INTERNATIONAL ENERGY AGENCY

INSIGHTS SERIES 2012

Energy Efficiency Policy Developments

September 2011-September 2012

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INTERNATIONAL ENERGY AGENCY

The International Energy Agency (IEA), an autonomous agency, was established in November 1974. Its primary mandate was – and is – two-fold: to promote energy security amongst its member countries through collective response to physical disruptions in oil supply, and provide authoritative research and analysis on ways to ensure reliable, affordable and clean energy for its 28 member countries and beyond. The IEA carries out a comprehensive programme of energy co-operation among its member countries, each of which is obliged to hold oil stocks equivalent to 90 days of its net imports. The Agency's aims include the following objectives:

- Secure member countries' access to reliable and ample supplies of all forms of energy; in particular, through maintaining effective emergency response capabilities in case of oil supply disruptions.
- Promote sustainable energy policies that spur economic growth and environmental protection in a global context – particularly in terms of reducing greenhouse-gas emissions that contribute to climate change.
- Improve transparency of international markets through collection and analysis of energy data.
- Support global collaboration on energy technology to secure future energy supplies and mitigate their environmental impact, including through improved energy efficiency and development and deployment of low-carbon technologies.
- Find solutions to global energy challenges through engagement and dialogue with non-member countries, industry, international organisations and other stakeholders.

IEA member countries:

Australia
Austria
Belgium
Canada
Czech Republic
Denmark
Finland
France
Germany
Greece
Hungary
Ireland
Italy
Japan
Korea (Republic of)
Luxembourg
Netherlands
New Zealand
Norway
Poland
Portugal
Slovak Republic
Spain
Sweden
Switzerland
Turkey
United Kingdom
United States

The European Commission also participates in the work of the IEA.

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Table of Contents

Introduction

The purpose of this report is to highlight energy efficiency policy action and planning in IEA member and key non-member countries over the period from September 2011 to September 2012. The report provides an overview of energy efficiency policy developments across the seven sectors covered by the IEA 25 Energy Efficiency Policy Recommendations (25 EEPR) – Cross-sectoral activities, Buildings, Appliances and Equipment, Lighting, Transport, Industry and Energy Providers.[1]

Information included in this report is collected from submissions from countries to the IEA Policies and Measures Database (PAMs), periodic government reporting to the IEA Energy Efficiency Working Party, In-depth Energy Policy Reviews and meetings with non-member countries. The following countries are mentioned in this report:

- Australia
- Austria
- Belgium
- Canada
- Denmark
- European Union
- Finland
- France
- Germany
- Hungry
- Ireland
- Italy
- Japan
- Korea
- Malaysia
- Netherlands
- New Zealand
- Poland
- Portugal
- Russia
- Saudi Arabia
- Slovak Republic
- Sweden
- Switzerland
- Turkey
- Ukraine
- United Kingdom
- United States

Summary

This report reveals significant energy efficiency policy developments in the September 2011-September 2012 period. Buildings, in particular, received increased policy attention – with governments reporting on strengthened energy performance requirements (MEPs) in building codes, fiscal incentives (**Belgium, Canada**), financing schemes (**Ireland, Italy, New Zealand, Switzerland** and the **UK**), targets for renovation rates (**EU, Germany**) and awareness campaigns (**Sweden**) to improve the energy efficiency of existing buildings.

Perhaps the most significant recent policy development took place at the **EU** level. In June 2012 the European Parliament and the European Council, with help from the European Commission, agreed to a provisional deal on a new EU Energy Efficiency Directive. The Directive calls for binding measures rather than binding targets, where each Member State must set a national energy-savings target in line with the EU-wide 20/20 target, establish a long-term strategy for renovating building stock, oblige energy providers to achieve cumulative end-use energy savings equivalent to 1.5% of annual energy sales over the period 2014 to 2020 and require all large enterprises to undergo quadrennial energy audits.

[1] This report is not meant to be a comprehensive review of energy efficiency policies nor is it meant to highlight only best-practice policies.

Notably missing in this report is a robust discussion of new policies to improve transport efficiency. The transport sector remains an area were urgent policy attention is needed.

Table 1 provides a summary of the status of key energy efficiency policies in a selection of IEA member countries.

Table 1. Summary of key energy efficiency policies, IEA member countries

	Australia	Canada	European Member States	Japan	Korea	New Zealand	United States
Cross-sectoral							
Energy efficiency strategy or target	Clean Energy Future Plan National Strategy on Energy Efficiency (NSEE)	Moving Forward on Energy Efficiency in Canada: Achieving Results to 2020 and Beyond	National Energy Efficiency Action Plans	Innovative Energy Savings Plan September 2012	The National Energy Master Plan and Energy Use Rationalization Master Plan	New Zealand Energy Efficiency and Conservation Strategy	No current efficiency strategy or target.
Buildings and appliances							
Building energy codes	Mandatory for new and existing residential and commercial buildings. Codes updated in 2011.	Voluntary national Energy Code for new and existing residential and commercial buildings, published in 2011 for adoption by sub-national regulators.	Mandatory for new and existing buildings when renovation is undertaken.	Voluntary guidelines.	Mandatory for residential buildings and commercial buildings 500 – 300 m². Codes updated in 2010.	Mandatory for new residential and commercial buildings.	Mandatory for new residential and commercial buildings, and major renovations, with some exceptions Variation of stringency across states.
Energy labelling	National framework replacing seven state and territory legislative frameworks. 7 appliances covered by the mandatory Energy Rating Labelling Scheme. Mandatory disclosure of commercial building energy efficiency.	Mandatory EnerGuide label for eight major household appliances and lightbulbs. International ENERGY STAR symbol promoted in Canada.	Energy performance certificates mandatory for all new buildings. Labelling in place for of household appliances.	Voluntary building labelling programme and Energy Star for office equipment.	Labelling system expanded from 26 products in 2011 to 35 products in 2012.	8 products covered.	Mandatory EnergyGuide labelling for most household appliances. Voluntary energy star labelling for over 60 categories of appliances, equipment and buildings.

	Australia	Canada	European Member States	Japan	Korea	New Zealand	United States
Appliance, equipment and lighting MEPS	20 products covered.	47 products covered.	15 product groups covered by EcoDesign Directive.	Top Runner: 23 products covered.	26 products covered.	16 products covered.	45 products covered.
Transport							
Fuel-efficiency standards	LDV: Implementation from 2015. HDV: Included in carbon price mechanism from 2014.	LDV: published October 2010 for model years 2011-2016. HDV: under consideration	LDV:130 g/CO2 per km by 2015*. HDV: under consideration. *Switzerland is also implementing these standards.	LDV: 16.8 km/l (45.1 mpg) HDV: starting MY 2015.	LDV:17 km/l by 2015; 140 g/CO2 per km by 2015. HDV: starting after 2015.	None	LDV: 34.1 mpg by 2016 (6.90 l/100 km); large increases by 2025. HDV: starting MY 2014.
Fuel-efficiency labelling	LDV: Yes HDV: None	LDV: EnerGuide Label HDV: None	LDV: Yes HDV: None	LDV: Yes HDV: Yes	LDV: Yes HDV: None	LDV: Yes HDV: None	LDV: Yes HDV: None
Fiscal incentives for new efficient vehicles	None	Several provinces and territories offer incentives or rebates for the purchase of fuel-efficient vehicles, including EVs.	Most countries align vehicle taxes with CO2 emissions.	Registration taxes according to CO2 emissions and fuel economy.	None	None	Tax at federal level; 20 states plus DC offer tax incentives, rebates, or voucher programmes for advanced vehicles (EVs, PHEVs, HEVs, and/or Fuel Cell vehicles)
Industry							
Energy management programmes	Energy Efficiency Opportunities (EEO) Programme mandatory for corporations using more than 0.5 PJ of energy per year. Expansion of programme announced.	ecoEnergy Efficiency for Industry programme, which supports the early implementation of the new ISO 50001 Energy Management Systems standard.	Voluntary agreements in place in Belgium (Flanders), Denmark, Finland, Ireland, Netherlands, Sweden.	Energy managers required for large industries.	Voluntary Energy Saving through Partnership programme.	Energy management diagnostic tools, training for energy managers & other support.	Voluntary energy management certification programme, implementation of ISO 50001. Technical support programmes in place, especially for SMEs
MEPs for electric motors	IE2 for 3-phase industrial electric motors.	Must meet or exceed the efficiencies outlined in either Table 2 or Table 3 of CAN/CSA C390-10.	IE3 (premium efficiency) MEPs for 3-phase induction motors <7.5kW by 2015; all IE3 (IE2+Variable Speed Drive) in 2017	Adding 3-phase induction MEPs to Top Runner programme.	IE2 (high efficiency) 3-phase electric motors.	MEPS are in place at level II Standards. Investigation underway to advance to level III.	IE3 (premium-efficiency) MEPs for 3-phase induction motors.

	Australia	Canada	European Member States	Japan	Korea	New Zealand	United States
Energy utilities							
Energy efficiency obligation schemes	The States/Territories of NSW/ACT, SA and Victoria have implemented white certificates schemes. Legislation passed for EEO programme extension to generators in July 2012.	Some provincial jurisdictions enforce DSM targets.	White certificate schemes in place in Denmark, France, Italy and UK. Voluntary obligations scheme introduced in Ireland.	Benchmark scheme for power plants.	Energy utilities forced to submit DSM investment plan.	A levy on electricity sales funds a government electricity efficiency improvement programme.	24 states, representing well over 50% of the US population and energy demand, have placed energy efficiency resource obligations on their regulated utilities.

Cross-sectoral policies

Governments play a crucial role in setting the cross-sectoral framework for energy efficiency by:

1. Collecting energy efficiency data and indicators
2. Developing strategies and action plans
3. Creating competitive energy markets, with appropriate regulation
4. Facilitating private investment in energy efficiency
5. Putting in place monitoring, enforcement and evaluation policies and measures.

Data and indicators

Reliable, timely and detailed data on energy end uses, markets, technologies and efficiency opportunities in all sectors contribute to the development of effective energy efficiency strategies and policies. Several countries published energy indicators in the 2011-2012 period.

In May 2012, **Australia**'s Bureau of Resources and Energy Economics (BREE) released their 'Economic Analysis of End-use Energy Intensity in Australia' report. This report provides information on trends in energy consumption and energy intensity and factors underlying these trends (activity, structural and energy efficiency changes) over the period 1989-90 to 2009-10: http://www.bree.gov.au/documents/publications/energy/Energy_intensity.pdf

In August 2012, BREE released an update of the Australian Energy Statistics manual. It is the authoritative and official source of energy data for Australia. Updated annually, it consists of detailed historic energy consumption, production and trade statistics compiled from various sources. The data covers the period 1973-74 to 2010-11. http://bree.gov.au/data/energy/AES-2012.html

In January 2012, Australia's Department of Resources, Energy and Tourism and the Department of Climate Change and Energy Efficiency began a detailed analysis of potential benefits of energy efficiency opportunities by subsector, fuel type and technology process in a range of industry

sectors. The data tool is currently available at a Federal level, with State release by the end of October 2012. Data has been sourced from the five years of mandatory reports of the Energy Efficiency Opportunities (EEO) Program, the National Greenhouse and Energy Reporting (NGER) system and a range of state based programmes. The data tool has also been designed to enable detailed analysis of the potential barriers, both market and non market, which affect the uptake of energy efficiencies throughout a range of industry sectors.

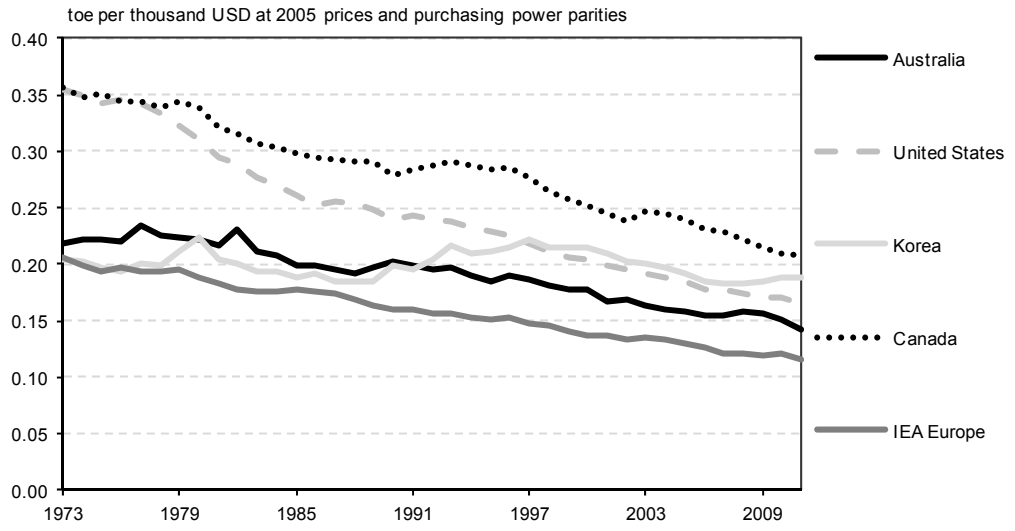
Austria's energy economic data published in November 2011 can be found here: http://www.statistik.at/web_en/statistics/energy_environment/energy/index.html

The Natural Resources **Canada** publication "Energy Efficiency Trends in Canada 1990 to 2009" is now available: http://oee.nrcan.gc.ca/publications/statistics/trends11/pdf/trends.pdf. Natural Resources Canada also released "Improving Energy Performance in Canada – Report to Parliament Under the *Energy Efficiency Act* for the Fiscal Year 2010-2011", which is available at: http://oee.nrcan.gc.ca/publications/statistics/parliament10-11/pdf/parliament10-11.pdf

Sustainable Energy Authority **Ireland** (SEAI) published an updated 'Energy in Ireland' report in December 2011 that includes analysis on energy use and supply trends in Ireland up to the end of 2010: http://www.seai.ie/Publications/Statistics_Publications/EPSSU_Publications/Energy%20In%20Ireland%201990%20-2010%20-%202011%20report.PDF

In December 2011, the **UK**'s Department of Energy & Climate Change released their Energy Trends and Quarterly Energy Prices publications, which includes data from 2010 and 2011 in December 2010: http://www.decc.gov.uk/assets/decc/11/stats/publications/energy-trends/3918-pn11-113.pdf

Figure 1 Energy intensity in selected IEA member countries, 1973 to 2011



Sources: Energy Balances of OECD Countries, IEA/OECD Paris, 2012 and National Accounts of OECD Countries, OECD Paris, 2012.

Governance

Changes in energy efficiency institutions

Denmark, Turkey, Ukraine, the **UK** and the **US** reported changes in institutions involved in energy efficiency policy making. For example, **Denmark** abolished the Energy Saving Trust in June 2012. In **Turkey**, several ministries work on energy efficiency (including the Ministry of Energy and Natural Resources and the Ministry of Science, Industry and Technology), but primary responsibility for conducting energy efficiency studies resides with the newly created General Directorate of Renewable Energy. This body replaced the General Directorate of Electrical Power Resources Survey and Development Administration (EIE) in November 2011 and conducts studies on renewable energy and energy information and technology management, in addition to energy efficiency.

In April 2011, the National Agency of **Ukraine** on Ensuring Efficient Use of Energy Resources (NAER) was replaced by the State Agency on Energy Efficiency and Energy Saving (SAEE). SAEE is tasked with the dual role of promoting energy efficiency and renewable energy deployment.

In the **UK**, a new Energy Efficiency Deployment Office (EEDO) was launched in February 2012. EEDO is a new directorate located in the International Climate Change and Energy Efficiency (ICCEE) Group of the Department of Energy and Climate Change (DECC) and is staffed by around 50 civil servants with expertise in economics, statistics, customer insight and policy delivery. EEDO serves as the government's centre of expertise on energy efficiency, supports the delivery of exiting energy efficiency policies and is in charge of developing the government's energy efficiency strategy (to be published by the end of 2012).

Also in the **UK**, in September 2012, Shaun Kingsbury was appointed the Chief Executive of the Green Investment Bank (GIB). He joins the UK GIB from the private equity firm Hudson Clean Energy Partners where he was responsible for its European activities. He will work alongside the Chair Lord Smith of Kelvin and Deputy Chair Sir Adrian Montague who were appointed in May 2012.

Adam Sieminski became the new Administrator of the **US** Energy Information Administration (EIA) in June 2012. Before joining the EIA, Mr. Sieminski was the Chief Energy Economist for Deutsche Bank, working with the Bank's global commodities research and trading units.

Prime Minister support for energy efficiency

Energy efficiency policy has received high-level support from the **Turkish** government. In January 2012, the Prime Minister and the Minister of Energy and Natural Resources participated in the National Energy Efficiency Forum, a series of conferences, panels, fairs and award ceremonies for energy-efficient technologies and companies. The Forum took place as part of Turkey's Energy Efficiency Week. Activities on energy efficiency and conservation were also organised in schools throughout the country.

Energy efficiency strategies, action plans and laws

Governments are formulating and regularly updating strategies and action plans for improving energy efficiency throughout their domestic economies. Eleven countries reported developments in energy efficiency strategies and action plans. For example, the **Australian** Government's Clean Energy Future plan was announced in July 2011. The plan provides a framework for reducing carbon pollution and facilitating the transition to a low carbon economy. The package includes the introduction of a carbon price, which came into effect on 1 July 2012 and will be linked to the

European carbon trading scheme when flexible pricing commences in 2015-16. A range of support measures will assist industry and households to transition. More information is available at: http://www.cleanenergyfuture.gov.au/

In July 2011 **Canada's** Energy Ministers agreed to a 'Collaborative Approach to Energy' with a companion Action Plan. Specific areas covered by the plan include a more stringent model energy code for buildings, a next generation energy rating system for homes, project financing tools, transportation, product regulation, and industrial energy management standards.

In November 2011, the **Danish** government presented 'Our Future Energy' strategy that included specific measures for fulfilling the government's goal of 100% renewable energy in 2050. Decreasing energy consumption by more than 14% by 2020 compared with 2006 levels through improved energy efficiency is a large part of the strategy. Measures include 1) a further increase in energy-savings obligations on energy utilities 2) stronger MEPs for building components and 3) a ban of oil and gas boilers in new buildings starting in 2013 and a ban on installation of oil boilers in existing buildings as of 2015. 'Our Future Energy' strategy calls for government spending of KR5.6 billion to 2020 to implement energy efficiency initiatives and expand renewable energy generation. It can be found here: http://www.ens.dk/Documents/Netboghandel%20-%20publikationer/2011/our_future_energy_%20web.pdf

European Union Directive: In June 2012 the European Parliament and the European Council, with help from the European Commission agreed to a deal on a new Energy Efficiency Directive.

The Directive was proposed by the European Commission's DG-Energy in 2011 with the objective of filling gaps in existing EU regulatory instruments in order to achieve the EU-wide target of a 20 percent savings in energy by 2020 (the 20/20 target). The Directive should be voted in October and will probably enter into force by December.

The Directive is a compromise between the European Parliament, the European Commission, which wanted more-stringent binding measures in order to meet the 20/20 target, and the Council of Ministers, who were concerned about impacts on public spending and the private sector. Under the Directive, each Member State should set a national energy savings target in line with the EU-wide 20/20 target and present a national efficiency action plan every three years, beginning in 2014.

Some analysts expect the compromise Directive will fall short (3-5 percent) of the 20/20 target. The Directive does require a review in mid-2014; a shortfall may result in a shift from binding measures to binding targets. Overall, the Directive is still considered an important milestone for EU-wide cooperation on energy efficiency especially as the number of different actors to contribute to energy saving will increase significantly.

The Ministry of Energy, Green Technology and Water in **Malaysia** has formulated the National Energy Efficiency Master Plan (NEEMP) that will soon be tabled for government approval. The proposed NEEMP has set a 10-year target to improve energy efficiency in the industrial, building and appliances sectors.

In May 2012, **Russia's** 'Presidential Decree on measures to ensure the citizens of the Russian Federation, affordable and comfortable accommodation and quality of housing and communal services' came into force. This Decree seeks to ameliorate the living conditions of Russian citizens through improved energy efficiency. From 2012 until 2017, there is to be a 30 percent increase in the total capital investment devoted to the heating system, water supply and sewage treatment. Action will be taken to improve utility service provision, which includes encouraging market competition at regional and local levels and an action plan will be created for the prevention and suppression of monopolies in the housing and construction sectors in order to attract private investment to meet modernization and efficiency goals.

Saudi Arabia is currently drafting a National Energy Efficiency Strategy.

Public consultation on **Switzerland's** Post-Fukushima energy policy package (Energy Strategy 2050) starts in October 2012.

In 2011, **Turkey** passed a by-law on energy labelling schemes and amended a by-law to increase incentives for energy efficiency projects. These by-laws are consistent with Turkey's Energy Efficiency Strategy Paper (approved by the High Planning Board in February 2012) that outlines a plan to improve Turkey's energy intensity by 20% to 2023.

In April 2011, the State Target Economic Programme on Energy Efficiency and Energy Savings of **Ukraine** for 2010-2015 was expanded and renamed the 'National Targeted Economic Programme on Energy Efficiency and Development of the Sphere of Energy Production from Renewable Energy Sources and Alternative Fuels for 2010-2015'. This programme contains a five-year investment programme of USD 43 billion.

The **UK's** newly created EEDO has published an 'Energy Efficiency Evidence Brief': http://www.decc.gov.uk/publications/basket.aspx?filetype=4&filepath=11%2fconsultation%2f4287-energy-efficiency-deployment-office-evidence-brief.pdf#basket
This brief informs the development of the UK energy efficiency strategy by providing an overview of energy use in the UK, international comparisons and energy efficiency potential across the economy. This document will be updated periodically.

In October 2011, the **UK's** Energy Bill received Royal Assent and became the Energy Act 2011. The Energy Act provides for some of the key elements of the Coalition's Programme for Government and its first Annual Energy Statement. The Act provides for a step change in the provision of energy efficiency measures to homes and businesses, and makes improvements to the framework to enable and secure low-carbon energy supplies and fair competition in the energy markets. Further detail on the Energy Act 2011, and its provisions, is available at: http://www.decc.gov.uk/en/content/cms/legislation/energy_act2011/energy_act2011.aspx

Investment in energy efficiency

Countries are putting in place measures to facilitate investment in energy efficiency. In **Australia**, for example, these include the:

- Clean Energy Finance Corporation (CEFC), which will provide AUD 10 billion to support implementation of renewable, low-emissions and energy efficiency technologies. The CEFC is part of the Clean Energy Future plan which will assist to overcome financial barriers to commercialising and deploying cleaner energy and energy efficient technologies. The CEFC will commence its investment operations from July 2013.
- The Clean Technology Programs (Clean Technology Investment Program; Clean Technology Food; and Foundries Investment Program; and Clean Technology Innovation Program) were launched in 16 February 2012. They will provide AUD 1.2 billion in grants to support Australian manufacturers to invest in energy efficient capital equipment and low emission technologies, processes and products. The programmes are currently open for applications.
- Low Income Energy Efficiency Program is providing AUD 100 million to support service providers to demonstrate smart energy use in low income households across Australia. The programme guidelines were released on 12 February 2012.
- Community Energy Efficiency Program which in June 2012 announced the successful applicants for round one. AUD 42 million will be provided to 63 recipients as part of a

merit-based programme to match funding to local councils and non-profit community organisations to undertake retrofits to council and community-use buildings, facilities and lightings.

- Home Energy Saving Scheme (HESS) which began in October 2011. This scheme will support low-income households across Australia experiencing difficulty meeting and paying for energy needs. HESS will provide access to energy efficiency and financial management information and, if appropriate, integrated service coordination around energy efficiency and financial management.

In September 2011, **Canada** announced a programme renewal of CAD78 million between 2011 and 2013 to maintain momentum to improve energy efficiency. Additional funding of CAD117 million was announced in January 2012 to total CAD195 million for ecoENERGY Efficiency initiatives over the next five years.

The **European** Energy Efficiency Directive requires that each Member State facilitate development of national financing facilities for energy efficiency measures.

New Zealand's Commercial Buildings Audit and Works Programmes encourages commercial building owners to undertake efficiency measures that would otherwise not have occurred due to capital constraints. Part-funding is provided for energy efficiency projects in commercial buildings where there is a genuine financial barrier preventing the project from occurring. Projects are delivered through contracted service providers, sourced by way of a RFP process. Electricity savings are guaranteed with repayment mechanisms in place for any shortfalls.

The European Bank for Reconstruction and Development (EBRD) created a credit facility for energy efficiency projects called the **Ukraine** Energy Efficiency Programme (UKEEP). UKEEP and an associated technical assistance programme is accessible to small- and medium- sized companies in all sectors. The first phase of UKEEP was completed in 2011 with projects financed for a total loan amount of more than USD 100 million.

In November 2011, a consultation was launched in the **UK** to seek views on the details of the Green Deal. The Green Deal is a market led framework that will allow individuals and businesses to make energy efficiency improvements to their buildings at no upfront cost. Central to the Green Deal is a mechanism that will allow access to the finance needed for the improvements with repayment, in instalments, attached to the electricity bill. The Green Deal is expected to launch in October 2012.

Buildings

Buildings hold great potential for cost-effective energy savings. Government s can tap into these savings by:

6. Requiring building energy codes and minimum energy performance requirements
7. Aiming for net-zero energy consumption in buildings
8. Improving energy efficiency in existing buildings
9. Requiring building energy labels or certificates
10. Putting in place policies to improve energy performance of building components and systems.

Mandatory building energy codes – How low can you go?

Countries are putting in place and periodically strengthening energy building codes for new and

existing buildings undergoing renovation.

The National Energy Code of **Canada** for Buildings was published in 2011. It is applicable to all buildings (generally defined as buildings exceeding 600 m2 in building area or exceeding three storeys in building height, but also post-disaster buildings and certain occupancy classifications regardless of size, e.g. assembly occupancies). These energy requirements are expected to raise the energy efficiency of new construction. In 2012, energy efficiency requirements for low-rise housing and small buildings will be part of the National Building Code. The housing-related requirements are expected to raise the energy efficiency of new construction homes by an average of 20% across Canada and across common housing types. In Canada, the National Construction Codes are "model" codes that must be adopted by a subnational regulatory authority in order to come into effect.

In July 2012, the **Finnish** Ministry of the Environment updated building energy requirements. The new ordinances contain more stringent standards for the energy performance and consumption of the entire building and promote the use of renewable energy sources and district heating.

In **France**, the new building code "RT 2012" entered into force in October 2011. RT 2012 strengthens requirements concerning the thermal performance of new buildings: all new buildings with a building permit lodged after 1 January 2013 must have primary energy consumption below a threshold of 50 kWhep/m2/year. This requirement must be applied early, from 28 October 2011, in the case of public and service buildings and dwellings built in an ANRU[2] zone. The 50 kWhep/m2/year requirement concerns consumption of heating, cooling, lighting, domestic hot water produced and auxiliary equipment (pumps and fans). This threshold will also vary according to geographical location, altitude, nature of building use, average dwelling surface area and greenhouse gas emissions.

Sweden revised the energy building code in 2012 and requires new residential, public and commercial buildings (and buildings undergoing deep renovations) to consume no more than 90 kWh/m2 in the southern climate zone and 130 kWh/m2 in the northern climate zone.

In the **US**, the dominant model energy codes for residential and commercial buildings were substantially upgraded in 2012. One state has already adopted the new code and a number of others have taken steps to adopt it by no later than 2015.

Building energy labels

Governments are putting in place mandatory and voluntary building labelling and certificate schemes that provide information to owners, buyers and renters.

Australia, for example, legislated a new policy requiring commercial building owners to provide information on a building's energy performance to prospective buyers and/or tenants at the point of sale, lease or sublease. As of November 2011, vendors and lessors of commercial office space over 2,000 square metres must disclose a building energy efficiency certificate (BEEC) to potential buyers and lessees. BEECs include a rating under the National Australian Built Environment Rating Scheme (NABERS), a Tenancy Lighting Energy Efficiency Assessment and guidance on how to improve a building's energy performance.

Canada is introducing the voluntary Next Generation EnerGuide for Houses Rating System (ERS) for rating and labelling new and existing homes. The Next Generation ERS is offered through a nationwide network of service organisations and provides an 'asset rating' based on standard

[2]Dwellings built in zones reserved for access to property by low-income households and eligible for a VAT rate of 5.5%, instead of 19.6% (ANRU: National Urban Renewal Agency)

operating conditions. The Next Generation ERS can also provide an 'Efficient Living Assessment', which examines homeowner behaviours and their impact on building energy performance. The Assessment includes recommendations on how to improve energy efficiency.

Low and zero-energy buildings

A few countries are supporting and encouraging the construction of buildings with net-zero energy consumption and taking initiatives to make such buildings commonly available in the market when economically viable based on a life-cycle cost analysis. In this reporting cycle, **Japan** mentioned a YEN 7 billion subsidy programme to promote zero-energy buildings. Funding for this programme has been allocated in the Ministry of Economy, Trade and Industry 2012 fiscal year budget.

Improved energy efficiency in existing buildings

Governments are implementing a broad range of policies to improve the energy efficiency of existing buildings. In 2012, the **Belgium** federal government continued tax deductions *only* for roof insulation for fiscal year 2013 (in previous years deductions existed for double-glazed windows, floor and wall installation, etc.). Flanders increased subsidies for efficient windows and solar boilers in 2012. For windows, the tax break depends on a person's income and applies to a maximum investment of EUR15,000. For solar boilers, the subsidy increased from EUR 200 to EUR 500, bringing down the payback period from twenty years to fewer than ten. In Brussels, energy audits are now mandatory for commercial buildings larger than 3500 m2.

Canada's ecoENERGY Retrofit - Homes Program received CAD400 million in 2011-2012 to help homeowners make their homes more energy-efficient and to reduce the burden of high energy costs. As of January 2012, the ecoENERGY Retrofit – Homes Program had successfully reached its goal of 250,000 registered homeowners, and, as planned, the program is no longer accepting new registrations. Since its inception, the ecoENERGY Retrofit - Homes Program helped over 640,000 Canadians increase the energy efficiency of their homes. Homeowners reduced their energy consumption by an average of 20%.

The new **European Directive** requires each Member State to establish a long-term strategy for renovating building stock, including an annual renovation rate of 3% (by floor area) for buildings owned and occupied by central government.

According to a decree published in January 2012, co-owned dwellings in **France** consisting of more than 50 lots and equipped with a communal heating or cooling facility must undergo an energy audit.

To achieve its objective of improving the energy performance of 2% of the existing building stock, the **German** Federal government has approved EUR1.5 billion a year for the 2012-2014 period. Evaluations of the funding programme from 2008-2010 revealed that for every EUR 1 of government funding for building retrofits, EUR 12 was leveraged from the private sector. A draft law is currently under consideration to provide targeted tax incentives for buildings with owner-occupiers in order to reach people who are reluctant to make use of the credit programme.

Ireland launched the Better Energy National Upgrade Programme in May 2011. There are four strands to 'Better Energy', which replaced three domestic energy efficiency and renewable energy programmes: the Home Energy Savings Scheme (HES), the Warmer Homes Scheme (WHS) and the Greener Homes Scheme (GHS), as well as the business support programme Sustainable Exemplar Energy Efficiency Programme (SEEEP).

The first strand (Better Energy: Homes) allows domestic customers to apply for an Exchequer supported incentive, currently a grant but which will migrate to an upfront discount later in 2012. Upgrades covered under this grant programme include roof and wall insulation, high efficiency boilers, heating control upgrades and solar thermal. The second strand concerns the introduction of energy-savings obligation schemes on suppliers in 2012 (see energy providers for more information). The third strand (Better Energy: Warmer Homes) focuses on alleviating energy poverty by providing support for energy efficiency upgrades in low-income private housing. Applications are collected centrally, via a managing agent, or through a network of community-based organisations who deliver the retrofit work free of charge to the homeowner (a broader Affordable Energy Strategy to protect homes at risk to fuel poverty was published in November 2011). The fourth strand (Better Energy: Workplaces) supports sustainable upgrades to existing buildings, services and facilities in the public, commercial, industrial and community sectors. The programme aims to create energy efficiency exemplars in the wider business and public sectors. The upgrades will be used to prove and disseminate widely applicable technical solutions as well as new business models.

While Ireland will continue to provide a significant level of support in 2012 and 2013, in early 2014, the country will transition to the Pay-As-You-Save (PAYS) energy retrofit scheme for domestic buildings, substituting Exchequer funding currently being provided to the Better Energy Programme.

Italy is developing an incentive scheme with a focus on public administrations. This scheme, called Conto Termico (Thermal Account), seeks to improve the thermal insulation of buildings, incentivise the retrofitting of existing buildings and the construction of new ones according to high energy efficiency characteristics and lead to the installation of more efficient windows, electric boilers, heating and cooling systems.

In March 2011, **Sweden** launched the website http://www.energiaktiv.se/. It primarily provides the owners of large buildings with recommendations on how to improve energy efficiency during renovations.

The **Swiss** Building Refurbishment Program is in its second year. Since beginning in 2010, more than CHF 210 million for 26,000 projects has been disbursed. For refurbishing the building envelope, 20,500 projects have been completed at a cost of CHF 136 million. For projects related to renewable heating systems in existing buildings, CHF 23 million has been spent to complete 5,500 projects. Collectively, these projects have led to reductions of around 117,000 tons of CO2 annually and 3.1 million tonnes over the measures' life time.

In January 2012, the **UK** Energy and Climate Change Secretary of State announced the first 82 local energy projects to win funding from the new GBP10 million Local Energy Assessment Fund (LEAF). Winning bids include show homes to demonstrate solid wall insulation to the public, schemes to check the energy efficiency of homes and invest in renewable energy, and events to promote the uptake of energy efficiency in local communities.

Organisations including parish councils, voluntary associations, development trusts and faith groups are all eligible to apply for LEAF funding. Around 200 projects are expected to benefit in total. More information is available from the Local Energy Assessment Fund website: http://www.greencommunitiescc.org.uk/DECCDefault.aspx

Also in the **UK**, the Energy Act 2011 includes a provision on private building rentals. Starting in April 2006, private residential landlords will be unable to refuse a tenant's reasonable request for consent to energy efficiency improvements where a finance package, such as the Green Deal and/or the Energy Company Obligation (ECO), is available.

From April 2018, the **UK** Energy Act 2011 will make it unlawful to rent out a residential or

business premise that does not reach a minimum energy efficiency standard (the intention is for this to be set at EPC rating 'E').

During 2012, the **US** Better Buildings Neighbourhood (residential) and Challenge (commercial & institutional) initiatives, Home Energy Score and Energy Star programmes, and Commercial Building Energy Alliances were all expanded to dozens of new states and local governments, as well as private partners. The programmes provide rating tools, technical assistance and other support to efficiency improvements to existing, as well as new, buildings.

Appliances and equipment

Appliances and equipment represent some of the fastest-growing energy loads. To achieve significant energy savings in this sector, governments can put in place:

11. Mandatory minimum energy performance requirements (MEPs) and labels
12. Test standards and measurement protocols for appliances and equipment
13. Market transformation policies for appliances and equipment.

MEPs and labels

Governments are adopting and regularly updating the stringency of MEPs across a spectrum of appliances and equipment. For example, in the 2011-2012 period, **Australia**, through the Equipment Energy Efficiency (E3) Program, has adopted four new or revised MEPS regulations for split-system air-conditioners, multi-split system air-conditioners, gas water heaters and televisions. From 1 October 2012, the Australian Greenhouse and Energy Minimum Standards (GEMS) Act came into effect. This legislation expands the E3 Program and replaced 7 state based laws, improving consistency and streamlining E3 processes to the benefit of the equipment suppliers. It also allows for a more comprehensive and stringent compliance programme to be introduced.

Canada's regulations under the *Energy Efficiency Act* set minimum energy-performance levels for 47 energy-using products such as appliances, lighting, and heating and air-conditioning. It is expected that as of January 2013, products accounting for 80% of the energy used in homes and businesses will be regulated. An additional set of new regulations will implement further new and revised standards for 16 products.

Korea has expanded its labeling system from 26 products in 2011 to 35 products in 2012. Korea has also expanded its high-efficiency certification from 36 products in 2011 to 41 in 2012.

Malaysia is finalizing MEPS for televisions, air conditioners, fans, lightings and refrigerators.

In **Saudi Arabia,** MEPs and labels exist for some air conditioners, refrigerators and washing machines. Saudi Arabia is now expanding MEPs to larger air conditioners. MEPs are being developed for water and electric heaters.

Since August 2011, the **US** Department of Energy has updated minimum energy performance requirements (MEPs) for fluorescent lamp ballasts, clothes washers, dishwashers, refrigerators, freezers and direct heating equipment, and agreements to update standards for distribution transformers, and to develop a voluntary standard for set-top boxes were announced. The US DOE launched a new web-based data base of all product certification data in December 2011. In July 2011, the US DOE announced the most-energy efficient products participating in the Energy Star labelling programme for the following categories: clothes washers, refrigerators, televisions, central air-conditioners, furnaces and air and ground-source heat pumps.

Lighting

To achieve energy savings in the lighting sector, governments can:

14. Phase out inefficient lighting products3
15. Promote energy-efficient lighting system design and management.

France, Malaysia and **Russia** reported policies to improve lighting efficiency in the last year.

Following the National Round Table on Energy Efficiency in December 2011, **France** announced 27 new energy efficiency measures, including the obligation to turn off neon signs between 1 and 6 am and public lighting refurbishment assistance for small towns (under 2000 inhabitants).

Malaysia is phasing out inefficient lamps such as incandescent bulbs between now and 2014.

Russia's Energy Saving Lighting Policy became effective December 2011. This policy stipulates a ban on energy-inefficient 100W light bulbs.

Transport

The transport sector consumes approximately one-fifth of global primary energy. This sector is highly dependent on oil and will account for nearly all future growth in oil use. Countries can implement the following policies and measures to address the growing demand for oil in the transport sector:

16. Mandatory vehicle fuel efficiency standards
17. Vehicle fuel economy labels, vehicle taxes, infrastructure support and other measures to improve vehicle fuel efficiency
18. International testing procedures for measuring tyre rolling resistance, mandatory fitting of tyre-pressure monitoring systems MEPs for vehicle air conditing
19. Ecodriving
20. Urban transport system efficiency planning.

Mandatory vehicle fuel-efficiency standards

Governments are adopting and regularly updating fuel-efficiency standards for light and heavy-duty vehicles.

Canada is currently developing regulations to limit greenhouse gas emissions from new on-road heavy-duty vehicles, and intends to implement these regulations with the 2014 model year in alignment with the United States.

Japan implemented an improved fuel efficiency standard target for passenger vehicles for 2020. By increasing the standard from 16.3 km/L to 20.3 km/L in 2020, Japan seeks to improve vehicle fuel efficiency 24.1%.

In August 2012, the **US** issued a supplementary notice of intent to reduce greenhouse gases (GHG) and improve corporate average fuel-economy standards for light-duty vehicle for the period 2017–2025. Passenger vehicle fuel economy is estimated to increase from an average model year 2016 level of 34.1 miles per gallon to 54.5 miles per gallon in 2025. In August 2011, the US adopted greenhouse gas emissions and fuel consumption standards for heavy- and

[3] Most IEA member countries have implemented policies to phase out inefficient lighting products.

medium-duty vehicles. The regulation covers model years (MY) 2014-2018 and is voluntary for MY 2014-2015. The affected heavy- and medium-duty fleet incorporates all on-road vehicles rated at a GVW≥8,500 lbs, and the engines that power them, except those covered by the GHG emissions and Corporate Average Fuel Economy (CAFE) standards for MY 2012-2016 light-duty vehicles.

Instruments to encourage purchase of fuel-efficient vehicles

Governments can adopt measures such as labelling, incentives and taxes to boost vehicle efficiency and accelerate the market penetration of new efficient vehicle technologies.

In 2011, **Finland** changed the structure of energy taxes on fuel for transport (and CHP plants), with the tax now being based on the energy content, carbon dioxide emissions and local/particle emission levels that have adverse health effects.

In **Ireland**, a public consultation was launched in December 2011 regarding the revision of the current system of Vehicle Registration Tax (VRT) and Motor Taxation rates (introduced in July 2008) to adjust CO2 bands and rates in line with technological advances in motor vehicles. A review of this policy will take place in 2012.

As of 2011 in **Sweden**, light-duty vehicles, buses and motor caravans are covered by a carbon dioxide multiplier. Purchasers of heavy-duty vehicles pay a tax according to vehicle weight and exhaust levels. Moreover, heavy-duty vehicles and trailers weighing more than 12 tonnes are subject to a toll charge. The charge is based on the vehicle's exhaust emissions category and the number of axles, and is payable for one year at a time. Some offset alleviation is provided by a reduction in the vehicle tax.

Also in **Sweden**, as of January 2012, a rebate of up to SEK 40 000 (EUR 4000) is granted to purchasers of vehicles that emit 50 g CO2 /km or less. The government has designated SEK 200 million for these rebates. It is expected that around 5000 buyers will be given grants.

Fuel-efficient non-engine components

In addition to requiring improvements in the fuel efficiency of vehicles, governments can adopt measures to reduce the negative impact on fuel efficiency of vehicle components, such as tyres and air-conditioning systems that are often excluded from vehicle fuel-efficiency testing.

European regulations (EC 661/2009 and EC 1222/2009) require mandatory fitting of tyre-pressure monitoring systems (TPMS) by November 2012 for new passenger cars and by November 2014 for all newly registered passenger cars. Also by November 2012, tyre labels in EU Member States must be displayed at the point of sale and in technical promotional literature, including websites. The goal is for consumers to make more informed choices, use less fuel and reduce CO2 emissions.

In 2012, **Korea**, for example, introduced mandatory tyre labelling (5 grade) for passenger car. This labelling programme will expand to light-duty trucks in 2013.

Ecodriving

Measures to increase the operational efficiency of light and heavy-duty vehicles – such as ecodriving – are very important to improving energy efficiency and reducing CO2 emissions. **Canada** renewed funding for the *ecoENERGY Efficiency for Vehicles* programme which provides

personal vehicle drivers and the commercial/institutional fleet sector with decision-making tools for buying and operating their vehicles to reduce fuel consumption. It also promotes vehicle efficiency by introducing improved vehicle fuel consumption labels and a light-duty tyre information system. Canada has also commenced the rollout of the SmartWay recognition programme, which aims to reduce fuel use, greenhouse gases, and air pollution from the transportation supply chain. This is an extension of the U.S. Environmental Protection Agency's successful SmartWay Transport Partnership, which links shippers with an interest in greening their supply chains with SmartWay-recognized fuel efficient carriers.

Industry

Industrial energy use accounts for roughly one third of global energy demand. While there is significant potential to decrease energy consumption in this sector, opportunities to improve energy efficiency are still underexploited. To tap savings and improve the competitiveness and productivity of companies, governments can:

21. Require energy management in industry
22. Adopt MEPs for industrial equipment and systems
23. Develop a package of specifically designed policies and measures to promote energy efficiency in small and medium enterprises (SMEs)
24. Support improvements in industrial energy efficiency through complementary policies such as removing subsidies and encouraging investment in energy-efficient industrial equipment.

Energy management

Energy management programmes have been instrumental in addressing many of the barriers that inhibit wide-scale uptake of energy management in industry. Several countries outlined recent policies to support energy-management programmes.

For example, as part of the Clean Energy Future plan, **Australia** is expanding its Energy Efficiency Opportunities (EEO) program to: new developments and expansion projects (covering large projects from the early design stage to commissioning and optimisation); electricity and natural gas transmission and distribution networks; and the voluntary participation of medium energy users (0.1 to < 0.5 PJ).

EEO is a legislative programme which requires large energy using companies (using 0.5 petajoules or more in energy per annum) to undertake rigorous energy assessments and identify, evaluate and report publicly on cost effective opportunities to improve their energy efficiency. The programme covers companies in all industry sectors including mining, manufacturing, commercial buildings, transport and construction. The programme extended to generators in July 2011. From July 2012, the programme was opened to medium energy users. New developments and electricity and gas networks will participate from 1 July 2013.

Australia launched its Energy Efficiency Exchange website (eex.gov.au) on 30 March 2012. The website aims to reduce business research costs by providing a range of energy efficiency resources in one central location on a series of topics such as energy management, sectors, technologies and business support programmes.

In **Austria**, the Minister of Economy, Family and Youth has invited industry to sign a "Pact for Energy Efficiency". The companies who sign this pact put in place an energy management system (or, for smaller businesses, an energy audit) and implement 3 out of 8 energy-savings measures

outlined in a catalogue. Participants must also report progress yearly. The minister will recognise these companies as "energy efficient companies". To date, OMV, McDonalds, Mondi und Kraft Foods have signed the 'Pact'. http://www.bmwfj.gv.at/energieundbergbau/energieeffizienz/energieeffizienz2012/Seiten/default.aspx

Canada's ecoENERGY Efficiency for Industry is aiding the early adoption of the ISO 50001 energy management standard, and accelerating energy-saving investments and the exchange of best-practices information within Canada's industrial sector.

The **European** Energy Efficiency Directive requires Member States to require all large enterprises to undergo quadrennial energy audits.

In 2012, **Japan** has continued programmes that provide energy audits free of charge to factories and offices.

Turkey places a strong emphasis on energy management. The total number of certified energy managers in Turkey reached 4600 in September 2012. Energy managers have been assigned in 752 industrial establishments and in 689 commercial buildings. Energy management units have been established in 25 industrial zones and 26 electricity production facilities as of June 2012. Each year, an international energy manager course is organised in Turkey. Energy mangers from more than 25 regional countries have been trained as part of this programme.

The **US** expects to launch the Superior Energy Performance programme nationally in 2012. Superior Energy Performance is a certification programme that provides industrial facilities with a roadmap for achieving continual improvement in energy efficiency while maintaining competitiveness. SEP provides a transparent system for verifying improvements in energy performance and management practices through application of the internationally accepted ISO 50001 energy management standard. In August 2012, President Obama issued an Executive Order to spur improve industrial energy management and adoption of CHP.

Motors

Global electricity demand could be reduced by about 10% through the use of best-available motors and electromechanical solutions (adjustable speed drives, system optimisation – pipes, ducts, etc.). Despite these significant savings, only one country, **Japan**, mentioned recent motor-efficiency policy developments – Japan is currently discussing a top-runner target for three-phase induction motors. {check status}. The US announced an agreement that will expand the scope and increase the stringency of standards for electric motors.

Small and medium enterprises

Two countries mentioned recent policy developments to promote energy efficiency in small and medium enterprises (SMEs). In May 2012, **Australia's** Energy Efficiency Information Grants Program announced the recipients of merit-based grants totalling over AUD 20 million to assist 28 industry association and non profit organisations to provide practical, tailored energy efficiency information to small enterprises and community organisations. The second round of funding will be conducted in October 2012 to allocate the remaining AUD 20 million.

Germany has set up an Energy Efficiency Fund within the umbrella of the Energy and Climate Fund. In 2012, this fund consisted of EUR 89 million to assist small and medium enterprises (as well as larger industries, private consumers and municipalities) with improving their energy efficiency. Funding for this programme will be increased to more than EUR 100 million in 2013.

Energy providers

If the right institutional framework and enabling conditions are established, energy utilities can play an important role in delivering end-use energy efficiency.

25. In order to facilitate this role, governments can:

- Ensure that energy efficiency competes directly with supply options
- Oblige delivery of cost-effective energy efficiency to end-use consumers
- Require energy consumers to be provided with cost-reflective pricing
- Use energy tariffs as a funding mechanism for energy efficiency.

In the 2011-2012 period covered by this report, several countries mentioned measures to strengthen energy efficiency obligation schemes. Others discussed the rollout of smart-meter systems.

Under the Clean Energy Future Plan, the **Australia**n Government is investigating the costs and benefits of a national Energy Savings Initiative (ESI). An ESI would involve a national white certificate scheme which incentivises the uptake of energy efficiency activities. In August 2012 the Department of Resources, Energy and Tourism and the Department of Climate Change and Energy Efficiency released a Progress Report on the national ESI. The Progress Report narrows down options to underpin further cost-benefit analysis through the regulatory impact analysis to be undertaken prior to the release of the final report at the end of 2012.

In **Austria** for example, the Minister of Economy issued a decree in April 2012, which sets out a mandatory timetable for the rollout of smart metering services in (10% end of 2015, 70% end of 2017, 95% end of 2019). Also in Austria, in October 2011, the Energy Regulatory Authority (E-Control) issued a decree which specifies the functional requirements of smart meters.

In May 2012, **Denmark** finalised an independent evaluation of its energy provider obligation scheme. According to this evaluation, energy providers have been able to deliver 15% more savings than the objective set by the government for 2009-2010 at stable cost. There are now plans to further increase energy savings obligations on utilities from 1.5 pct of final energy consumption (excluding transport) to 3 pct in 2020.

The **European** Energy Efficiency Directive requires Member State energy providers to achieve cumulative end-use energy savings by 2020 equivalent to 1.5% of annual energy sales over the period 2014 to 2020. Member States can pursue alternative ways to achieve equivalent energy savings. The Directive also requires Member States to ensure that individual energy consumption meters are installed which also provide information on the time of energy use. Member States must also ensure that customers can get information on energy costs in a format that allows them to compare deals on a like-for-like basis.

Ireland introduced energy saving obligations on energy suppliers in February 2012 as part of the Energy Miscellaneous Provisions Act. Energy companies can meet their target by directly offering upgrade services, or by sub-contracting the work to third parties. http://www.irishstatutebook.ie/2012/en/act/pub/0003/index.html

The current **Italian** white certificates scheme, managed by the Regulatory Authority for Electricity and Gas (Aeeg) with the technical support of ENEA, at the present time provides for targets to be met by Italian distributors up to 2012. In December 2012, new targets for the period 2013-2016 will be issued through a forthcoming Legislative Decree of the Ministry of Economic Development in accord with the Ministry of Environment, Land and Sea. From 2013, the scheme will be managed by the Gestore dei Sistemi Energetici (GSE).

Starting in January 2013, a **Polish** energy provider obligation scheme will take effect, introduced by provisions of the April 2011 Energy Efficiency Act. Energy companies selling electricity, heat or natural gas to final users in Poland are required to receive and present for redemption white certificates to the President of the Energy Regulatory Office, or pay a substitute fee accordingly to the number of missing white certificates. Executive orders are currently being finalised regarding procedures for carrying out tenders, the scope and form of energy efficiency audits and energy savings calculations methods and details pertaining to the scope of the obligations and the substitution fee.

In 2011, the **Portuguese** regulator selected the Home Energy's Knowatt programme (a voluntary subscription service where consumers are provided with a smart meter to help keep track of their energy use) for funding under the Portuguese Energetic Services Regulatory Entity's (ERSE) Promotion Plan of Efficiency in the Consumption of Electrical Energy (PPEC). Knowatt will provide real-time information on energy consumption, suggestions on how to save energy and serve as a pilot programme to prove whether customer out-reach strategies are effective at influencing energy use.

Also in **Portugal**, under the Energy Efficiency Programme in Public Administration (ECO.AP), a qualification system for Energy Services Companies has been created to foster energy performance contracts for public administrations.

In response to the need for more efficient use of electricity in industry and private households, the **Swiss** Federal Office of Energy (SFOE) has launched a tender Programme. In contrast to the white certificate schemes in other countries, this is a conceptually new measure. Tender-winning projects and programmes are financed via the grid levy on electricity that is also used to fund feed-in tariffs. For 2011, the budget was CHF 15.3 million and 31 projects and 13 programmes were approved. The budget for 2013 will be about CHF 20 million.

The **UK** Energy Act 2011 amends existing powers to enable the Secretary of State to create a new Energy Company Obligation (ECO) that will work alongside the Green Deal finance offer by targeting appropriate measures at those households likely to need additional support. The ECO scheme will place one or more obligations on energy companies requiring them to generate a specific amount of credit by facilitating the installation of energy efficiency measures in homes in Great Britain before a set deadline. ECO has been designed to fit within the Green Deal (see section on investment in energy efficiency) framework and provide support, in the domestic sector, where Green Deal finance alone is not enough. http://www.decc.gov.uk/en/content/cms/consultations/green_deal/green_deal.aspx

In October 2011, the **UK** government, working with consumer groups, energy suppliers, and the industry regulator Ofgem, agreed to the Check, Switch & Insulate to Save Initiative. This initiative includes a range of measures to help consumers save money on their gas and electricity bills, and discussed policy developments aimed at keeping household energy bills down. These were as follows:

- Agreement on clear and transparent communications to make sure consumers know about the potential savings from checking on their energy deal, switching tariff and/or supplier, and insulating – and how they can take up these opportunities to save money this winter.
- A shared website and campaign material giving consumer advice. See: http://www.direct.gov.uk/en/NI1/Newsroom/DG_199725
- customers seeking cheapest tariff advice will also be given advice on energy saving measures, and vice versa
- Ofgem and Citizens Advice announced record funding from suppliers for this year's Energy Best Deal campaign

http://www.decc.gov.uk/en/content/cms/news/consumer_summi/consumer_summi.aspx

Driven by a growing number of energy-efficiency standards in **US** states, ratepayer budgets for efficiency programmes climbed to a record USD 6 billion in 2011, with further increases expected in 2012. This was a 25% increase over 2010 investments according to a report from the Institute of Electric Efficiency. Deployment of smart meters continued to accelerate in most US states, together with advances in home and office energy monitoring and management software and systems.

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