fast enough. Recent reports suggest that when fully implemented, current measures should achieve energy savings of about 13% by 2020. This represents a major achievement but still falls far short of what is needed.

There is untapped potential to complement the existing measures with a set of specific actions to overcome barriers and exploit the full potential of ICTs to enable more efficient use of energy. The proposed policy framework aims to add impetus to the existing regulatory and non-regulatory measures in the area of energy efficiency and thereby contribute to the 2020 targets by:

- improving the energy efficiency of ICTs;
- using ICTs to bring about improved energy efficiency in the other energy-using systems and infrastructures that support our economy;
- using ICTs to provide a quantitative basis upon which energy-efficiency strategies can be devised, implemented and evaluated;
- inviting Member States to drive innovation, to deploy and to showcase ICTs for enabling energy-efficiency gains;
- reinforcing cooperation between all private and public players to reap the maximum benefits from the use of ICTs to improve energy efficiency.

CONTENT: this Communication presents a set of ambitious measures that focus on what can be achieved in the short term both by the ICT sector and by fully exploiting the enabling capacity of ICTs in all sectors of society and the economy. It provides the background to a Recommendation to be adopted by the Commission in the second half of 2009. The Recommendation will set out tasks, targets and timelines, for industry stakeholders and Member States to accelerate progress towards these ends.

The Recommendation which the Commission will issue sets out measures that will pave the way for ICTs to contribute to energy efficiency gains and emissions reductions across the economy and society, in a measurable and verifiable way. The measures will be structured around the three following strands of action.

1) the ICT sector will be invited to set itself targets and reach a collective agreement on measurement methodologies that focus on accuracy, transparency and verifiability of the energy consumption and carbon emissions of its processes, at company and sector level;

2) working partnerships between the ICT sector and other major energy-using sectors will be encouraged to identify where and how ICTs can play a role in improving efficiency and reducing emissions in those sectors and thus accelerate the delivery of tools to assess and to optimise energy performance on a comparable basis;

3) Member States should be called upon to enable the EU-wide roll-out of ICT tools likely to trigger a shift in the behaviour of consumers, businesses and communities and at the same time drive demand for innovative ICT solutions to optimise the energy performance of their own operations.

The Recommendation will focus on buildings and construction, and on transport logistics, in view of their relatively large share in overall energy consumption and of ongoing endeavours by the Commission and Member States in these sectors. It aims also at encouraging an enduring shift in the behaviour of consumers, businesses and communities.

Buildings and construction:buildings account for approximately 40% of energy end-use in the EU, of which more than 50% is electrical power. The sector has significant untapped potential for cost-effective energy savings which, if realised, would mean an 11% reduction in total energy consumption in the EU by 2020.The ICT sector will be invited to work together with the buildings and construction sector to identify areas where the impact and cost-effectiveness of ICTs can be maximised, and to specify requirements.

Transport:transport systems represent about 26% of energy end-use in the EU. Many opportunities exist for improvements in energy efficiency and rationalisation, notably through logistics. Under the Freight and Logistics Action Plan, a number of actions are introduced to expand the role of logistics in the rationalisation of transport and the reduction of its environmental impact. The ICT sector should work together with the transport logistics sector to build on the opportunity for improved and expanded information as identified by the Action Plan. Useful information on energy consumption and carbon emissions of freight transport should be made available to those businesses that rely on freight transport for their own operations.

Encouraging an enduring shift in the behaviour: Member States should be called upon to agree on EU-wide minimum functional specifications for smart metering that will enable network operators, suppliers and notably also consumers, effectively to manage their energy needs and to use ICT solutions, once they become available, for automated energy management. In terms of functionality, this will require two-way, real-time information flows and the possibility of new control loops. These specifications would be compatible with the standardisation mandate for utility meters that has recently been issued by the Commission.

Public authorities: Member States, central, regional and local authorities should be called upon to take the lead in driving demand for innovative ICT-based solutions that will help them to incorporate energy efficiency into all aspects of service delivery and infrastructure management, urban planning and policy-making. A public consultation will be launched in order to ensure that the Commission and all stakeholders have the same understanding of the issues to tackle and of the proposed solutions. In particular, in the interest of transparency, and of achieving real and measurable progress, the Commission wishes to be assured that expectations, claims and commitments are based on a common language. Following the public consultation, the adoption of a Recommendation is planned for the second half of 2009.

Following the publication of this Communication, the Commission will invite representatives of the sectors, where appropriate through relevant sector associations, to set up a working structure to achieve the goals set.

The Commission will also investigate the possibility of setting up a European web portal to serve as an open information and communication platform to engage both public and private stakeholders in sharing best practices, experiences, information and data that can serve to accelerate progress towards the goals set.

In collaboration with the Committee of the Regions, the Commission is working on delivering a practical guide for regional and local authorities on improving energy performance through innovative use of ICTs. The guidewill set out how administrations can exploit ICTs in their climate change plans. At the same time it will describe how the Cohesion funds can support business partnerships to deliver innovative ICT applications, and will set out practical steps to encourage synergies between Commission supported research and innovation funding.

Mobilising information and communication technologies to facilitate the transition to an energy-efficient, low-carbon economy

The Council took note of the outcome of the second edition of the high-level event on information and communication technologies for energy efficiency that took place in Brussels on 23 and 24 February. On 9 October 2009 the Commission adopted a recommendation on this subject.

It recommends that the Information and Communication Technologies sector:

- commits to a progressive decarbonisation process leading to a measurable and verifiable reduction in energy intensity and carbon emissions of all processes involved in the production, transport and sales of ICT equipment and components;
- participates, through its sector associations, in an exercise to be initiated by the European Commission that aims to: (a) develop a framework to measure its energy and environmental performance, for which the sector will be expected to contribute the baseline data by 2010;(b) adopt and implement common methodologies to this end by 2011; (c) identify, by 2011, energy efficiency targets that aim to exceed the EU 2020 targets by 2015; (d) issue a roadmap within three months of adoption of this Recommendation, thereafter annual reports;

- works with the European Commission and other relevant public bodies and international organisations in order to develop an auditing and verification framework assessing whether and how energy intensity and carbon emissions reduction targets will be met by individual companies.
- in close cooperation with the buildings and construction sector identifies ICT solutions to improve the environmental and energy performance of new and existing buildings, and construction and renovation practices, leading to a joint roadmap for large-scale adoption of such solutions.
- in close cooperation with the buildings and construction sector addresses barriers to the wider use of ICT modelling and simulation tools and other relevant applications that facilitate and assist compliance with applicable regulatory regimes governing buildings performance.
- in close cooperation with the transport and logistics sector identifies ICT solutions to improve the environmental and energy performance of their services;
- in close cooperation with the transport and logistics sector drafts a systematic framework to provide comprehensive, comparable and reliable data on the energy consumption and carbon emissions of freight and transport operations and services to all potential users.

The Member States are invited to:

- by the end of 2010 at the latest, agree on a common minimum functional specification for smart metering that focuses on providing consumers with improved information on, and improved capabilities to manage, their energy consumption; (b) by the end of 2012 at the latest, set up a coherent timeframe for the rollout of smart metering;
- adopt and implement procurement practices that leverage the strength of public sector demand to promote the dematerialisation of ICT goods and services.
- facilitate, at all levels of administration, the use of relevant ICT tools to better understand the implications of different policies and avoid negative spill-over effects from their interaction.
- encourage the use of energy simulation and modelling in the education and training of professionals in critical sectors, in particular: (a) architects, builders and installers; (b) energy auditors; (c) logistics and the transport of goods or persons; (d) public services, planning and policy functions;
- pursue strategies for the roll-out of a dependable, high-speed, broadband infrastructure to facilitate monitoring and management of consumption, distribution and production of energy including renewables, and the introduction of community-wide systems such as smart metering, smart-grids and smart-cities;
- make use of open digital platforms to facilitate an integrated approach to urban planning;
- inform the Commission of action taken in response to this Recommendation within 12 months of its publication, and once a year thereafter.

Mobilising information and communication technologies to facilitate the transition to an energy-efficient, low-carbon economy

The Committee on Industry, Research and Energy adopted the own-initiative report drawn up by Patrizia TOIA (S&D, IT) welcoming the Commission Communication on mobilising Information and Communication Technologies (ICTs) to facilitate the transition to an energy-efficient, low-carbon economy (COM(2009)0111) and endorses its broad lines.

The report states that ICT is indispensable for decoupling economic growth from GHG emissions using three basic strategies for mitigation of climate change: a reduction of energy consumption, an increase of energy efficiency, and an integration of renewable energies. It recalls that the ICT sector accounts for some 8% of electricity consumption and 2% of carbon emissions in Europe, and notes that the roll-out of smart meters can cut energy consumption by up to 10%, promote the wider use of distributed generation (microgeneration) and reduce losses in low-capacity networks, thereby promoting the spread of renewable energies. Accordingly, the report calls for:

- the Commission to submit by the end of 2010 a set of recommendations to ensure that smart metering is implemented in accordance with the timetable set out in the third energy market package and that a set of minimum functionalities for smart meters is defined;
- the introduction of new energy services and an innovative, harmonised and interoperable European smart grid, taking into account all proven best practices employed in some Member States, particularly as regards the management of real-time, two-directional power and information flows.

Members note that the only means of ensuring the comparability of the data produced in the various Member States is to adopt a common methodology for measuring energy consumption and carbon emissions and a comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements in the building sector. They point, furthermore, to the need for rapid standardisation of ICTs as a minimum requirement for interoperability.

The committee states that in households and in the building, transport, logistics and industrial sectors ICTs may be used in a variety of ways to improve energy efficiency and management. These applications have an impact on electricity distribution, lighting, heating, refrigeration, ventilation and air conditioning and the opportunities ICTs offer in terms of measurement, monitoring and automation. Furthermore, if ICTs can help to save energy by enabling data to be continuously monitored in order to improve energy efficiency in many sectors, the ICT sector ? bearing in mind the exponential growth of its own energy consumption ? should set an example by undertaking to cut its consumption by a very significant margin. This should apply first and foremost to data centres.

Members go on to discuss the importance of developing broadband in Member States as a means of securing economic growth, providing access to new systems and applications for an ever larger number of EU citizens and businesses, and meeting the energy efficiency targets the EU has set for 2020. Member States are asked to facilitate the availability of broadband internet to all EU citizens in order to ensure equal access to online services which can reduce the need to travel. Members call for online services (eBanking, eCommerce, eGovernment, eLearning, eHealth) and teleworking to be rolled out with a view to improving the quality of service provided to the public and, at the same time, reducing carbon emissions.

On the issue of transport, Members urge the Commission to increase its efforts in the use of ICTs, in particular the use of monitoring and measuring instruments. They believe that the application of ICTs to passenger transport and the availability of new technologies on roads and their interaction with weather conditions, with on-board vehicle display, will make it possible to travel and transport goods more efficiently, more quickly and more safely. They stress the importance of ICT in the planning of a new European transport policy. Any such plans from the

Commission should include ICT solutions, amongst others, in the regulation of traffic flows and to increase intermodality in the transport sector and optimise the balance between different modes of transport. The report stresses the need for a common strategy on the development of electric cars. It also urges the Commission to prioritise smart cars and smart roads projects, as well as R&D pilot projects for V2V and V2R devices, which can open up new business opportunities for European ICT companies.

The committee stresses the importance of the following:

- significant investments both for R&D and the utilisation of existing technologies, with Member States providing the incentives for both public and private energy efficiency investments;
- investment in energy efficiency education which should start from the schools;
- broad information campaigns to explain the benefits of smart metering and ICT to citizens, which is crucial to avoiding misinterpretation and lack of public support;
- the measurement, monitoring and automation of consumption will be part and parcel of optimised electrical network architecture, the purpose of which must be to ensure energy efficiency, on the one hand, and to incorporate renewable energy sources, energy storage management and the recharging of future electric vehicles, on the other;
- smart grids on the Member State and European level in order to exploit the benefits of smart metering, and the Commission is asked to consider European scale investment programs.

The Commission is asked to:

- establish a European web portal containing the best practices on usage of ICTs to improve energy efficiency, which could provide useful information to consumers and public authorities;
- take into account the less developed regions of the Union in ICT planning and to secure assets for the purpose of co-financing the implementation of smart meters and other ICT projects in these regions to assure their participation and to prevent their exclusion from common European ventures;
- consider drafting, on the basis of the work carried out by the smart grids task force, a communication on smart metering which identifies the obstacles to widespread use of smart metering, lays down a roadmap that sets smart objectives and targets for the roll-out of such systems in the Member States, and establishes a system for pooling best practice in this area;
- lay down a concise action plan for the reduction of energy consumption through the use of ICT in the buildings of EU institutions, in order to set the example;
- propose, by the end of 2010, a timetable with ambitious and binding ICT-driven energy-saving goals for all ICT sectors and the Member States, with a view to meeting the carbon emissions reduction targets;
- come forward with a financial instrument, as part of the EU funding, in order to encourage SMEs to develop their sustainable low carbon energy technologies;
- adjust the EU budget in order to accelerate the deployment of cost-effective low carbon technologies, in particular aiming at meeting the financial needs for the implementation of the Strategic Energy Technology Plan (SET-Plan);
- promote in collaboration with appropriate international partners the development of common international standards for carbon emission reporting of companies in order to enable them to measure their own emissions in a comparable and efficient way;
- support the development of off-site processing, given the vast potential of this technology to contribute to energy efficiency and to reduce the waste normally associated with regular upgrading of ICTs;
- take full account of ICT saving potential in the implementation of Directive 2009/125/EC on ecodesign requirements for energy-related products.

Lastly, the report calls for the introduction of measures to guarantee the privacy of personal information in relation to smart metering.

Mobilising information and communication technologies to facilitate the transition to an energy-efficient, low-carbon economy

The European Parliament adopted a resolution on welcoming the Commission Communication on mobilising Information and Communication Technologies (ICTs) to facilitate the transition to an energy-efficient, low-carbon economy and endorses its broad lines.

Parliament states that ICT is indispensable for decoupling economic growth from GHG emissions using three basic strategies for mitigation of climate change: (i) a reduction of energy consumption, (ii) an increase of energy efficiency, and (iii) an integration of renewable energies. It recalls that the ICT sector accounts for some 8% of electricity consumption and 2% of carbon emissions in Europe, and notes that the roll-out of smart meters can cut energy consumption by up to 10%, promote the wider use of distributed generation (microgeneration) and reduce losses in low-capacity networks, thereby promoting the spread of renewable energies. Accordingly, Parliament calls for:

- the Commission to submit by the end of 2010 a set of recommendations to ensure that smart metering is implemented in accordance with the timetable set out in the third energy market package and that a set of minimum functionalities for smart meters is defined;
- the introduction of new energy services and an innovative, harmonised and interoperable European smart grid, taking into account all proven best practices employed in some Member States, particularly as regards the management of real-time, two-directional power and information flows.
- Members note that the only means of ensuring the comparability of the data produced in the various Member States is to adopt a common methodology for measuring energy consumption and carbon emissions and a comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements in the building sector. They point, furthermore, to the need for rapid standardisation of ICTs as a minimum requirement for interoperability.

Parliament states that in households and in the building, transport, logistics and industrial sectors ICTs may be used in a variety of ways to improve energy efficiency and management. These applications have an impact on electricity distribution, lighting, heating, refrigeration, ventilation and air conditioning and the opportunities ICTs offer in terms of measurement, monitoring and automation. Furthermore, if ICTs can help to save energy by enabling data to be continuously monitored in order to improve energy efficiency in many sectors, the ICT sector ? bearing in mind the exponential growth of its own energy consumption ? should set an example by undertaking to cut its consumption by a very significant margin. This should apply first and foremost to data centres.

Members go on to discuss the importance of developing broadband in Member States as a means of securing economic growth, providing

access to new systems and applications for an ever larger number of EU citizens and businesses, and meeting the energy efficiency targets the EU has set for 2020. Member States are asked to facilitate the availability of broadband internet to all EU citizens in order to ensure equal access to online services which can reduce the need to travel. Members call for online services (eBanking, eCommerce, eGovernment, eLearning, eHealth) and teleworking to be rolled out with a view to improving the quality of service provided to the public and, at the same time, reducing carbon emissions.

On the issue of transport, Members urge the Commission to increase its efforts in the use of ICTs, in particular the use of monitoring and measuring instruments. They believe that the application of ICTs to passenger transport and the availability of new technologies on roads and their interaction with weather conditions, with on-board vehicle display, will make it possible to travel and transport goods more efficiently, more quickly and more safely. They stress the importance of ICT in the planning of a new European transport policy. Any such plans from the Commission should include ICT solutions, amongst others, in the regulation of traffic flows and to increase intermodality in the transport sector and optimise the balance between different modes of transport. The report stresses the need for a common strategy on the development of electric cars. It also urges the Commission to prioritise smart cars and smart roads projects, as well as R&D pilot projects for V2V and V2R devices, which can open up new business opportunities for European ICT companies.

Parliament stresses the importance of the following:

- significant investments both for R&D and the utilisation of existing technologies, with Member States providing the incentives for both public and private energy efficiency investments;
- investment in energy efficiency education which should start from the schools;
- broad information campaigns to explain the benefits of smart metering and ICT to citizens, which is crucial to avoiding misinterpretation and lack of public support;
- the measurement, monitoring and automation of consumption will be part and parcel of optimised electrical network architecture, the purpose of which must be to ensure energy efficiency, on the one hand, and to incorporate renewable energy sources, energy storage management and the recharging of future electric vehicles, on the other;
- smart grids on the Member State and European level in order to exploit the benefits of smart metering, and the Commission is asked to consider European scale investment programs.

The Commission is asked to:

- establish a European web portal containing the best practices on usage of ICTs to improve energy efficiency, which could provide useful information to consumers and public authorities;
- take into account the less developed regions of the Union in ICT planning and to secure assets for the purpose of co-financing the implementation of smart meters and other ICT projects in these regions to assure their participation and to prevent their exclusion from common European ventures;
- consider drafting, on the basis of the work carried out by the smart grids task force, a communication on smart metering which identifies the obstacles to widespread use of smart metering, lays down a roadmap that sets smart objectives and targets for the roll-out of such systems in the Member States, and establishes a system for pooling best practice in this area;
- lay down a concise action plan for the reduction of energy consumption through the use of ICT in the buildings of EU institutions, in order to set the example;
- propose, by the end of 2010, a timetable with ambitious and binding ICT-driven energy-saving goals for all ICT sectors and the Member States, with a view to meeting the carbon emissions reduction targets;
- come forward with a financial instrument, as part of the EU funding, in order to encourage SMEs to develop their sustainable low carbon energy technologies;
- adjust the EU budget in order to accelerate the deployment of cost-effective low carbon technologies, in particular aiming at meeting the financial needs for the implementation of the Strategic Energy Technology Plan (SET-Plan);
- promote in collaboration with appropriate international partners the development of common international standards for carbon emission reporting of companies in order to enable them to measure their own emissions in a comparable and efficient way;
- support the development of off-site processing, given the vast potential of this technology to contribute to energy efficiency and to reduce the waste normally associated with regular upgrading of ICTs.

Lastly, Parliament welcomes the establishment of the Covenant of Mayors as a forum for the exchange of good practices and a trailblazer for cities that are setting themselves ambitious goals with a view to improving their energy efficiency.