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## **Alstom committed to deliver carbon capture technology to meet the European Union's CO2 emissions reduction targets**

With his announcement of 6 May with regard to the European Commission's proposal for a Directive on the geological storage of carbon dioxide, Chris Davies, member of the European Parliament, has started an important debate that will influence how quickly the world can substantially reduce the CO2 emissions from fossil-fueled power generation, as it must do.

Alstom welcomes the EU Climate Change & Energy Package and, as the supplier of equipment used in 25% of the world's power plants, is committed to playing its part in delivering cleaner power generation both in Europe and on a global scale.

Alstom is ready for the challenge of carbon capture and storage in the power sector. Leveraging its knowledge in combustion of fossil fuels, boilers and air quality control systems, Alstom is currently partnering with major utilities to develop and test its carbon capture technologies in several pilot plants allowing it to propose a viable option in line with Chris Davies's proposal.

Alstom's target is to offer CO2 capture technologies commercially from 2015 but, like other early-mover commercial scale projects, carbon capture and storage - CCS - will need the appropriate regulatory and financial framework to ensure a speedy ramp-up of the technology and large commercial use.

Setting a date for mandating the fitting of CCS to fossil-fuel generation could be a good first step in commercialising this technology:

- it will send a clear signal to markets to encourage investment in a range of CCS technologies; and
- it will establish a level playing field to remove some of the risks associated with developing new technologies at commercial scale.

Alstom wants to underline that the fight against CO2 emissions in fossil-fuel power generation should be global and measures to reduce CO2 emissions should be deployed fairly worldwide. If this is not the case, appropriate measures should be taken to ensure that European energy intensive activities do not face international competitive disadvantages.

### **Background/ notes for editors**

- Power generation contributes 40% of world CO2 emissions; coal-fired generation makes up 70% of global power generation and is, with gas, responsible for the greatest proportion of CO2 (*CCS also applies to gas*) emitted from power stations.

- The IEA estimates that demand for electricity generation will double by 2030, and that coal-fired generation capacity itself will also double in the same timescale. New coal-fired plant built today (more than 1GW per week in China alone) will have a 40-year lifetime. So the world must start to deploy CCS at commercial scale as soon as possible if we are to avoid "locking in" CO2 emissions.
- Indeed, CCS technology offers the only responsible medium term strategy to continue using fossil fuels for power generation.
- Smaller scale demonstration projects have already shown that the capture technology can work but now we need to deploy it at commercial scale.
- Early mover projects will need some publicly funded support because of the high financial risks associated with the roll-out of new technologies. The cost of new technologies can be reduced significantly as experience grows of how best to use them and through economies of scale as they become more widespread.
- Public support is justified because of the overwhelming benefit - in terms of CO2 emission reductions - that CCS technology could bring: studies have estimated that CCS has the potential to reduce global CO2 emissions by as much as 30% (Source: Bellona).

Alstom is firmly committed to CO2 capture and storage and is at the forefront of developments to produce reliable, cost-effective solutions for CO2 capture in zero emission plants.

Three major technologies are under development to capture CO2 before storage: pre-combustion, oxy-firing and post-combustion. Alstom is developing, as a priority, oxy-firing and post-combustion technologies which (unlike pre-combustion) can be retrofitted onto existing plants also.

- Post-combustion CO2 removal uses chemical solvents like chilled ammonia or amine to strip the CO2 from the flue gases - Alstom expects to offer this commercially by 2015;
- Oxy-firing burns the fuel with oxygen rather than air to produce an easy-to-capture concentrated CO2 stream.

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