



Portal speaks to outgoing Chief Scientific Adviser **Professor Anne Glover** and considers her legacy and the position's future under **Jean-Claude Juncker**

Informed advice

During his ten years as European Commission President, José Manuel Barroso recognised the importance and value of informed, independent and expert scientific advice. In realising this aim, Professor Anne Glover was appointed the first Chief Scientific Adviser (CSA) to the President of the European Commission in 2012. The position has encouraged the infusion of science-based policy making into every corner of the European Commission's work and highlighted the instrumental role that science plays in securing the future of Europe.

Pledging to create the position in 2009, Barroso said there needed to be a change in the way the Commission sought its scientific guidance: "We need a fundamental review of the way European institutions access and use scientific advice. In the next Commission, I want to set up a CSA who has the power to deliver proactive scientific advice throughout all stages of policy development and delivery. This will reflect the central importance I attach to research and innovation."

Wide-ranging role

During her tenure, Glover has been responsible for providing analysis, opinion and expert advice on major science, technology and innovation policy proposals and served as a central contact point in the Commission for scientific counsel. Glover has also been instrumental in building positive relations with, and bridging the gap between, high-profile scientific

committees in the Commission. The role has also taken her outside of Brussels as she has helped foster closer relations with EU member states in the field of science, further nurturing a European scientific culture.

In October, Portal travelled to Portugal and the capital Lisbon to attend the high-level conference 'The Future of Europe is Science'. The two-day summit explored European scientific achievements during the last decade and considered how science, technology and innovation can help further improve social wellbeing as well as encourage job creation, economic growth and new business opportunities in the decades ahead.

The conference also saw the presentation of the latest report of the Science and Technology Advisory Council (STAC) to Barroso, a body set up by Glover that advises the Commission president on scientific matters. The report, also entitled 'The Future of Europe is Science', outlines key opportunities for Europe in regards

to science and technology between now and 2030, as well as how best to meet the priority of citizens.

Glover has announced that she will formally leave office in early 2015 to explore new scientific challenges. During the Lisbon conference, Portal sat down with Glover to discuss her time in Brussels, the future of the CSA role, and Europe's international scientific competitiveness.

What have been your greatest accomplishments during your time as CSA?

This conference is one of many particular successes – because the future of Europe is science. It is a bold statement to make, and I am glad that Barroso and the Commission have signed up to that pledge.

Another success is setting up the STAC, the second report of which is launched today. The report focuses on what the future may be like, what science, engineering and technology will be visible by 2030 and how we may best take advantage of this. Europe is great at producing excellent science, but is less good at translating these breakthroughs to citizens and businesses in order to take advantage of these advances.

We have also set up a formal foresight science network in the Commission. Over 21 DGs and Commission services have signed up to that network, and there are over 200 staff involved in its work. We have over 50 files describing different science, technology and engineering that is currently on the radar, and the challenge within the Commission is not to be caught by surprise in these areas; we need to prepare ourselves so we can take maximum advantage and minimise any risks that are coupled with these new opportunities. The foresight network is important because Commission services are sharing information, collaborating and setting up their own workshops to identify how they may be able to work more closely together.

When I began my role, there were very few CSAs in EU member states. We now have 14 national advisors nominated by their own member state governments to be part of an informal network where we can exchange



Wearable technology:
Glover says she supports the creation of a European Chief Technology Officer

information on some of the major challenges in science and work more closely for a common agreement.

It also seems that we are talking about science more, both inside the Commission and outside Brussels. Barroso's idea to have a CSA means we have a focal point for these discussions.

What are your thoughts regarding the future of the CSA position?

It is entirely up to President Jean-Claude Juncker to decide whether he wants a CSA. He has already stated how much value he places on independent scientific advice, but there are many ways this guidance can be delivered.

In my view, a CSA is the very obvious way you can signal that you really value science and evidence in policy making. Most politicians value economics and therefore have chief economic advisors, and I believe there is also value in having a CSA because the future of Europe is science. We need a mechanism to translate specialist areas into something that is meaningful and valuable for channelling investment.

Many NGOs called for the role of CSA to be scrapped. How have you responded to this criticism?

In a strange way, I am glad that the NGOs have responded in this manner, because it allows us to examine the role and identify positive and negative attributes. The role as it currently stands is not perfect, but there is potential for positive evolution. I do not believe the critics are saying that we do not need evidence in policy making; their criticisms suggest that they are not fully aware of my role or are confused by its responsibilities, because what they describe is not accurate.

The NGOs have started a debate, and there is great support from across the scientific and business environment in favour of having a CSA and developing the role further. This is a good debate to have.

The EU's Open Innovation Strategy and Policy Group is calling for the creation of a European Chief Technology Officer (CTO). What are your thoughts on this proposal?

It would be beneficial because my role as CSA in Europe is not about 'policy for science' – its focus is 'science for policy'. It is focused on how

we use our knowledge to inform the best policy making and to provide the platform from which we can deliver options. A European CTO may be focused on developing policy for technology and what policy instruments could be utilised. There could be a lot of crossover between those two roles as well as other positions within the Commission, particularly other scientific advisory roles, and a CTO could be another avenue for feeding information to the Commission.

The Commission is a well-established and complex organisation, but if you have a CSA or CTO, there is an obvious contact point for information. I see no conflict but only potential synergy. It would help focus translation from excellent knowledge through to impact for citizens. There needs to be a clear definition of the role and whom the individual would interact with. Transparency and accountability are also very important.

What impact do you think Horizon 2020 will have on European science compared to the Seventh Framework Programme (FP7)?

Horizon 2020 is the real added value that sits on top of all the EU member states' R&D programmes. It is not a substitute for a cutback in national investment in R&D; it is, however, providing an avenue for research that is not easy to do in an individual member state, for example transnational collaborative projects.

There has also been a focus on trying to increase participation of SMEs – a valuable emphasis, particularly considering how SMEs have been discouraged from previous framework programmes due to the complexity of applying and the auditing of European grants. I hope that the simplification changes made in Horizon 2020 will be a success. It is great to see that in Europe, at a time when we are cutting back on almost every other budget, the budget for Horizon 2020 saw an increase.

What other steps can be taken to increase knowledge transfer and bring products to market?

We need to have a dialogue concerning knowledge exchange. New researchers need to be equipped with the skills to allow them to open dialogues with people who will translate the knowledge they generate into real impact. This culture change has already started and is proving successful in many universities and research institutes in Europe. We need mentoring for researchers on how best to collaborate with business and begin dialogues. Our next challenge is how to ensure businesses are smart consumers of knowledge and have greater engagement. Exchange must flow in both directions.

To what extent can Europe be proud of its scientific legacy when compared to North America and Asia?

We are often modest when comparing our scientific achievements to that of others. Europe invented the modern world, but we could do more in translating knowledge into real benefits for us in Europe.

Everyone has a role to play, including society. We need to move towards an environment where citizens demand breakthroughs. Citizens need to be involved in the dialogue and act as a catalyst for that transfer. We need to listen to EU citizens and their expectations for research, beginning an on-going dialogue. Our Eurobarometer survey has shown that they



Glover says citizens need to be involved in determining the future direction of Europe's scientific advances

are looking for developments in health and medical care, communications, transport, environment and energy. We would be foolish if we did not consider how we could change governance to include citizens and have a regular, on-going process where we engage with the broadest range of citizens possible.

What are your next challenges after stepping down from the post of CSA?

I hope that by the time I leave, which will be early in 2015, I will have had an opportunity to discuss with the new president the options regarding scientific advice. I hope that we are also able to have more CSAs or equivalents in EU member states. There is a growing club where scientific advisors are not isolated in their own environment, but instead exchanging information and experience and determining what can have a positive impact; I am looking to focus more on how best to replicate successful activity.

It has been a fantastic experience to work as a CSA. There has been a lot of support and interest in the Commission for the role, and many have identified where the role can help in each of the relevant agendas; I am also delighted by the overwhelming support for the role across the EU.

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Professor Anne Glover
Chief Scientific Adviser

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