Green Alliance policy insight
April 2014

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Why EU action on energy efficiency is needed

By Dr Katherine Watts and Friederike Metternich

Executive summary

UK energy bills continue to rise because of increases in international gas prices and declining UK gas production. European energy security is of increasing concern because of the large amount of gas supplied by Russia.

Efficiency measures can dramatically reduce UK energy use and correspondingly limit cost rises. Reducing energy use will also help to reduce reliance on energy imports, reducing exposure to supply shocks.

Despite this, in 2013 only four European countries: Bulgaria, Denmark, France and Germany, were making good progress in reducing their energy consumption in line with the EU's non-binding 2020 energy efficiency target.

Where the EU has led on setting efficiency standards, it has achieved significant energy savings, and here we highlight the case for making greater use of the EU's direction and standard setting role to reduce European energy use and UK energy bills.

The review of the Energy Efficiency Directive, which begins in June 2014, provides an opportunity to use the single market and existing directives to do this.

We, therefore, recommend that the UK takes three actions:

1. Use the 2014 review of the Energy Efficiency Directive to increase EU action and establish a binding energy efficiency target.
2. Work with the Ecodesign Directive to enable more frequent ratcheting up of standards.
3. Build a coalition of supporters for stronger EU energy saving action.

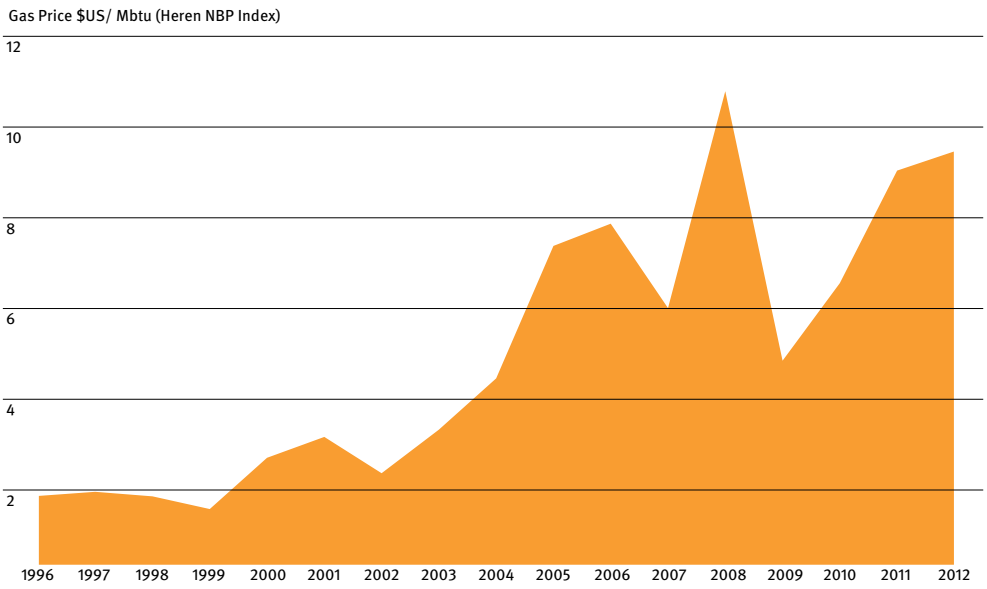
What's the problem?

EU gas costs continue to rise and supplies remain vulnerable to geopolitical events

The political crisis in the Ukraine demonstrates the risk of relying on energy imports: the EU's bill for Russian oil and gas was $156.5 billion in 2012.[1] Several EU countries, including Finland, remain entirely reliant on Russia for gas, while most central and eastern European countries are heavily reliant on Russian energy imports.

The price of gas has been rising and is expected to continue to increase.[2] According to Ofgem, the two main causes of the increased price of domestic gas are high international prices and declining UK gas supplies. The gas interconnector with Europe means that the UK is part of the European gas market. Continental gas prices are contractually linked to oil prices, so the sharp increase in oil prices have fed through to wholesale gas prices in Europe and the UK.[3]

UK natural gas prices[4]



The EU is wasting energy, making it more vulnerable to price shocks

The EU market is skewed towards energy supply and energy efficiency services are not favoured by the rules and entrenched interests supporting existing supply patterns. EU energy markets pay for megawatts delivered rather than 'negawatts', ie energy saved.

Most economic sectors are wasting between a fifth and a third of the energy they use, lowering resource productivity and making European economies more vulnerable to international resource price rises.

Two million jobs could be created in Europe by 2020 by supporting energy savings.

EU policy has been successful and can do more

The EU could reduce energy demand significantly with more policy support, reducing bills and boosting competitiveness

With ambitious energy savings policies the EU could be saving about £220 billion net per year by 2030,assuming about 32-35 per cent of savings by 2030.[5]

Two million jobs could be created in Europe by 2020 by supporting energy savings.[6] Most of these jobs would be in the buildings sector, location specific and not vulnerable to off-shoring.

The Ecodesign Directive alone could save European consumers and businesses over £78 billion per year (one per cent of the EU's current GDP) in 2020, leading to net savings of £243 per household per year.[7]

Phasing out incandescent lighting through the Ecodesign Directive has reduced the annual lighting cost for each UK households by £83 per year.[8]

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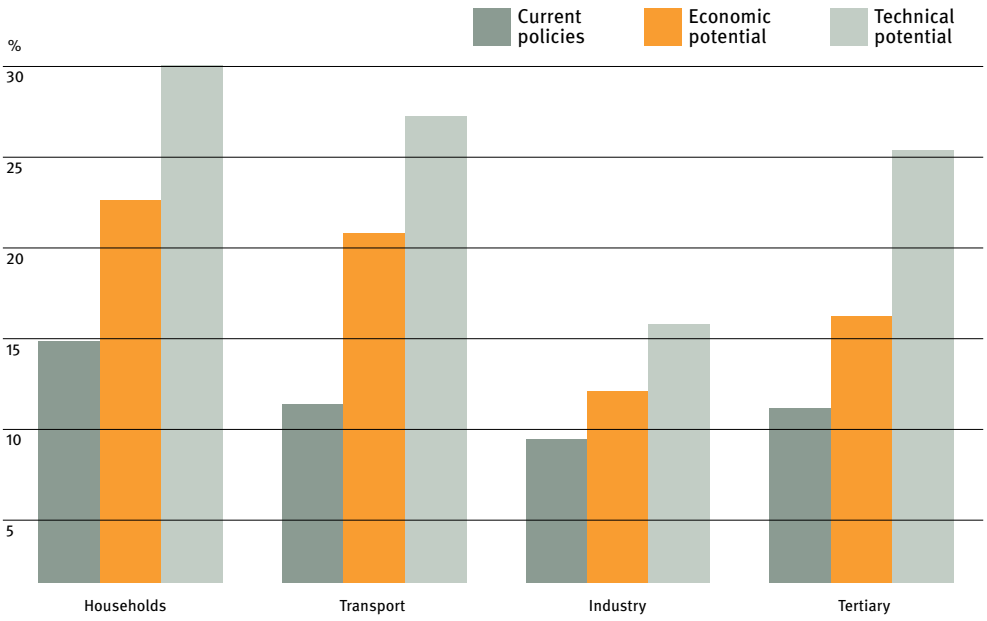
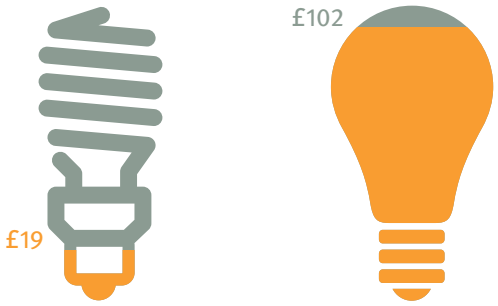


Final energy savings potential of EU27 in 2020 (as a percentage of the European Commission's 2007 projections)[9]

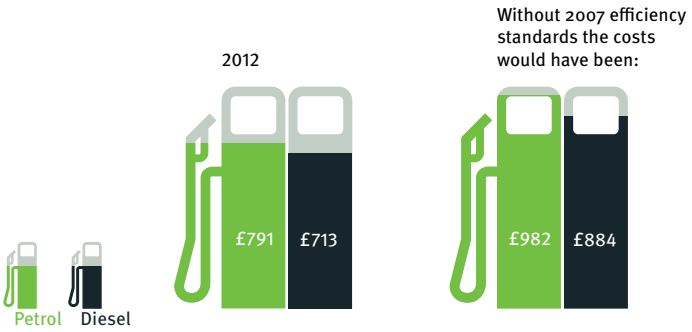
EU action on lightbulbs and cars could save UK consumers over £1,725 a year in 2020 and demonstrates the huge potential to reduce energy use in other sectors.

Annual lighting cost per UK household



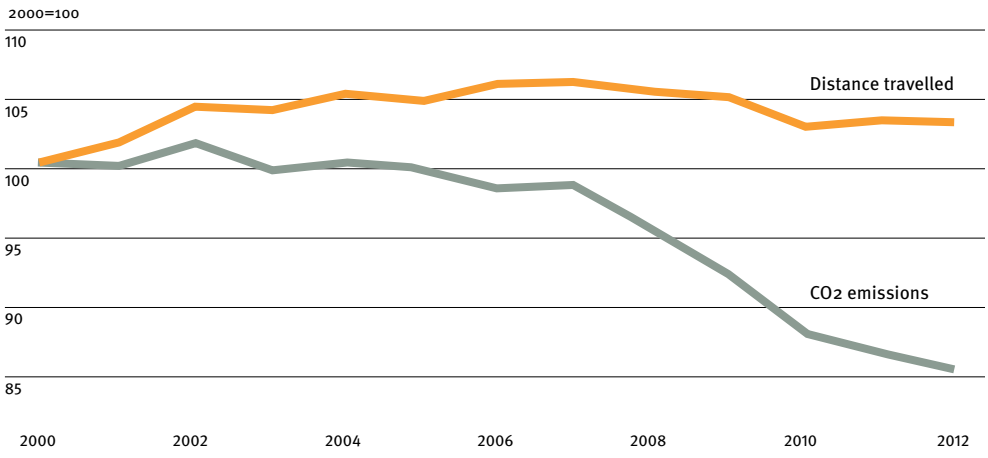
Improved efficiencies resulting from the EU's mandatory car emissions standards saved a UK driver £191 in petrol costs or £171 in diesel costs for a new car in 2012.[10]

New car annual fuel costs



UK CO_2 emissions from cars declined rapidly from 2007, in anticipation of mandatory standards introduced in 2009. This is reflected in greater fuel efficiencies.

CO2 emissions from all cars in use, and distance travelled[11]



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The EU also influences energy savings worldwide

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EU vehicle efficiency standards have had an international impact: initial voluntary agreements with car manufacturers, which are now mandatory efficiency improvements, led to similar voluntary commitments from both the Korean and Japanese manufacturers' organisations.[12]

National governments are failing energy consumers

European governments are not acting effectively to save energy

In 2013, only four European countries: Bulgaria, Denmark, France and Germany, were judged to be making good progress in reducing energy consumption, other countries are less successful through insufficient development and implementation of national policies.[13]

The Energy Efficiency Directive (EED) was adopted in October 2012 because EU nations were not on track to meet the 2020 20 per cent energy efficiency goal.

The Energy Performance of Buildings Directive brought the potential of these energy savings onto European countries' political agendas, requiring establishment of minimum energy performance requirements and certification schemes. The directive could reduce EU primary energy supply needs in 2020 by seven per cent.[14]

For many European nations, minimum EU requirements for buildings, transport and appliances have set the standard for national delivery policy. Despite the strong economic case for energy efficiency action, many national governments neglect energy saving because it often involves upfront financial investment or policy cost.

What should the UK do?

1. **Use the 2014 review of the Energy Efficiency Directive to increase EU action**
   Support a binding energy efficiency target, shared between EU governments to give ensure effective implementation. The European Parliament has endorsed a 40 per cent efficiency target for 2030.

2. **Work with the Ecodesign Directive to enable more frequent ratcheting up of standards**
   The Japanese top runner approach sets stretch standards for manufacturers to work towards over many years, and ensures that low performing products are eventually excluded from the market.

3. **Build a coalition of supporters for stronger EU energy saving action**
   Germany and Denmark are among the group of EU countries supporting a binding EU energy efficiency target. Companies, including National Grid, Alstom, Knauf and Arriva Trains' parent company, Deutsche Bahn, are among those that have publicly supported binding energy efficiency targets at the EU and national levels.

Endnotes

1 International Trade Centre, Trade Map, www.trademap.org

2 European Commission, 2014, *Accompanying the communication: A policy framework for climate and energy in the period from 2020 up to 2030* http://ec.europa.eu/clima/policies/2030/docs/swd_2014_xxx_en.pdf; DECC, 2013, *Fossil fuel price projections*

3 House of Commons Library, P Bolton, Energy Prices briefing, updated 31 January 2014 (SN/SG/4153)

4 BP, 2013, 'Historical Data', www.bp.com/en/global/corporate/about-bp/energy-economics/statistical-review-of-world-energy-2013/review-by-energy-type/natural-gas/natural-gas-prices.html

5 Ecofys, 2013, *Saving energy: bringing down Europe's energy prices for 2020 and beyond*. Assuming an exchange rate of €1.15 to £1.00

6 European Commission staff working document, 18 April 2012, 'Exploiting the employment potential of green growth' (SWD (2012)0092)

7 *Ecofys, 2012, Economic benefits of the EU Ecodesign Directive*. Assuming an exchange rate of €1.15 to £1.00

8 R Cary & F Metternich, 2013, *What has EU climate and energy policy done for the UK?*, Green Alliance. Assumes an incandescent 60W lightbulb is replaced with an 11W compact fluorescent lamp (CFL), used for three hours a day and electricity costs of 12p/kWh. We also assume a typical house has 13 incandescent lightbulbs as found in: Energy Saving Trust, 2012, *Powering the nation*

9 European Commission, 2011, http://europa.eu/rapid/press-release_MEMO-11-223_en.htm?locale=en

10 Fuel cost calculation compares efficiency in 2012 with the costs if no efficiency improvement had been achieved since 2007. Figure based on 2007 and 2012 prices for petrol (95p/litre and 136.3p/litre) and diesel (97.4p/litre and 142.5p/litre) assuming an annual travel distance of 10,000km. Average new car fuel consumption for 2007 (7.2l/100mk petrol and 6.2l/100km diesel) and 2012 (5.8l/100km petrol and 5l/km diesel) is taken from Department for Transport Statistics, 2013, www.gov.uk/government/uploads/system/uploads/attachment_data/file/89643/env0103.xls; www.gov.uk/government/uploads/system/uploads/attachment_data/file/89643/env0103.xls. It should be noted that before 2007, significant increases in fuel efficiency occurred due to the threat of binding legislation.

11 Data from Department for Transport (http://www.smmt.co.uk/co2report/#UK%20v%20EU) in.... Society of Motor Traders and Manufacturers, 2014, *New car CO2 report 2014*, www.smmt.co.uk/wp-content/uploads/sites/2/SMMT-New-Car-CO2-Report-2014-final1.pdf, in years 2011 and 2012; www.smmt.co.uk/co2report/" \l "UK%20v%20EU

12 www.unep.org/transport/gfei/autotool/case_studies/europe/EU%20CASE%20STUDY.pdf

13 EEA Report No 10/2013, *Trends and projections in Europe 2013: tracking progress towards Europe's climate and energy targets until 2020*

14 EU Commission, 2008, Staff Working Document 'Proposal for a recast of the Energy Performance of Buildings Directive', (2002/91/EC)

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ISBN 978-1-909980-08-2

This policy insight is produced under Green Alliance's Low Carbon Energy theme. For more information, visit www.greenalliance.org.uk/lowcarbonenergy

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Green Alliance

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