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Response by Euro-CASE to the European Commission Consultation Document on the Future EU 2020 Strategy

The European Council of Applied Sciences and Engineering (Euro-CASE) is an independent, non-profit organisation of national academies of engineering, applied sciences and technology from 21 European countries. Its members include over 6000 of the most eminent engineers in Europe.

Euro-CASE welcomes the Commission's consultation document on the Future EU 2020 Strategy. We strongly agree on the need for a comprehensive new vision which both endorses the goals of the Lisbon Strategy, and recognises that their importance has increased rather than diminished in the current economic crisis. In our view, the targeted measures taken to stimulate growth throughout Europe must be complemented by a strategic investment in research, innovation, education, skills and infrastructure to restore European competitiveness over the longer term.

We also welcome the paper's support for maintaining current levels of expenditure on education and research, and the call for further investment in R&D and new technologies, innovation, smart networking, high quality education and skills development under the Stability and Growth Pact. While maintaining levels of R&D expenditure in difficult times in itself sends out a strong signal, we feel that as the economic recovery progresses, more ambitious targets for research and development funding should be introduced which will allow Europe to keep pace with the rapid growth in research investment taking place in China and India as well as more traditional competitors.

We believe that a true recovery must be rooted in science, engineering and innovation. We are therefore pleased to see that the three thematic priorities highlighted in the paper have science and engineering at their heart.

Creating value by basing growth on knowledge

A broadening and deepening of engineering education and skills across Europe is required if the aspirations contained within the priorities *Creating value by basing growth on knowledge* and *Empowering people in inclusive societies* are to be reached. In our view one of the

greatest threats to Europe's future competitiveness is the declining interest in science, technology, engineering and mathematics (STEM) subjects at primary and secondary school level and the projected shortage of qualified engineers across the continent. In November 2009, Euro-CASE held a high level EU conference addressing this issue, which identified an urgent need to bring forward programmes at national level to promote greater interest in STEM subjects, particularly among younger pupils, and to increase the competence of teachers in primary and secondary schools. Euro-CASE is currently gathering information about initiatives in this field from its 21 member academies. The Commission is encouraged to support this drive by setting up an office for the identification of best practice and monitoring of progress in Europe.

Creating a competitive, connected and green economy

We agree that Europe has the science and engineering expertise and the political will to overcome the challenge of managing finite energy resources and use this opportunity to position Europe as a world leader in green technologies. However, Europe's efforts in this domain threaten to be overshadowed by the ambitious investment programmes in low carbon technologies put forward by India, China and latterly the US. In order to safeguard Europe's claim to global first mover status, we would like to see the creation of a high profile flagship European fund for innovative low carbon technologies, along the lines of the US Department of Energy ARPA-E.

We are highly supportive of the paper's call for the development of a European electricity supergrid. We note that this initiative and the development of smart, upgraded transport and energy infrastructures as highlighted in the priority *Creating a competitive, connected and green economy* will require the sustained input of Europe's best engineers. We strongly urge the Commission and other European institutions to systematically draw upon the expertise of the European engineering community at an early stage of policy development. This broader engagement with Europe's leading engineers should be complemented by embedding senior engineering expertise within the Commission itself. Many European Governments have created the position of chief scientist or chief engineering adviser, and Euro-CASE feels that this approach could usefully be adopted by the European Commission, particularly DG TREN. The 2008 ERAB report argues persuasively for the introduction of a European Chief Scientist; Euro-CASE feels that this post could be complemented by a European Chief Engineer.

Euro-CASE would be very happy to use its European network of expertise in academia and industry to advise and assist the Commission, and would welcome further discussion with the Commission on any of the above issues.