

# ecee views on a future European Energy Efficiency Action Plan

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## Summary

Europe must provide leadership in energy efficiency and the EU's Energy Efficiency Action Plan is a key element in demonstrating this leadership. The European Council for an Energy Efficient Economy (ecee) therefore believes that the action plan must be ambitious, bold and comprehensive in order to highlight the key importance of energy efficiency in EU's energy policy mix.

Among other things, ecee wants to see the following elements in the upcoming energy efficiency action plan. These are summarised here and presented at length further down in this document.

1. **Overall commitment and priority:** The new Action Plan needs to reflect an "energy efficiency first" approach to be embedded in wider EU energy and climate policy. This will require that there are adequate resources, that energy efficiency measures are fully embodied into energy policy initiatives, and that there is a coherent longer-term strategy for energy efficiency and measurable binding targets for energy efficiency improvements and energy savings.
2. **Beyond efficiency:** There has to be a realisation that energy efficiency is not enough. The case for shifting our emphasis in energy specifications to progressive efficiency and sufficiency needs to be made.
3. **Target setting and target achieving:** An effective target needs to reflect both energy efficiency improvements and energy savings. More emphasis must be placed on actual energy savings (i.e. measured reductions in energy consumed) in order to contribute meaningfully to climate change objectives and to adequately address energy security. Improving energy efficiency, while important, is not sufficient.
4. **Integration of energy efficiency into climate change and energy policy:** ecee favours a development from a single Emissions Trading System (ETS) instrument approach to a portfolio where ETS is linked to other instruments that have a proven positive effect. An example of such a link would be to give ETS crediting for investments and CO2 reduction in end-uses, such as in buildings. The important point is that energy efficiency is important to meet increasingly ambitious ETS objectives.
5. **Improving implementation of and compliance with existing directives and initiatives:** Key to any energy efficiency action plan is ensuring the existing directives are properly implemented and that there are ongoing compliance activities to ensure that the directives are being followed in practice. Within the framework of the Energy Performance in Buildings Directive, particular emphasis must be on existing buildings.
6. **Regulatory development including revising directives:** The Commission needs to prepare for a recast of the Energy Services Directive within the next 12 -18 months.

### About the European Council for an Energy Efficient Economy (ecee)

ecee is a non-profit, membership-based European NGO. The goal of ecee is to stimulate energy efficiency through information exchange and co-operation. To facilitate this, ecee provides an information service through its website and e-mail newsletter, arranges workshops and conferences, and takes active part in the European Policy making process.

One of ecee's principal events is the Summer Study, held for five days every odd year in the early summer. The Summer Study attracts about 400 people and offers a unique resource of evidence-based knowledge and access to reliable information.

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Within that process the ESD should be extended until 2020. The directives on energy performance of buildings, appliance labelling and ecodesign have recently been recast but are up for recast again within 2-4 years and here the Commission must be well prepared and take a strong lead in the recast process.

7. **Feedback, evaluation and monitoring systems:** Better evaluation and monitoring systems for energy consumption in all sectors are essential. They are important for EU institutions to assess impact and future direction. They are needed for programme managers and they are needed for the full range of stakeholders who have a vested interest in ensuring maximum impact.
8. **Sectoral Considerations:** eceee has outlined a number of sectoral initiatives that the Commission should consider in the future development of its energy efficiency strategy. These deal with energy use in the public sector, buildings and appliances, industry and commerce, transport, the energy sector.
9. **Ensuring adequate resources are available for better impact:** The European Union needs to directly fund as well as act to unlock funding that is available in EU financial institutions and in Member States.

## Introduction

There is a strong need for a new European-wide Energy Efficiency Action Plan and energy efficiency strategy. It is essential for the European Union and its institutions to provide leadership in energy efficiency. From eceee's perspective, the added value of the upcoming Energy Efficiency Action Plan is to:

- Provide a long-term energy and climate change policy framework to promote energy efficiency with the understanding that there is a need to go beyond efficiency to limit absolute energy consumption, not just reduce energy intensity;
- Come up with new measures to meet the existing 20% energy efficiency target for 2020 and to set the perspective for the long-term, where a higher target is needed to meet the 2050 climate change goals;
- Encourage innovation;
- Provide a consistent and clear message to avoid inertia;
- Be a catalyst to stimulate all stakeholders and provide them with clear signals to ensure long-term investment and planning; and
- Foster organisational and behavioural change to promote energy efficiency and energy savings in all levels of society.

There is a need to help break down "silos": between energy supply and energy demand communities; between different Commission Directorates and services; between Member States; and between the industry and public sectors and non-government organisations (NGOs). The upcoming action plan needs to be heard and understood in the same way by all those audiences.

There has been much activity recently in recasting both the EPBD and the appliance labelling directive, and 2009 brought a revised Ecodesign directive. This is an important first step, but eceee believes the momentum for energy efficiency improvements is weakening at a time when more is needed.

New policies are needed. This is especially the case in relation to existing buildings, industries and transport. To deliver this, existing directives have to be strengthened and new initiatives and supporting frameworks have to be developed.

The level of ambition of implementation of EU energy efficiency directives, such as the Energy Performance in Buildings Directive, varies considerably between Member States and is weak in many, from the information available.<sup>1</sup> Several EU initiatives such as

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<sup>1</sup> For example, there is information from the publicly available Concerted Action EPBD (<http://www.epbd-ca.org/>) and ESD (<http://www.esd-ca.eu/>) reports. There is also information from the Royal Institution of Chartered Surveyors: <http://www.joinricsineurope.eu/en/pressroom/european-buildings-are-they-really-green-enough-34>.



the Strategic Energy Technology Plan (SET Plan)<sup>2</sup> or the economic recovery plan pay minimum attention to energy efficiency.<sup>3</sup> MS are actively striving to meet their obligations for renewable energy because it is a legal obligation and show less urgency for improving energy efficiency that is not a legal obligation. Member States have improved their approach to energy efficiency over the years but it still falls short of full impact.

Based on eceee's experience, the following represents key elements eceee would like to see in the future European Energy Efficiency Action Plan.

## **Elements needed in a new EU Energy Efficiency Action Plan**

### ***Overall commitment and priority***

The commitment to energy efficiency in the European Union has grown over the years but it is not sufficient in order to anchor energy efficiency correctly within energy policy or within climate change policy. Because energy efficiency can uniquely reduce energy supply in a cost effective manner and lowers the capital costs of renewable energy sources, it is correctly regarded as the foundation of a sustainable energy policy. The new Action Plan needs to reflect this “energy efficiency first” approach and be similarly embedded in wider EU energy and climate policy. This will require adequate financial and human resources for effective impact, energy efficiency measures fully embodied into energy policy initiatives, proper targets for energy efficiency improvements and energy savings that are designed to motivate governments and stakeholders to achieve maximum impact.

Implementing energy efficiency directives is often described as a burden by national energy agencies and governments. Such should not be the case. Improved energy efficiency has been proven to be one of the most lucrative elements for economic growth, increased employment, fuel poverty reduction and stability as well for energy and climate change policies. It is necessary in the Action Plan to provide the necessary evidence to demonstrate this clearly.

Also, to ensure credibility and continuity for the Commission energy efficiency strategy, the new Action Plan should include an evaluation and analysis of the 2006 EEAP, with clear information on the measures that have been carried out, those that have yet to be carried out, and those that will be withdrawn or revised.

### ***Beyond efficiency***

The case for shifting Europe's emphasis in energy specifications to progressive efficiency and sufficiency needs to be made. Thus far, most governments have defined energy efficiency in a way that allows power consumption or annual energy use to rise steadily (and typically linearly) with product performance, size, amenity, or functionality. This helps consumers locate the least consuming among a range of similar products, but does little to prevent absolute energy consumption from rising over time as products naturally migrate toward higher performance, larger size, and greater amenity and functionality. The rate of growth has slowed compared to a business-as-usual scenario, but absolute energy consumption has not dropped. The capacity to do so clearly exists.<sup>4</sup>

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<sup>2</sup> For more information, go to [http://ec.europa.eu/energy/technology/set\\_plan/set\\_plan\\_en.htm](http://ec.europa.eu/energy/technology/set_plan/set_plan_en.htm)

<sup>3</sup> eceee already responded to the Commission's consultation for the Energy Strategy 2011-2020, calling for a greater priority for energy efficiency. The response is available at [http://www.eceee.org/eceees\\_views/energy\\_strategy/](http://www.eceee.org/eceees_views/energy_strategy/)

<sup>4</sup> See <http://www.eceee.org/sufficiency> for more information on progressive efficiency and sufficiency.

### ***Target setting and target achieving***

An energy intensity target, or indicative targets as used in the past, are not enough now. We have to face the fact no target that the EU has set since 1986 has been achieved. An effective target needs to reflect both energy efficiency improvements and energy savings.<sup>5</sup> More emphasis must be placed on actual energy savings (i.e. reduction in energy consumed) in order to contribute meaningfully to climate change objectives and to adequately address energy security. Improving energy efficiency, while important, is not sufficient. Energy savings that include and measure consumption reductions are necessary.

To effectively contribute to climate change objectives an absolute target is needed for energy savings. The current EU objective is to reduce energy consumption by 20% by 2020 compared to a baseline mainly from energy efficiency. This means that there is a need for twin tracking – monitoring the reduction of primary energy while at the same time monitoring and analysing final energy demand to better understand how much of the savings is coming from improved energy efficiency. This is particularly important in the individual end-use sectors. This is also necessary to avoid using fuel switching and conversion away from electricity as a means of meeting primary energy savings targets.

There are proposals to have an energy savings target based on a projection to 2020 of future energy demand. It is controversial and difficult to get consensus on the projection. Projections are based on assumptions that can (and do) change regularly. However, the "accepted" projection, if one can be achieved, can lead to a specific result for 2020 and it is then possible to lower that by 20% with the resulting downfall being the "absolute target." That gap, however, does not necessarily come from energy efficiency improvements alone, due to structural, autonomous and stochastic effects.

A second option is to set the target from a base year. This happens for GHG emissions reductions. Some believe this penalises some countries that have already undertaken effective reductions and countries that have had disruptions in their energy balances because of political change or major economic restructuring. This could be dealt with by a burden sharing (not same target for all countries) or by having different base years as is already the case under the UN Framework Convention on Climate Change (UNFCCC).

ecee prefers a target based on a base year<sup>6</sup> to be reviewed after two years to ensure it is the appropriate way forward. Anything less is much more difficult, given problems with getting timely and reliable end-use data due to statistical lags. During that period, an independent analysis should be undertaken to better understand the shortcomings, to better understand the effect on overall impact and to recommend a new way forward.<sup>7</sup>

There is no adequate “global” energy efficiency indicator and it probably makes more sense to have sectoral indicators as defined by the IEA in several studies. Having sectoral analyses also helps analysts and programme managers to better understand the impact of specific programmes that contribute towards the total impact. This does not provide an “exact” estimate of energy efficiency improvements but can act as a proxy to help programme implementation and policy development. Examples of sectoral targets are the public sector and buildings. Energy savings in both of these are also considerably easier to measure than with an overall savings target. There are goals in the Energy Services Directive that help towards achieving the more important 20% target.

Ideally, all Member States could agree to a specific primary energy target that would be mandatory. A binding final energy target would then be developed to complement the

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<sup>5</sup> For more information, see summary of May 2010 ecee workshop on efficiency and sufficiency available at [http://www.ecee.org/ecee\\_events/Is\\_Efficient\\_Sufficient\\_/Presentations](http://www.ecee.org/ecee_events/Is_Efficient_Sufficient_/Presentations)

<sup>6</sup> Take a base-year end use energy consumption and set a reduction target to be lower than this at some year in the future.

<sup>7</sup> This would obviously build on some of the measurement methodologies currently under review and development in Europe.

overall primary energy target, for the reasons given above. Given the history of meeting targets, there is an understandable reluctance that is acknowledged by ecee. Turning this reluctance into enthusiasm is essential. A target should be considered the final step of measuring the energy efficiency improvements that will result in normal cases once the proper frameworks – institutional, financial and technical – are put in place. Member States should not use this as an opportunity because targets are important in providing feedback on progress to improving energy efficiency. ecee is willing to help monitor MS actions closely and publicising them to wide audiences.

Having weighed the advantages and shortcomings, ecee still calls for a mandatory approach to target setting.

*In Summary:*

- Set a target based on a baseline within two years or an average of years, such as in the five-year average in the ESD.
- There is a need for targets that capture both primary energy and final consumption.
- Set sectoral targets that also help to provide feedback to analysts and programme managers.
- Emphasis should be on mandatory targets.

***Integration of energy efficiency into climate change and energy policy***

In the current climate change target for the EU, end-use energy efficiency policies are expected to contribute relatively little. More is expected from the Emissions Trading System (ETS) and renewable energy. Note that ETS does not deliver any reductions in emissions per se, but only allocates the measures to the places where they are cheapest. It is the cap that delivers and sets the price. Moreover the final energy use actually covered by ETS is very small.<sup>8</sup> It is also agreed now that the price effect on end-users will not be adequate to steer consumption. Were the cap to be drastically reduced, the price effects would have many undesirable side effects.

Carbon capture and storage (CCS) is being given increasingly more policy attention and funding than energy efficiency but it is far from being a proven technology.<sup>9</sup>

ecee favours a development from a single instrument approach to a portfolio where ETS is linked to other instruments that have a proven positive effect. An example of this would be to allow ownership of the credits when ETS installations make down-stream investments in the end-use sectors.<sup>10</sup>

The International Energy Agency, in the 450 ppm scenario in its 2009 World Energy Outlook, projects that energy efficiency improvements will contribute about 65% of the resources (political, human and financial) do not match.

The more energy efficiency is achieved, the easier and cheaper it is to meet targets such as 20% share of energy from renewable sources by 2020 in the Directive on Renewable Energy (Directive 2009/28/EC) and also less high-cost energy supply is needed. *On average*, the cost of saving a kWh of electricity or heat is about half of the cost of producing a kWh of electricity or heat. And on the margin, the cost of saving electricity and heat is negative, making it *many times* lower than the marginal cost of production.

ecee calls for a more balanced approach to reflect the real costs of energy savings and production and the expected financial impact on end consumers, particularly low income households, High cost energy supply options will inevitably result in an “energy efficiency first” policy because it is essential for such low-income households.

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<sup>8</sup> Nevertheless it could be better designed and utilised to achieve energy efficiency improvements.

<sup>9</sup> ecee is not arguing to stop funding renewable energy technologies or CCS, only to find a better balance of funding. ecee supports the need for continuing research funding of CCS.

<sup>10</sup> Such instruments can be found in the EU financed projects like LTA-uptake. For more information, go to <http://www.ltauptake.eu/>.

### ***Improving implementation of and compliance with existing directives and initiatives***

Key to any Energy Efficiency Action Plan is ensuring the existing directives are properly implemented and that there are ongoing compliance activities to ensure that the directives are being followed in practice. Of course, compliance is the responsibility of individual Member States, but ecee believes there is an important role for the Commission to require Member States to establish compliance systems and penalties, as now required in the recast EPBD. Member States should audit such compliance activity to ensure that the maximum benefit from the Directives is being attained.

The EPBD and the ecodesign Directives have recently been recast, and are in relatively good shape from a policy perspective. The appliance labelling directive was also recently recast but it remains to be proved how strong it will be. For all these directives, the focus now has to be on effective implementation and compliance.

*In ecodesign* the efforts on boilers and water heaters should be accelerated, as this is the single most important area covered by ecodesign.

Buildings now account for about 40% of current energy consumption and about 36% of CO2 emissions. The emphasis has to be on existing buildings where the rate of renovation is now about 1.2 to 1.4% per year. In total, only about 1% of the building stock is turned over annually. *The EPBD* provides a very good framework for continuing the work on existing buildings, but it is crucial that Member States make all necessary actions to catch the vast potential that lies in making buildings renovations deep renovations, as an opportunity lost will not come back for decades.

ecee welcomes supporting initiatives such as concerted actions for various directives and support their continuation. However, ecee is still concerned that the cross-fertilisation of ideas and exchange of best practice could be strengthened for the wide range of stakeholders. ecee also welcomes initiatives such as Build Up,<sup>11</sup> supported by the Commission. More of this type of exchange of best practice is essential.

ecee is concerned that many Member States, primarily but not only in new MS, are struggling with implementation and compliance and there is a need to better understand why that is the case. Are there financing concerns because of the economic crisis, institutional barriers, lack of priority for energy efficiency, lack of awareness...? Or something else?

The Commission needs to encourage all Member States, in part through infringement procedures, but also through networks and contacts with the MS, using for example, the EnR network of national energy agencies,<sup>12</sup> to focus on implementation and compliance issues.

The Commission also needs to ensure that EU-funded programmes such as Intelligent Energy have objectives that directly impact on the implementation and compliance of current directives and EU-wide policies. Intelligent Energy needs to “push the agenda” to help delivery to scale.

### ***Regulatory development including revising directives***

The Energy Services Directive is not achieving its full potential.<sup>13</sup> The second set of National Energy Efficiency Action Plans, under the Directive, are due in 2011. It is essential that these action plans are more ambitious, quantitative and robust than the first ones. The Commission should begin now to prepare a recast of the ESD and this should be undertaken within the next 12 - 18 months. Within that process the ESD should be

<sup>11</sup> <http://www.buildup.eu>

<sup>12</sup> The EnR network does not cover all MS. More information is available at <http://www.enr-network.org>.

<sup>13</sup> A good assessment of the impact of the directive is available from ECF/RAP, *Energy Savings 2020, How to Triple the Impact of Energy Savings Policies in Europe*, September 2010.

extended until 2020, and include a mandatory target. Equally important, the Commission needs to ensure that the current ESD is implemented well. The Directive has many important points that should be strengthened.

The labelling, the ecodesign and the building directives are all up for review within 2-4 years. The Commission must take the lead and prepare for the recast of these directives by providing evaluations and input of high quality to the recast process.

The Cogeneration Directive (Directive 2004/8/EC) is important although there have been concerns about its impact. Before any discussion on its possible revision, eceee would like to see an independent analysis of its effectiveness and the energy/CO<sub>2</sub> savings actually being achieved, as well as a stakeholder consultation to determine how best to recast it.

### ***Feedback, evaluation and monitoring systems***

As stated above, better feedback, evaluation and monitoring systems are essential. They are important for EU institutions to assess impact and future direction. They are needed for programme managers and they are needed for the full range of stakeholders who have a vested interest in ensuring maximum impact.

Such monitoring and evaluation needs to take place on a regular basis and the results need to be publicly available for everyone to benefit from lessons learned.

### ***Sectoral Considerations***

The following represent initiatives that the Commission should consider in the future development of its energy efficiency strategy:

#### ***Buildings and appliances***

- Existing buildings need special attention because they represent the major share of potential savings in the sector. There is a need for a separate strategy for the deep renovation of existing buildings, including financial framework with progressive (stepwise) incentives, and training and education.
- Need guidance and technical support or developing roadmaps to meet Nearly Zero Energy Buildings (NZEB) deadlines, including measures to stimulate industry, training and education and performance certification
- Need comprehensive evaluation of existing EPBD, including recommendations on improving performance certification.
- Need analysis of complementary measures to support the roll out of smart meters in order to achieve energy savings, and to ensure that the benefits also go to the consumers and not only to energy suppliers.
- Need initiatives to improve white certificates where they exist and to develop the ESCO market as a means of complementing and improving the impact and quality of efficiency measures undertaken under these schemes.
- Continue and expand the ecodesign process.
- Evaluate and exchange best practices on financing energy efficiency particularly in the residential sector.

#### ***Public sector***

- The public sector should be more clearly defined on an EU level to make actions comparable, taking into account out-sourcing and public-private partnerships.
- The exemplary role of the public sector should be utilised more.
- Public procurement should be stimulated more, including the more effective use of the Commissions GPP Guidelines for energy efficiency.
- There has to be a European knowledge bank to support sustainable procurement, as there are not enough easy available tools for the

purchasers of services and goods on the moment. This will require additional and rapid development of GPP guidelines and common EU labels to reduce the confusion caused by the proliferation of environmental labels in Member States and a reduction in the proliferation.

#### *industry and commerce*

- Need special strategy and initiatives for small commercial buildings (e.g. shops) and small and medium enterprises (SMEs) that are not covered by ETS.
- Need analysis of potential impact of roll out of smart meters and energy management systems in achieving energy savings.
- Need system for better exchange of best practice.

#### *transport and mobility*

- Need initiatives to encourage modal shifts to more energy-efficient modes.
- Need initiatives for eco-driving for long distance road hauliers.
- Need initiatives for use of information and communication technologies to promote energy efficiency in transport sector.
- Need supporting initiatives to increase the provision of measures by the transport energy supply sector as required by the ESD (e.g. continuous tyre-pressure control systems).

#### *Energy sector*

- Strong support of the development of the further development of Quantum Complex Systems (QUACS)<sup>14</sup>.
- Strong support of the development and market implementation of energy services.
- Develop a smart meter/smart grid concept that is ready for a net zero emission build environment.

#### ***Ensuring adequate resources are available for better impact***

The European Commission and its agencies, banks and bodies cannot be the source of all financing but they can be key factors for unlocking and leveraging funding that is available in public and private financial institutions in MS as well as internationally. This means that the EU and its Commission need to encourage relevant EU financial institutions and funding programmes (e.g. European Investment Bank (EIB) and structural funds) to give a higher priority and conditionally to energy efficiency particularly through an energy efficiency first policy for all energy related projects. The EU also needs to make the case for the recycling into earmarked energy efficiency funds of the proceeds of ETS auctioning. MS should also be encouraged to use some of their own funding mechanisms more effectively and to address any administrative or institutional barriers that may reduce the available funding.<sup>15</sup> Making this case means stressing the priority for energy efficiency as a key component of energy and climate change policies.

#### **Next Steps**

There is much energy savings potential and good will that can lead to behavioural change within Europe that needs to be properly harnessed and supported. People and

<sup>14</sup> QUACS is a Research Training Network funded by the European Commission's 5th Framework Improving Human Potential Programme. For further information, go to <http://www.weizmann.ac.il/chemphys/gerston/quacs/quacs.html>

<sup>15</sup> The IEE project "Promoscene" and its new follow up can be used as example. PromoSCene is an IEE project that aimed to promote the use of Structural Funds and Cohesion Funds for energy investments in New Member States. The project was finalised in August 2009. For more information, go to <http://www.promoscene.eu>.



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organisations are ready to take action and look for a long-term framework. The upcoming European Energy Efficiency Action Plan is timely. There are many initiatives underway, in part because of EU directives, in part by other EU programmes such as Intelligent Energy and in part because of innovative national programmes.

ec3 remains ready to provide support in whatever way is deemed necessary to increase the priority for and impact of improved energy efficiency.