

## MINISTERIAL GREEN GROWTH GROUP

### REPORT FROM CHAIRS, GREEN GROWTH PLATFORM ADVISORY COUNCIL I \*

#### Strategic and economic context

1. The EU is facing serious energy security, competitiveness and investment challenges.
2. Domestic fossil fuel reserves in the EU are currently falling, yet energy import dependency is high and projected to increase. Some scenarios suggest that accelerating growth in global energy demand could mean that global fossil fuel prices rise further, along with increased risk of supply shocks and price volatility. This would further impact existing fuel poverty in some sections of European society and will exacerbate growing consumer affordability concerns. Such scenarios are predicated on certain resource extraction projections and related energy infrastructure development.
3. Under one IEA scenario that is consistent with 2°C policies, by 2035 the EU's annual fossil fuel import bill could fall by 46% or €275bn (1% of EU GDP), oil imports would be down by over 7.3bn barrels a year and gas imports by 190bn cubic meters a year by 2035<sup>1</sup>. The European Commission estimates that by 2050, a 2°C pathway could reduce EU fuel costs by up to €320bn per year by 2050, the savings equivalent of 2.5% of 2008 EU GDP every year<sup>2</sup>.
4. The current high cost of energy in Europe is a structural issue, not a one-off, and while the price differentials to the US are expected to narrow somewhat, they are projected to persist over the next two decades<sup>3</sup>. But far too much of the blame for Europe's high energy prices is being directed at its ambitions on climate change, while the main factor – the high cost of imported energy – is often ignored. Even if CO<sub>2</sub> prices rose to €20/tonne they would still only represent a few percentage points of average industrial electricity prices. Nonetheless, diverging energy prices between the EU and some of its major competitors mean some energy intensive industries are facing new international competitiveness challenges.
5. Just to keep the lights on, Europe needs to invest trillions over the coming decades into replacing a fleet of end-of-life power stations, and upgrading and extending its energy infrastructure. It is estimated that this will require Europe-wide investments of €1 trillion by 2020, €2.5 trillion by 2025 and up to €7 trillion by 2050<sup>4</sup>. Modern low-carbon energy assets and infrastructure built today could provide benefits to the EU. Energy investments represent one of the most productive forms of infrastructure investment available. Greening infrastructure investment to move away from traditional, polluting infrastructure

and reduce existing levels of emissions could result in net savings through system-wide efficiency gains, and therefore makes economic sense<sup>5</sup>. If investment decisions made today do not take into account environmental constraints, governments risk locking-in an unsustainable energy future that will prove unnecessarily costly to unwind later on<sup>6</sup>.

### Early long-term investor clarity

6. With this strategic and economic backdrop in mind, the implementation of a greenhouse gas target of at least 40% domestic emissions reductions by 2030 compared to 1990 represents a positive investment in economic growth and, with smart and well-timed policy choices, need not harm European competitiveness.
7. Long-term policy stability and short-term policy clarity are crucial so as to generate investment and finance signals to the wider EU economy. The absence of certainty related to a future regulatory framework would continue to directly impact the carbon price and investment decisions in infrastructure and innovation. Under this scenario neither Member States nor EU industries win.

### Employment & Jobs Creation

8. In a recessionary climate it is essential to ensure continuity of employment and job creation through our existing manufacturing base (the manufacturing sector employed 30 million people in 2010)<sup>7</sup> and opportunities in new sectors such as renewables and energy efficiency. Across Europe, low carbon sector jobs have grown significantly, even in those countries experiencing severe recessions<sup>8</sup>. In 2011, an estimated 7.8 million Europeans were employed in the EU's low carbon and environmental business sector<sup>9</sup>. The European Commission estimates that up to 6.5 million jobs could be created or retained by 2020 in renewables, energy efficiency and from reinvested ETS revenues alone<sup>10</sup>. Despite fears of potential negative impacts of environmental policy on employment, OECD modelling work demonstrates that recycling environmental tax revenues through reduced taxes on labour can in fact result in some increase in employment<sup>11</sup>. Labour market and skills policies that facilitate a smooth transition will form an essential component of green growth strategies. Providing high-quality training will not only facilitate workers' ability to adjust quickly to labour market changes but also improve the capacity of businesses to adopt and generate new greener technologies<sup>12</sup>.

### An EU Emissions Trading System (ETS) that works for European Industry

9. It is crucial to ensure the EU ETS sends a strong and credible signal to investors as soon as possible and before 2020. The implementation of a Market Stability Reserve in combination with an adjustment of the linear cap reduction factor could be important policy tools to achieve this goal<sup>13</sup>.
10. Options to moderate the impact of the cross-sectoral correction of free allocation under the EU ETS post 2020 could be considered so as to meet the concerns of some industrial sectors. However, the proposed over-all post 2020 EU ETS cap trajectory (2.2% as proposed by the European Commission) should not be changed or impacted through these options.

11. Freezing the “carbon leakage” list of sectors until 2020 would introduce policy stability in the short term. However, with an eye on post-2020 implementation, a thorough analysis of the evidence of carbon leakage needs to take place between now and 2020. Ultimately, Europe needs to ensure that the list is focused on those sectors genuinely at risk of carbon leakage to ensure that the level of support needed is available. Moreover the risk of “investment leakage” and regional differentiation thereof need to be taken into account to ensure that energy intensive industries can compete during the transition to a green economy.

### **Integrating climate, energy and industrial policy for an entrepreneurial Europe**

12. Europe’s industrial policy needs to address key factors influencing industrial competitiveness. These include multiple factors<sup>14</sup> impacting industrial investment such as skills availability and mismatch, labour costs, available infrastructure, social, economic and political stability, innovation support and a growing market for energy efficiency and low carbon related products and services. In particular, greater attention must be given to increasing the resources devoted to energy R&D and to the implementation of a stronger supportive R&D framework or eco-system across the value-chain. Also important is the commercialisation of research so as to ensure continued competitiveness of the EU manufacturing base and development of new sectors<sup>15</sup>.
13. Part of the EU ETS auctioning revenues should be deployed to enhance deep industrial low-carbon innovation. A smart use of part of the revenues can create the enabling conditions for the construction of low carbon technology demonstration plants for the energy intensive sectors, as well as further development of low carbon technologies, such as innovative renewable energy and carbon capture and storage (CCS) and the utilisation of CO<sub>2</sub> as a feedstock in industrial processes or materials. This can include the development of a reformed and streamlined NER300 mechanism<sup>16</sup> with the goal to de-risk investments in low-carbon industrial demonstration plants. This mechanism should be well aligned with national support schemes and with EU State Aid rules as to not impose unnecessary investment barriers.
14. Notwithstanding the above, industry should, through EU and national support, further collaborate between sectors so as to further enhance low-carbon product and process innovation across the value-chain and to maximise cross-cutting economic opportunities. The United States’ Advanced Research Project Agency for Energy<sup>17</sup> (ARPA-E) can be seen as an interesting example in this regard.
15. EU-wide and national policies should encourage demand-side response, allowing energy-intensive sectors to play a role in managing the power grid. This would reduce the need for peak capacity, associated CO<sub>2</sub> emissions, as well as lower energy prices. Long-term contracts between electro-intensive industries and power suppliers can be an interesting continued risk-management strategy for companies as long as it stimulates a transition to de carbonisation. These contracts, however, need to obey EU internal market and competition rules through transparent and competitive price setting.

16. European industry can play a major role in the development of products aimed at reducing energy consumption. A new generation of EU product standards can create a domestic market for these products and hence generate international spill over. In addition, a report from the International Energy Agency from October 2013 reveals the scale of global investment in energy efficiency today, concluding that energy efficiency is fast becoming the “first fuel” ahead of oil, gas, coal and renewables. The report notes that energy efficiency markets around the world drew investment of up to USD 300 billion in 2011<sup>18</sup>. The European Commission should develop a roadmap for the review of essential EU legislation related to energy efficiency of products and buildings. Examples are the acceleration of a more ambitious implementation of Eco-design legislation and the expansion of the review of the Energy Performance in Buildings Directive to include requirements for the deep renovation of the European building stock.

### **Completing the internal energy market and interconnections to enhance EU competitiveness**

17. Priority should go to completion of the EU internal energy market as it will lead to greater EU-wide competition in both gas and electricity, encouraging companies to become more efficient and to provide energy at the lowest price possible. Despite progress, the interconnectedness of national electricity networks is incomplete, as is illustrated by industry electricity price gaps between neighbouring European countries. Interconnecting Europe’s energy grids will reduce the need for every Member State to have so much expensive back-up generation on stand-by through pooling Europe’s energy resources together. The total net gains from integrating Europe’s electricity markets are estimated to be up to €40bn a year by 2030, a net saving of €80 per person per year<sup>19</sup>.

18. The governance system should focus on ensuring that there is a coherent approach across Member States to emission reduction and should support delivery of the EU’s internal energy market and wider energy policy objectives. Member States should set out clear measures in their economy-wide national plans for meeting their Greenhouse Gas target and contributing to EU climate and energy objectives, helping to create a more stable and long-term investment climate. The system can be linked with (financial and legal) mechanisms aimed at power producers, suppliers and grid operators, such as the TEN-E (energy infrastructure) regulations, that at EU level, stimulate the further development of renewable and other low carbon energy, related urgent investments in Europe’s energy infrastructure.

### **Addressing the investment challenges and opportunities in the non-EU ETS sectors**

19. A successful post 2020 policy framework for non-EU ETS sectors will depend on the activation of the mitigation potential in the more carbon intensive EU Member States with a lower GDP per capita<sup>20</sup>. This will require both a credible solidarity mechanism to mitigate the higher costs for these Member States and the related development of new finance mechanisms and instruments. In this regard it could be interesting to look at successful greenhouse gas mitigation in Poland and the Czech Republic<sup>21</sup> following the implementation of Green Investment Schemes.

20. With borrowing costs low and private capital underemployed, now is an ideal time to trigger investments. European Investment Bank (EIB), Connecting Europe Facility and EU Project Bond financing can further help leverage greater private sector investments. EU multilateral financial institutions should be invited to become part of the design and implementation of new finance mechanisms at an early stage.
21. Private sector finance and investment will be critical for the green transition, and government policies, including implementing a stable and integrated policy environment, impact directly on the ability or willingness of private actors to invest. Possible policy actions<sup>22</sup> include the development of national infrastructure roadmaps by Member States and the facilitation<sup>22</sup> of appropriate collaborative green financing vehicles so as to reduce the transaction costs of green investments. Better alignment of investment and finance regulations with climate objectives will also be essential.

**\* About the Green Growth Platform and the Advisory Councils**

The EU Corporate Leaders Group (EU CLG), run by the Cambridge Programme for Sustainability Leadership (CPSL), has been tasked with providing the strategic leadership and secretariat of the Green Growth Platform. The Advisory Councils of the **Green Growth Platform** function as an ongoing consultative process with European and global experts, business leaders, and associations with a view to reporting to the Ministerial Green Growth Group. Advisory Council I (Chair Laurence Tubiana, IDDRI & Alex Bowen, Grantham Institute) focuses on the economics of growth, jobs and competitiveness whereas Advisory Council II (Chair Philippe Joubert, EUCLG) focuses on climate & energy policy and the role of energy intensive and low carbon sectors. The following organisations have participated in the Advisory Council I process and are currently discussing the above:

**Participants in Advisory Council I Discussions**

Juan Ramon Silva Ferrada, <b>Acciona</b>
Oliver Rapf, <b>Buildings Performance Institute Europe</b>
Sandrine Dixson-Declève & Helen Spence-Jackson, <b>Cambridge Programme for Sustainability Leadership (CPSL)</b>
Jill Duggan, <b>Doosan Babcock</b>
Alex Chirmiciu, <b>European Bank for Reconstruction and Development (EBRD)</b>
Thomas Fricke and Erica Hope, <b>European Climate Foundation (ECF)</b>
Jean-Yves Caneill, <b>Electricité de France (EDF)</b>
Christopher Knowles, <b>European Investment Bank (EIB)</b>
Philippe Joubert, <b>EU Corporate Leaders Group (EU CLG)</b>
Alex Bowen, <b>Grantham Research Institute</b>
Laurence Tubiana and Thomas Spencer, <b>The Institute for Sustainable Development and International Relations (IDDRI)</b>
Laura Cozzi, <b>International Energy Agency (IEA)</b>
Keywan Riahi, <b>International Institute for Applied Systems Analysis (IIASA)</b>
Helen Muntford and Nathalie Girouard, <b>Organisation for Economic Cooperation and Development (OECD)</b>
David Hone, <b>Shell</b>
Michael Grubb, <b>University of Cambridge</b>
Tomas Wyns, <b>Vrije Universiteit Brussel (VUB)</b>

## References

- <sup>1</sup> IEA (2013) World Energy Outlook Special Report: Redrawing the Energy Climate Map
- <sup>2</sup> IDDRI Sciences Po (2012) Green Investments in a European Growth Package
- <sup>3</sup> International Energy Agency (2013), World Energy Outlook 2013
- <sup>4</sup> Institutional Investors Group for Climate Change (2013) 2030 Energy & Climate Change Green Paper Consultation Submission
- <sup>5</sup> [Reference: Kaminker, C. et al. (2013), “Institutional Investors and Green Infrastructure Investments: Selected Case Studies”, OECD Working Papers on Finance, Insurance and Private Pensions, No. 35, OECD Publishing. <http://dx.doi.org/10.1787/5k3xr8k6jb0n-en> See pg. 14]
- <sup>6</sup> EU-AMPERE Project findings: Riahi, K., Kriegler, E., Johnson, N., Bertram, C., den Elzen, M., Eom, J., Schaeffer, M., Edmonds, J., Isaac, M., Krey, V., Longden, T., Luderer, G., M  jean, A., McCollum, D.L., Mima, S., Turton, H., van Vuuren, D.P., Wada, K., Bosetti, V., Capros, P., Criqui, P., Hamdi-Cherif, M., Kainuma, M., Edenhofer, O. Locked into Copenhagen pledges - Implications of short-term emission targets for the cost and feasibility of long-term climate goals (2014) Technological Forecasting and Social Change, <http://dx.doi.org/10.1016/j.techfore.2013.09.016>
- <sup>7</sup> See Eurostat [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Manufacturing\\_statistics\\_-\\_NACE\\_Rev.\\_2](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Manufacturing_statistics_-_NACE_Rev._2)
- <sup>8</sup> ILO (2012) Green Jobs for Sustainable Development: A Case Study of Spain
- <sup>9</sup> Underlying Data for the 2011 LCEGS Report for the UK’s Department for Business, Innovation & Skills
- <sup>10</sup> European Commission (2012) Exploiting the Employment Potential of Green Growth
- <sup>11</sup> Reference: OECD (2011), Employment Impacts of Climate Change Mitigation in OECD, OECD, Paris
- <sup>12</sup> Set of policy recommendations to meet skills needs for green jobs, Prepared on the request of G20 Development Working Group, Human Resource Development Pillar, Inter-Agency Working Group on Greening Technical and Vocational Education and Training and Skills Development, January 2013.
- <sup>13</sup> European Commission (2014), Communication from the European Commission “A policy framework for climate and energy in the period 2020 to 2030” Brussels, 22 January 2014, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2014:0015:FIN:EN:PDF>
- <sup>14</sup> McKinsey Global Institute (2012), “Manufacturing the future: The next era of global growth and innovation” [http://www.mckinsey.com/insights/mgi/research/productivity\\_competitiveness\\_and\\_growth/the\\_future\\_of\\_manufacturing](http://www.mckinsey.com/insights/mgi/research/productivity_competitiveness_and_growth/the_future_of_manufacturing)
- <sup>15</sup> European Commission (2013), Commission Staff Working Document “European Competitiveness Report 2013: Towards knowledge driven re-industrialisation”. [http://ec.europa.eu/enterprise/policies/industrial-competitiveness/competitiveness-analysis/european-competitiveness-report/files/eu-2013-eur-comp-rep\\_en.pdf](http://ec.europa.eu/enterprise/policies/industrial-competitiveness/competitiveness-analysis/european-competitiveness-report/files/eu-2013-eur-comp-rep_en.pdf)
- <sup>16</sup> It could, for instance, be considered to use part of the “unused” allowances in the EU New Entrant Reserve at the end of 2020 to recapitalize the NER300 mechanism. The revenues from allowance sales originating from a new Market Stability Mechanism could be used for the same purpose.
- <sup>17</sup> The Advanced Research Projects Agency-Energy (ARPA-E) advances high-potential, high-impact energy technologies that are too early for private-sector investment. For more information see <http://arpa-e.energy.gov>
- <sup>18</sup> International Energy Agency (2013) Energy Efficiency Market Report
- <sup>19</sup> Booz & Co (2013), “Benefits of an Integrated European Energy Market”
- <sup>20</sup> European Commission (2014), Communication from the Commission “A policy framework for climate and energy in the period from 2020 to 2030” Brussels, 22 January 2014. See page 5
- <sup>21</sup> Miroslav Z  me  n  k and Jan Hlav   , CEE Bankwatch Network (2011), “Home is where the heat is: thermal insulation programs for buildings in the Czech Republic and its positive effect on job creation”, Prague, 2011. <http://bankwatch.org/sites/default/files/Home-is-where-the-heat-is.pdf>
- <sup>22</sup> Kaminker, C. et al. (2013), “Institutional Investors and Green Infrastructure Investments: Selected Case Studies”, OECD Working Papers on Finance, Insurance and Private Pensions, No. 35, OECD Publishing. <http://dx.doi.org/10.1787/5k3xr8k6jb0n-en> See pg. 14 for specific key actions governments can take to address investment barriers.