



# Advisory Council I: Report to Ministers Energy Security & the 2030 Climate & Energy Package

## The Big Picture: A Low Carbon Energy Union Targets Security, Climate, Jobs & Growth

The EU imports 53% of the energy it consumes<sup>1</sup> and has an underinvested, underperforming energy system.

The EU needs a more integrated single energy market to solve its energy tri-lemma of costs, security and decarbonisation.

Europe needs to invest over 2 trillion Euro over the coming decades.<sup>3</sup>

**The European Union (EU) is at a crossroads;** it can create a competitive Europe-wide energy system that responds to energy security and climate concerns whilst stimulating job creation and growth, or it can become increasingly un-competitive, strangled by high energy imports (the EU imports 53% of the energy it consumes)<sup>1</sup> and an underinvested, underperforming energy system. The EU's negative trade balance is largely due to its very high imports of fossil fuels rather than a lack of industrial competitiveness in its manufacturing sectors.<sup>2</sup> In fact, despite the economic crisis, Member States have shown that energy independence and investments in renewables can reduce national trade deficits.

A reduction in energy dependency and competitive, integrated energy supplies offers Europe the political and economic opportunity to unite Member States around a more integrated single energy market and to solve its energy tri-lemma of costs, security and decarbonisation. It presents Europe with the chance to transform and finance well needed energy infrastructure renovations, including energy efficiency improvement of the installed base, as well as proper grid development such as distribution, transmission and storage capacity upgrades.

Regardless of choices about decarbonisation, Europe needs to invest over 2 trillion Euro over the coming decades into upgrading and replacing an ageing fleet of power stations, improving the power system and extending its energy infrastructure.<sup>3</sup> We need to enhance the interconnectedness of national electricity networks, which remain incomplete, as illustrated by industry electricity price gaps between neighbouring European countries.<sup>4</sup> Modern, low-carbon energy assets and infrastructure built today can contribute hugely to improving our energy security, reducing our carbon emissions and creating jobs in the meantime. However, to be successful, such an approach must address Europe's indigenous energy supply and low carbon energy options, demand management solutions, and a more unified energy community. A single European energy market will reduce the risk of disruption and vulnerability to price and supply shocks.

In order to encourage future investment in Europe's energy system, an immediate effort must be made to both facilitate and enhance existing and new investment in Europe's low carbon economy and energy system by easing red tape, permitting requirements and bureaucratic structures that slow down low carbon technology market penetration and infrastructure upgrades. Such a commitment will allow the EU to regain global market credibility and investor interest. New investment in thermal generation, needed for system stability and replacing ageing power plants, will also not materialise if current market designs are not changed, putting at risk the ability to secure electricity supplies.



## The Importance of Energy Security, Supply Diversification and Demand Management

Achieving energy security implies ensuring continuous and adequate supplies of energy from all sources to all users<sup>3</sup>, at an affordable price<sup>4</sup>.

Achieving energy security implies ensuring continuous and adequate supplies of energy from all sources to all users<sup>5</sup>, at an affordable price<sup>6</sup>. The EU's ability to reach this goal is threatened by several key facts:

- Oil prices which have reached historically high levels, averaging about \$110/barrel since 2011,
- Increased reliance on imported oil (Net imports equate to 3.2% of EU27 GDP in 2012),
- Gas dependency which is expected to rise from 60% to more than 80% by 2035<sup>7</sup>,
- One third of EU gas demand is delivered by Russia<sup>8</sup>,
- Ukraine is currently the largest transport corridor of Russian gas to Europe and Russian crude oil exports to Central European countries (CEC),
- Many CEC countries do not have access to diversified supply sources, and are dependent on one supplier, leading to a lack of competition, high costs and the risk of supply disruptions.

We need enabling legislation now for the creation of a new integrated energy system.

Improving EU energy security is fundamentally a long-term issue, with no immediate quick fix. However, developing and implementing the enabling legislation now for the creation of a new integrated energy system that is comprehensive in approach and meets Europe's de carbonisation and industrial goals, will make Europe more energy independent whilst stimulating EU investment, job potential and growth immediately. For instance, OECD analysis on labour impacts of climate policies show that when ETS permit revenues are used to reduce taxation on labour, the pace of European employment growth could accelerate significantly, and this, without any loss of purchasing power for workers.<sup>9</sup>

Identify and fast track the funding for a number of 'must-have' infrastructure projects.

As the starting point for the reduction of Europe's energy import dependency, an EU Roadmap should be drafted to articulate options for reducing imports over the short, medium and long term, and should ensure consistency with the EU's climate and energy objectives for 2050 as well as its industrial policy. Such a roadmap should provide a thorough analytical basis for the development of proposals to further the strategic shift of the EU away from being a price taker, dependent on other countries for its energy needs. It should both establish a timeline and action plan that looks outward to diversify gas supply sources, and inward to reduce energy consumption, increase its renewable sources and other low carbon indigenous resources, grid capacity and infrastructure investment, especially interconnections. The road map should fully consider the South East Europe regional contribution to energy security due to its high energy efficiency gains potential, rich RES potential and vulnerability to Russian gas supply interruptions.

This means the Commission should identify and fast track the funding for a number of 'must-have' infrastructure projects among the Priority Infrastructure Projects for example for new interconnectors, reverse flow or to investigate LNG opportunities. The European Council should set itself the target of completing key priority projects by a determined short term deadline. The market and production of new gas and low carbon energy supplies should be enhanced both by focusing on indigenous supplies but also ensuring more secure non-Russian imports. This necessitates the development and completion of the Southern gas corridor as well as further collaboration with the Turkish, Georgian,



The exploitation of indigenous renewable low carbon resources such as solar, wind, biomass and biogas is critical to reform.

Affordable energy is fundamental in combatting fuel poverty across Europe.

“Energy efficiency has been called a ‘hidden fuel’, yet it is hiding in plain sight,”  
IEA

Armenian and Azeri governments in order to stabilise the South Caucasus and progress the Trans-Anatolian Pipeline.

However, a properly integrated energy system that also meets our de-carbonisation goals relies on the exploitation of indigenous renewable low carbon resources such as solar, wind, biomass and biogas as well as other low carbon energy sources whilst allowing Member States a transitioning period from high carbon energy. This calls for the opening up of a thriving and competitive renewable energy and low carbon technology market in Europe. In this respect, all EU relevant funds (Cohesion Fund, Structural Fund, Horizon 2020, NER300 etc.) should increasingly focus on the swift deployment of existing low carbon technologies and the commercial scale demonstrations across the EU thus facilitating scalability and market penetration of renewables and other low carbon technologies such as Carbon Capture and Storage (CCS). The new political dynamic and the continued need for transitioning from coal provides a significant opportunity to re-visit the question of CCS, a solution that has the potential to capture to 90% of CO<sub>2</sub> emissions from coal and gas power plants. The sooner we commercialise this technology the faster capital and operational costs will come down.

The strengthening of EU legislation related to energy efficiency of buildings, products, vehicles and industrial processes and electricity generation, will also significantly enhance energy security, reduce Europe’s import bill, and is key to adapting to higher prices over the long term. Affordable energy is a crucial part of energy security and fundamental in combatting fuel poverty across Europe. The IEA has declared energy efficiency as the most cost effective fuel. By implementing deep building renovation policies and deploying stricter standards the EU could reduce its Russian gas imports by 2030. Recent modelling work also suggests that under the most ambitious building renovation scenario, the EU could achieve 36% energy savings in its buildings stock while providing a net saving to individual consumers and society.<sup>10</sup> Retrofits and upgrades to improve efficiency reduce operation and maintenance costs and make the best use of the operational lifetime of the assets. This in turn helps to lower the cost of electricity to the consumer.

## **An Ambitious Integrated 2030 Package Offers Robust Supply & Demand Solutions**

“We will identify and implement concrete domestic policies.. ...to build a more competitive, diversified, resilient and low-carbon energy system”  
G7 Brussels Summit declaration

De-carbonising Europe’s energy system offers the opportunity for building an energy union that more effectively uses low carbon energy resources across an integrated energy system, creates a joined up grid system and reduces energy consumption at the same time. An ambitious low carbon and energy transition agenda over the long term will both enhance energy security and meet Europe’s objectives of jobs, growth and competitiveness. We welcome the fact that this has been acknowledged in both the June 2014 Brussels G7 Summit declaration and in the European Commission’s Energy Security Strategy published in May 2014.

By following a path consistent with keeping the 2°C target alive, the EU’s fossil fuel import bill could be reduced by around \$120 billion in 2035 compared with existing policies.<sup>11</sup> Adopting an ambitious climate and energy package, which supports a minimum of a 40% domestic GHG emission reduction target; at least a binding 27% EU-wide renewable energy target; and an energy efficiency goal that delivers the highest possible reductions in energy imports while remaining



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in line with at least a 40% domestic GHG emissions reduction target, will help the journey towards energy security and de carbonisation by reducing overall consumption and diversifying towards low carbon energy sources.

Such a package of measures must be underpinned by a reformed ETS and a high carbon price. It is crucial to ensure the EU ETS sends a robust and credible signal to investors as soon as possible and before 2020. The introduction of the 'Market Stability Reserve' (MSR) in the EU Emissions Trading System should mitigate any negative/downward pressure on the carbon price resulting from energy efficiency and renewable energy investments. In addition, efforts are needed to address non ETS sectors, such as the transport and building sectors, where major CO<sub>2</sub> reductions can still be achieved.

The EU will not reduce its import bill or GHG emissions fast enough unless it also favours a strong demand management policy and the adoption of robust energy efficiency objectives that are commensurate with the energy security gains from reducing consumption across the European economy and meet Europe's energy independence and de carbonisation challenges head on.

*Recommendations & Call for Action : over page*

<sup>1</sup> European Commission (2014) Communication from the European Commission 'European Energy Security Strategy', Brussels, 28 May 2014

<sup>2</sup> IDDRI Policy Brief No. 16, 13 December 2013

<sup>3</sup> International Energy Agency, (2013), World Energy Outlook Special Report

<sup>4</sup> Booz and Co (2013), "Benefits of an Integrated European Energy Market"

<sup>5</sup> European Commission (2013), Communication from the European Commission 'A policy framework for climate and energy in the period from 2020-2030', Brussels, 22 January 2014

<sup>6</sup> International Energy Agency

<sup>7</sup> European Commission (2013), Communication from the European Commission 'A policy framework for climate and energy in the period from 2020-2030', Brussels, 22 January 2014

<sup>8</sup> IEA, Facts in Brief; Russia, Ukraine, Europe Oil and Gas, 4 March 2014

<sup>9</sup> OECD, See Employment Impacts of Climate Change Mitigation at: [http://www.oecd-ilibrary.org/environment/employment-impacts-of-climate-change-mitigation-policies-in-oecd\\_5kg0ps847h8q-en](http://www.oecd-ilibrary.org/environment/employment-impacts-of-climate-change-mitigation-policies-in-oecd_5kg0ps847h8q-en)

<sup>10</sup> Buildings Performance Institute Europe, 2014, Internal modelling Model used for BPIE "Europe's Buildings under the Microscope" report (2011), run until 2030. All assumptions and input factors as described in report"

<sup>11</sup> International Energy Agency, World Energy Outlook Special Report, p.40



## Recommendations & Call for Action to Green Growth Ministers

1. Use the opportunities from energy security and de-carbonisation to push EU decision making towards a low carbon energy union that strengthens Europe's dis-functioning and costly energy market by re directing investment and finance to an integrated, interconnected, and diversified energy system that enhances employment, growth, and competitiveness,
2. Adopt by the October 2014 European Council at least a 40% domestic GHG emission reduction target for 2030, whilst retaining flexibility to raise this target in the context of negotiations over an international climate deal, including through the use of international credits; at least a binding 27% EU-wide renewable energy target, helping to drive forward renewables deployment across the EU in a flexible and cost-effective manner; and an EU energy efficiency goal that embraces both demand and supply side and delivers the highest possible reductions in energy imports cost-effectively while remaining in line with at least a 40% domestic GHG emissions reduction,
3. Increase the speed of renewable energy and other low carbon technology penetration, avoiding any slowdown in the process of deployment, and forbidding any retroactive changes related with incentive policies that undermine investor's confidence,
4. Create implementing legislation and relevant standards to enhance market penetration of low carbon indigenous energy resources, energy efficient processes and products,
5. Steer EU relevant funds (Cohesion Fund, Structural Fund, Horizon 2020, NER300) towards the swift deployment of existing low carbon technologies and the commercial scale demonstrations across the EU,
6. Eliminate all market barriers to a single energy market and EU wide low carbon energy transition whilst maintaining national energy security aims,
7. Ensure the reform of the EUETS by 2016 and address other possible market mechanisms that could assist low carbon transitioning such as taxation policy,
8. Elaborate mechanisms which will result in an overall fair effort sharing and foster the modernisation of the energy sector of Member States currently dependant on high carbon energy sources,
9. Promote the development of a more detailed Roadmap for reducing EU energy import dependency, and for addressing gas supply crises such as the current crisis, before and when they occur,
10. Enhance investment in grid capacity and infrastructure investment,
11. Ensure the established processes for reviewing existing EU energy efficiency legislation drives forward further substantial energy efficiency improvements across the electricity generation, buildings, products, industrial processes and vehicles sectors,
12. Draft EU-wide energy policies for energy intensive sectors that encourage demand-side responses, including the essential role and opportunities for large power consumers in Europe's 2020–2030 energy framework of demand side management and enhanced auto-production. This would reduce the need for peak capacity, associated CO<sub>2</sub> emissions and lower energy prices,
13. Address fuel poverty and affordability issues through support schemes such as those focusing on energy efficiency in households or offering tax rebates,
14. Create new state aid guidelines to facilitate a well-functioning capacity market,
15. Secure and expand the Southern gas corridor, and other non-Russian gas supply sources, such as from Africa and North America,
16. Immediately ease red tape, permitting requirements and bureaucratic structures that slow down low carbon technology market penetration across Europe and the building of an integrated energy market.



## **Participants in Advisory Council I Energy Security Discussions**

The Ministerial Green Growth Group of 14 EU environment and energy Ministers engages closely with businesses and investors as well as MEPs, economists and wider civil society. Work is underway, with the close support of the EU Corporate Leaders Group on Climate Change, to build a platform and network that explores, promotes and pursues an ambitious EU decarbonisation and growth agenda.

The Green Growth Platform Advisory Councils provide a framework for analysis and insights that inform the work of the Green Growth Platform and deliver recommendations to the Green Growth Ministers. We draw on appropriate leading experts to participate in the group depending on the topic in question.

The Cambridge Institute for Sustainability Leadership (CISL), which runs the EU Corporate Leaders Group (CLG), is providing the management role and strategic guidance for the Green Growth Platform. The Business leaders who are members of the EU Corporate Leaders Group (EU CLG) are the core steering group lending their strategic expertise and leadership to the initiative.

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