

## GENERAL ELECTRIC'S RESPONSE TO THE EUROPEAN COMMISSION'S CONSULTATION ON THE FUTURE "EU 2020" STRATEGY

### Introduction

General Electric ("GE") welcomes the opportunity to submit comments and observations on the *Future "EU 2020" Strategy*. The development of a stronger and more integrated European Union ("EU") is clearly in the interest of business and we are strongly committed to continue to play our part in its future development.

GE is a global, diversified manufacturing, technology and services company. GE is made up of five primary business units, each with its own divisions. Its primary business units include: GE Energy Infrastructure, GE Technology Infrastructure, GE Capital, GE Home & Business Solutions, and NBC Universal.

For over 100 years GE has been investing in growing its presence across Europe and today each of our five global businesses has a strong presence in the region where we have grown our employee base from 3,000 people two decades ago to over 100,000 people today. Europe hosts the headquarters of a number of our global businesses including the international headquarters located in Brussels. Europe is also an important centre of innovation, research and development for the company with our Global Research Centre located in Munich, Germany. In Europe we have more than 36,000 employees working in research and development, engineering and manufacturing, turning imagination into products. In total GE invests €4billion per year on R&D.

We fully support the European Commission ("Commission") in its endeavour to provide strong political leadership and to shape the next generation of public policies to ensure that Europe will emerge successfully from the current economic crisis.

GE ardently encourages the Commission to cause the European Union ("EU") to enter a new *"sustainable social market economy, a smarter, greener economy, where our prosperity will come from innovation and from using resources better, and where the key input will be knowledge"*.

GE agrees that success will depend upon *"a bold policy response"*. To achieve the objectives set, the EU should immediately develop long-term targeted legislation to this end and commit sufficient budgetary funds to ensure successful implementation by 2020.

Bold political leadership and clear objectives with the requisite legal framework will be needed from the EU to ensure that businesses can steer their innovative efforts and commercial decisions in a direction that will support the objectives of the EU.

GE agrees with the Commission's approach for the new strategy *"to focus on key policy areas"* to increase its probability of success, and to provide added value and visibility to European citizens and the economy.

In responding to this consultation GE has limited its comments to what we perceive as the key issues. GE believes that the key challenges for the EU to address will be in the following areas:

- Invest in efficient infrastructure - to create a low carbon energy sector and affordable and accessible healthcare for a healthy economy
- Support innovation - to develop a competitive and greener economy
- Commit budgetary means - to attain the EU's objectives as quickly and effectively as possible
- The external dimension – support European competitiveness outside European borders through the consistent removal of trade barriers

## 1. Invest in efficient energy infrastructure

### A. Creating a low carbon energy sector

GE Energy is one of the world's leading suppliers of power generation and energy delivery technologies. We provide a broad array of solutions for traditionally fuelled plants as well as those driven by renewable resources. Our technologies include Integrated Gasification Combined Cycle ("IGCC") for Gas and Carbon Capture Storage ("CCS"), together with wind, solar and Combined Heat and Power ("CHP") as well as nuclear solutions. We are also a centre for expertise in 'Smart Grid' technologies.

The Commission rightly acknowledges the impact of the current economic and financial crisis at a time when new energy infrastructure is needed, and the role that the low carbon energy sector will play as a future driver of growth. The global carbon market for goods and services is already worth €3.4 trillion and expected to increase by around 50% again over the next decade generating as many as 10 million new jobs. Currently the European eco- industry is worth €319 billion and currently growing at 8% per year. Clearly, there are great opportunities to drive further economic growth within the EU with the right environment and conditions.

GE is committed to actively support the transition into a low carbon energy economy. As a major global manufacturing company GE invests and innovates for the long-term. We believe that a low carbon energy economy can only be achieved with a diverse mix of energy and that all fuel sources are vital ingredients to building a low carbon mix.

GE finds many very positive elements in the envisaged EU 2020 Strategy including:

- the role of the green economy as a key driver to promote the EU's competitiveness and environmental goals
- the use of existing policy instruments based on the framework of the single market and a balanced mix of open and competitive energy markets
- a fresh approach to industrial policy to promote innovation and R&D that take a broad and long-term view
- empowering people to contribute to the huge investment required to deliver the EU's investment in infrastructure
- the recognition of the role of international trade to support this strategy

However, the benefits of the green economy can only be realised through a coherent EU approach towards decarbonisation of the energy sector.

The envisaged EU 2020 strategy provides a strong commitment to this process by promoting low carbon manufacturing, innovation and jobs. However, to achieve this, the EU must redouble its efforts to:

- promote long-term certainty for investors in low carbon technologies;
- drive demand for green technologies through the use of green procurement;
- encourage closer co-operation on energy policy among Member States to realise the benefits of the single market. This must be underpinned by a long-term EU Emissions Trading Scheme ("EU ETS") regime, stronger regulation and

measures to remove obstacles and divergent approaches at the national level;

- maintain a coherent approach to industrial policy in order to support manufacturing, R&D and workers' skills; and
- promoting international trade with particular emphasis on market access and removal of barriers to trade for environmental goods and services ("EGS:).

Importantly, the EU should also realise and acknowledge that concrete EU support for improving energy efficiency will be decisive for competitiveness, security of supply and for meeting the commitments on climate change and may constitute the quickest path to a low carbon economy. The current debate on energy policy has tended to focus too much on the demand-side opportunities to improve the energy efficiency of buildings and seek alternative forms of transportation; it should also focus on industrial processing and the electricity generating sector.

While there are undeniable tangible gains to be made by focusing on the habits and choices of energy users, they are often over-estimated by policy-makers. Moreover, demand-side policy approaches often lead to competing, costly, complex and incoherent results. Meanwhile, there are many supply-side opportunities in the power sector that can be readily implemented today. Because the number of power providers is considerably smaller than the number of consumers, solutions can be found, agreed and deployed more quickly than initiatives on the demand side, and with the likely added benefit of a more immediate impact.

In particular, we believe that three supply-side solutions could deliver immediate benefits subject to the right policy framework being in place.

- **Upgrade gas-fired combined-cycle power plants**

Gas-fired, combined-cycle power plants ("CCGT") are a significant source of power and of greenhouse gas ("GHG") emissions in Europe, and there are significant benefits that can be gained by upgrading the existing fleet.

Cost-effective solutions to retrofit many of these turbines exists today but in the face of growing consumer demand governments and regulators need to urgently promote the deployment of state of the art technology address the current economic and environmental challenges. For example, even a small percentage change in efficiency gained through retrofitting these gas-fired plants can create significant results. According to internal calculations a 1-percentage point efficiency improvement in the GE fleet of 1000 F-Class gas-fired turbines could reduce carbon dioxide emissions by 4.4 million tons a year.

To achieve a similar impact on the demand-side, nearly 5 million households would need to be persuaded to adopt all of the most efficient, commercially available green technologies, regardless of cost. In transportation terms this would equate to around 1 million drivers giving up their cars.

- **Create more efficient electrical transmission and distribution**

The electricity grid offers additional opportunities for supply-side efficiency gains. Substantial quantities of electricity are lost in the transmission and distribution of power from generation sources to end-users. Wasting energy at every point

during every second of every day is economically inefficient and at the same time makes it harder to meet the EU's carbon emissions targets.

Smart grids support the prospect of delivering electricity more efficiently and more reliably. This can be achieved by mitigating the increased intermittency and volatility caused by future participants in the energy system, such as renewable or decentralised generation. Other benefits of smart grid include transmission and distribution optimisation, demand optimisation, asset management, enhanced workforce and engineering design and smarter technologies for the home.

Industry research has been undertaken into the benefits of smart grid.<sup>1</sup> This work suggests that smart grids can unlock significant value through mitigation of peaks and troughs, and exploit wider benefits through management of capacity, fuel and emissions as well as distribution costs.

Smart grid technologies are already available to deploy now and can have a potentially major impact. There are a number of challenges for smart grid development that need to be met:

- the need to create commercially sustainable regulation to accelerate deployment;
- governments must act as a catalyst to support new technologies and tackle technical barriers;
- consumer engagement to promote 'customer pull' rather than 'industry-push'; and
- city-scale deployments to validate benefits; as centres of energy demand, investment and innovation, cities are prime candidates for smart grid investment.

- **Capture waste heat**

Power generation naturally creates heat and it is estimated that as much of 30% overall energy (power and heat) is lost through traditional power plants. By more effectively using the heat generated in producing electricity, plants can achieve overall efficiencies of 70 per cent or more by combined heat and power ("CHP"). This involves capturing the heat by-product and using it in an industrial application.

For example, a carbonated-drink bottling facility in Romania uses a GE CHP plant to supply electricity to the plant as well as hot and chilled water throughout its facility. CHP plants can be fueled by natural gas or with renewable fuels such as biogas from local farms. This reduces the total emissions of the facility, and through advanced technologies, reduces costs.

We welcome the Commission's focus on high-efficiency CHP. This power source is often overlooked by industry as a result of the existing policy framework. Future policies should reward efforts to develop high quality CHP schemes and continue to focus on the removal of remaining barriers to CHP investment.

- **Promote water re-use**

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<sup>1</sup> See, e.g., Department of Energy's Pacific Northwest Laboratory, GridWise project, January 9, 2008.

Considering the need for optimising the use of water resources and reducing the risk of water scarcity, the EU must be able to ensure water supply for human and industrial use with the highest standards of quality and improve the productivity of economic sectors where the use of water is intensive. This involves investment in the latest technologies and supporting research in this field as well as implementing a robust regulatory framework to stimulate water re-use solutions. This will have a direct impact on the utilisation of water resources and the alleviation of water scarcity, changing the economic model and improving the productivity of economic sectors intensive in the use of water.

## **B. Creating affordable and accessible healthcare for a healthy economy**

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, performance improvement, drug discovery, and biopharmaceutical manufacturing technologies is helping clinicians around the world re-imagine new ways to predict, diagnose, inform and treat disease, so their patients can live their lives to the fullest.

There are many aspects of medical technologies and services that will help deliver sustainable healthcare, improve the health and quality of life of European citizens, and ensure the efficient use of public funding. At the same time, modern medical technologies contribute to reducing absenteeism, and thereby enhance EU competitiveness. Indeed, the Tallinn Charter makes clear that healthy citizens contribute to a healthy economy and accordingly, the Commission should continue to pursue high level policies that will improve the health of EU citizens. However, with respect to a major, high level EU-wide strategy for change, GE believes that the wide scale adoption of healthcare IT systems and related telemedicine technologies throughout the Member States would contribute in a very significant manner to these objectives.

Information Technology platforms, with related high-tech service products, have supported growth in many industrial settings for many years. However, within the healthcare sector the potential benefits from IT, coupled with advances in engineering, biomedical research and interactive consumer-directed health products, have still to be realised for a number of reasons.

We urge the Commission to place greater emphasis upon developing and implementing policies that promote the use and uptake of healthcare IT and telemedicine throughout the Member States. Their appropriate use will benefit patients greatly, improve healthcare systems and their efficiency, reduce medical errors, compensate for growing shortages in health professionals, and help address the demographics of an ageing population in Europe.

Furthermore, this is an innovative business sector, embracing many SMEs in Europe, which the EU should nurture and promote for its economic benefit.

## 2. Support innovation – to develop a competitive and greener economy

Ecomagination is GE's company-wide commitment to introduce new technologies that help customers meet pressing environmental challenges. GE is committed to doubling our research investment in cleaner technologies to €1.1 billion annually by 2010. Since we launched ecomagination in 2005 our total investment has reached €2.7 billion. Under this initiative GE has also committed to reducing its own carbon footprint across all its businesses. Over 50,000 jobs have been created in GE and our supply chain through our ecomagination initiative with savings of over \$100 million to the bottom line in energy saving and efficiencies.

Healthymagination is GE's global commitment to reduce costs, increase access and improve the quality of healthcare for millions of people. It is a business strategy that seeks to help people live healthier lives. GE has committed to invest €2 billion in R&D spending on healthymagination products by 2015. We will also provide €1.4 billion in financing for advancing healthcare IT and spend €700 million over the next five years for partnerships, media content and services related to healthymagination.

The Commission and the EU have long recognised the importance of intellectual property ("IP") for the economy and society. IP provides the market-based incentives and rewards for a virtuous circle of innovation and creativity that underpins a constantly improving stream of innovations and creative products.

Given the importance of IP for the EU's innovation and competitiveness agendas, the new Commission would benefit greatly from deeper co-ordinating support of IP policy.

The substantive copyright, patent, trademark and other IP rights and exceptions contained in EU and Member State legislation, and reflected in substantive international IP treaties, generally work well in promoting innovation and creativity and in balancing other interests. Thus European IP policy should be based on the presumption of supporting existing substantive IP legislation.

Furthermore, the Commission should maintain a clear regulatory preference for market based technology diffusion. The essential mechanism of the IP system is to give the inventor, author and other rights owners the right to decide whether and how to use the material they develop. This is undermined whenever non-market licences are imposed on the rights owner for any reason. EU IP policy decisions should thus continue to proceed on the strong presumption that market-based licensing is preferable to compulsory licensing, capped or zero royalty requirements, or other similar expropriations or non-voluntary restrictions on the exercise of IP rights.<sup>2</sup>

## 3. Commit budgetary means - to attain the EU's objectives

R&D and innovation should remain a key focal point in the Commission's strategy, as should be education to empower people and investment to develop a competitive and greener economy. But to be implemented in time, as the

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<sup>2</sup> This is consistent with the EU position in the Climate Change Convention negotiations stressing "the necessity of protecting and enforcing intellectual property rights for promoting technological innovation and incentivising investments from the private sector is to be applauded".

Commission correctly notes, “these new priorities need to be reflected in budgetary policies”.

GE supports a constructive review of the EU budget to allow the implementation of the proposed strategy and set a precedent by providing best practice to the Member States. The three priorities of the envisaged 2020 strategy need to be the three key items of the EU budget. This should be implemented, if possible, by 2010 following the envisaged mid-term review by re-allocating the remaining 2011-13 budgets and, crucially, for the next multi-annual financial framework.

GE would therefore like to make the following recommendations in relation to the budgets of the EU and, as much as possible, those of the Member States:

➤ **R&D / innovation to create knowledge and education to empower people**

We agree with the comments on the need to reshape public spending programmes balanced with the recognition that forward-looking areas such as education and research are essential.

There is a need to use all existing and potentially new instruments to stimulate innovation, develop centres of excellence, and green & white jobs in Europe. There is a need to make more flexible centralised programmes (R&D Framework Programme & European Institute of Technology) or continue using complementary decentralised funding for spurring R&D projects (Structural Funds (“SFs”)).

We urge to Commission to adopt the R&D framework Programme (1) with additional funding and (2) covering all areas of the key industries of the future such as healthcare, energy, water and aviation and particularly low carbon and adaptation technologies.

It is necessary to make the selection and administration processes (notably relating to intellectual property) more flexible. In particular:

- to make R&D projects manageable and avoid high administrative costs, it would be more efficient to limit the number of required partners – to ensure eligibility, maximum 3 partners should be sufficient;
- to have a more flexible approach to IPR, the requirement regarding the need to holding patents in a local entity should be abolished.

The EIT initiative should be improved by increasing the funding to allow for greater acceptance of a larger number of projects.

There is a need for increasing the allocations of the SFs for R&D, innovation and demonstration projects, and for simplifying the selection and administration systems. This can be achieved for instance by adding European funds to national programmes, and using the best / simplest of the two management systems.

➤ **Investment to develop a competitive and greener economy**

We encourage the Commission to use all existing and potentially new instruments to help the EU meet its targets for 2020 and beyond to reduce greenhouse gas emissions, and promote infrastructure investments into low carbon and adaptation technologies.

To this end, the EU should continue using a decentralised funding scheme for spurring “green” investment projects (through SFs) and develop flexible centralised programmes such as the “energy infrastructure fund” of the European recovery plan.

The SFs constitute the most significant part of the EU budget (apart from the Common Agricultural Policy) and have de facto been a new “Marshall Plan” for the Member States that joined in 2004. There is an immediate need – if possible already by 2011 to:

- increase – dramatically - the allocations of the Structural Funds for projects related to energy efficiency, renewable energy or low carbon technologies to encourage investments as soon as possible and to effectively reach the climate change targets by 2020; and
- further encourage green public procurement and condition the use of EU Structural Funds on the use of green sourcing.

We agree with the Commission’s comments regarding the importance of access to credit and availability of capital to ensure a successful exit from the economic crisis. In this respect, the recently agreed and still proposed amendments to the SF regulation should be adopted and implemented as soon as possible to support the greener economy in the Member States. A measure for immediate consideration would be to postpone or temporarily suspend the need for partial financial commitment from Member States able to access EU SFs.

For example, it appears that EU funds available for improving healthcare infrastructure are not being taken up by some Member States. This is often the case because they do not themselves dispose of the necessary financing to allocate to projects that would qualify for structural fund support, to cover for ongoing operational costs. A temporary easing of the financial contribution could stimulate greater take-up of funds, and in so doing, accelerate recovery infrastructure programmes within Member States.

Furthermore, we believe that the EU ETS is a key instrument in the EU’s strategy to reduce CO<sub>2</sub> emissions from industry and to promote the single market. The Commission should encourage Member States to use auctioning revenue to source low carbon products and to drive up demand for green technologies.

Commercial market-based instruments such as the EU ETS can underwrite capital-intensive investments in low carbon technologies. However, at present, poor visibility on carbon prices means that short-term investments could undermine EU emissions goals by locking in carbon from unabated fossil fuel power plants for many years to come.

To address this we believe that a range of actions can help to galvanise early investment in low carbon technologies, to allocate the regulatory

risk associated with carbon markets more equitably, and to provide certainty on delivering known CO<sub>2</sub> reductions.

Measures could include:

- developing a more consistent and efficient regulatory process at EU level in order to pave the way for increasingly integrated and open energy markets to remove regulatory obstacles;
- action to make sure low carbon technologies can play their part by removing impediments at the national level that increase costs and delay implementation. This includes fragmented support mechanisms between the EU and Member States, divergent approaches to planning and a lack of transparent procurement practices;
- introduction of measures to support the EU ETS including an Emission Performance Standard (“EPS”);
- a pan-European approach to create a bigger smarter grid. This would acknowledge the fragmented nature of the EU liberalised energy markets (generation, T&D and supply) and create a real internal market for electricity networks.

#### **4. The External Dimension – support European competitiveness outside European borders through the consistent removal of trade barriers**

The smarter greener economy will necessitate trade measures that create market opportunities for European clean technology and service enterprises. This will require a proactive approach to remove tariff and non-tariff barriers as quickly as possible. In this regard the Commission should work with key trading partners towards an Environmental goods and services agreement (“EGSA”) outside of the Doha Round. The long-term goal of an EGSA should be universal, WTO member participation in removing both tariffs and non-tariff barriers for an agreed list of goods and services. However, the path to realising that goal may involve interim agreements in the interest of demonstrating progress and removing barriers as rapidly as possible. For instance, an initial agreement might eliminate tariff barriers only, be limited to an already agreed upon product list (for instance, the list developed by the World Bank in 2007) and be adopted by a subset of WTO members accounting for most current trade in these products. Subsequently, additional countries could sign on to the agreement, more products could be added and coverage could be extended to services and non-tariff barriers.

Furthermore, effective deployment of EU trade mechanisms is essential to protecting European IP assets in third countries, which in turn is key for stimulating R&D and innovation within the EU – and of course jobs. In recent years, the Commission’s Trade Directorate-General has addressed the problem of counterfeiting and other misuse of European IP in third countries by highlighting ‘priority’ third countries. This - along with dialogue, co-operative programmes, bilateral intervention and possible WTO dispute resolution - have been, and should remain, tools for promoting a positive EU IP agenda. Moreover, the Commission has extended its dialogue with the US on common goals with respect to IP in key third-country markets. These are excellent uses of EU resources in protecting the vital IP assets of European enterprises abroad, and in creating a more level international playing field for EU IP-based products and services. Rapid conclusion and entry into force of the Anti-Counterfeiting Trade Agreement (“ACTA”) is also a key priority to address the global counterfeiting and piracy problem.