

Position paper for the public consultation
« Renewable Energy strategy »

Summary

- AREVA supports a **high and predictable carbon price as a means of achieving EU decarbonization objectives**, to be achieved through **ambitious 2030 CO₂ reduction targets (at least -40%)**, via a robust European Trading Scheme (ETS) or any other such mechanism (carbon tax, carbon price floor).
- AREVA believes that a European strategy for Renewable Energy should be aimed at **fostering the emergence of a perennial European renewables industry**, and efforts should concentrate on areas where the development of such industrial capability and supply chain is most realistic.
- For AREVA, **mandatory renewables targets for 2030 would prevent Member states from achieving decarbonization in a cost-efficient way**. Instead, an indicative 2030 target of 2/3 of low-CO₂ electricity in the power mix would allow Member states to decarbonize flexibly and efficiently.
- In a post-2020 perspective, important policy elements for renewables will be (i) **enhanced focus on R&D** to bring down the costs and (ii) **improved financing support**.
- For AREVA, in order to tackle the increased intermittency resulting from significant penetration of renewables in the mix, **significant R&D effort must be placed into making storage solutions competitive and scalable**. In order to allow for renewables reaching a substantial share in the electricity mix, network operators will also need to commit to the necessary **network infrastructure development** – in particular interconnection between Member states and deploy **demand-side management solutions**. If such measures – which are in any case expected to be costly – fail to materialize, the increased intermittency will require flexible fossil-fired generation capacity, thereby jeopardizing EU's decarbonization objectives.
- The current wholesale market model based on short-run marginal cost pricing will have to be supplemented by instruments facilitating investment in capital-intensive low-CO₂ generation capacities and rewarding security of the supply. **The implementation of schemes currently in force or considered within various Member states (Finland, France and the UK) designed to support the financing of renewable energy projects should be encouraged**.
- In order to ensure a cost-efficient deployment of renewables, **national support schemes should be open to cross-border projects and to renewable generation from Member States and third countries**. Cooperation agreements should be further promoted with Southern neighbours focusing on the development of renewables incentive schemes similar to those available in the EU as a first priority.
- In order to sustain EU technology leadership, the following measures should be pursued: **securing adequate funding for the SET-Plan and the KICs, introducing European certification procedures (e.g. offshore components) and developing certified training and qualification**.

A. General policy approach

In order to decarbonize the European energy sector, **all low-CO₂ energy sources will be needed** (renewables, nuclear and Carbon Capture and Storage). The EU ETS system was implemented to direct investment towards such solutions. But because renewable technologies were not mature enough to enter the market and the industry was still nascent, mandatory targets were implemented in addition at EU and national level for the 2020 horizon. The Renewables Directive has so far proven efficient in pressing Member states to adopt national action plans and the deployment of renewables was accelerated.

In order to achieve EU decarbonization objectives, AREVA supports a **high and predictable carbon price**. Such price may be achieved through **ambitious 2030 CO₂ reduction targets (at least -40%)**, via a robust and constraining European Trading Scheme (ETS), or any other such mechanism (carbon tax, carbon price floor).

As a result of efforts to date at EU and national level, a European renewables industry has developed (in particular for offshore wind). In the future, a European strategy for Renewable Energy should be aimed at **fostering the emergence of a perennial European renewables industry**, and efforts should concentrate on areas where the development of such industrial capability and supply chain is most realistic.

Today, as most renewable sources are progressively approaching grid parity, there is a significant risk that **mandatory targets for 2030 would lower the incentives for the renewables industry to reach cost-competitiveness as soon as possible**. In addition, mandatory targets for renewables would **prevent Member states from reaching decarbonization objectives in a cost-efficient way**.

At this stage, AREVA would thus support a flexible approach for the 2030 horizon, where Member states would decide on how best to attain decarbonization objectives by way of an indicative target of 2/3 of low-CO₂ electricity in the power mix.

For renewables in particular, **AREVA would recommend complying with the revision dates set in the 2009 Directive** on Renewable Energy:

- progress report towards the 2020 objective before end of 2014,
- definition of the post-2020 framework in 2018.

Enhanced focus on R&D to bring down the costs of renewables technologies and **improved financing support** are considered more powerful policy elements than targets that Member states have often failed to reach in the past.

- Considering the fierceness of global competition in low-CO₂ energies today, the EU will need to make sustained efforts in R&D to retain its technological leadership. All initiatives under the SET-Plan should thus receive adequate funding (via Horizon 2020, NER300, Structural and cohesion funds, etc.)
- More than ever, the power sector transition towards a low-CO₂ power mix is constrained by utilities' investment capabilities. New types of investors will need to be attracted towards the power sector. The EU has a clear role in allowing and fostering regulatory evolutions which will accelerate investments (e.g. Finnish Mankala model, UK Electricity Market Reform) and in introducing facilitating instruments (e.g. project bonds, loan guarantees, etc.)

B. Financial support

As a general rule, high and predictable carbon price levels should drive power generation investments towards low-carbon capacities by providing transparent price signals. However, the need for financing support may remain for some time for selected technologies/circumstances/markets.

A rational use of public support would require **support schemes to be gradually phased-out as renewable technologies approach grid parity**. In order to meet investors' request for predictability, Member states should elaborate financing support plans in the mid-term and commit to updates of forward curves at pre-defined dates. This would allow for a smooth transition towards investments solely driven by market forces. Industry should be consulted on its expectations for the horizon when the technology is expected to be cost-competitive considering local market conditions.

In order to ensure a cost-efficient deployment of renewables, **national support schemes should be open to cross-border projects and to renewable generation from Member states and third countries**. Indeed, it would allow for Member states to reach its own decarbonization objectives by tapping into not only their own renewable resources but also those available within other Member states or within third countries, thereby improving overall efficiency at EU level.

C. Administrative procedures

AREVA considers that introducing **European certification procedures** (e.g. for offshore wind components) that could evolve into international certification standards would contribute to sustaining the EU's current technology leadership. This could help reduce the risk of unfair competition from third countries currently subject to significantly weaker certification procedure than is the case in most Member states.

In the offshore wind sector, one key success factor for a fast market take-off would be the development of EU skills in offshore logistics, in particular by tapping into the navy industry in a few Member states. **Certified training and qualification** could help attract the necessary resources in the offshore wind sector.

D. Grid integration from renewable energy sources

The integration of a significant share of intermittent energy sources (e.g. large wind or solar farms) leads to challenges for Transmission System Operators and Distribution System Operators in terms of dispatching reactivity, reliability, stability, etc., which may lead to recurring black-outs in case network infrastructure is not adequately upgraded.

In order to tackle the increased intermittency, **significant R&D effort must be placed into making storage solutions competitive and scalable.**

Still, in many Member states, grid development and reinforcement remain a key bottleneck for the completion of an internal market as well as for the large-scale deployment of renewables. In the current trend towards a low-CO₂ energy mix, **network operators will need to commit to developing network infrastructure – and in particular interconnections between Member states –** accordingly. The availability of **demand-side management** is another significant enabler.

If the above measures – which are in any case expected to be costly – fail to materialize, the increased intermittency will require flexible fossil-fired generation capacity, thereby jeopardizing EU's decarbonization objectives.

As part of the gradual phase-out of the support to renewable energies as they approach grid parity, **grid-related rules will ultimately have to be applied in a non-discriminatory** way between power sources.

E. Market integration

With an increasing share of low-CO₂ energy sources, **the current wholesale market model based on short-run marginal cost pricing would have to be supplemented** by instruments incentivising investment in the corresponding capital-intensive generation capacities.

Markets also need to reward security of supply (not flexibility). Financing models such as power user investments, utility joint-ventures and power user-power supplier agreements should be facilitated. European guidelines for Power Purchase Agreements and the implementation of financing schemes currently in force or considered within Member states (the UK, France, and Finland) should be encouraged.

F. Regional and international dimensions

Current rules for cooperation between Member States are not sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU.

Member states in their National Renewable Action Plans have prioritized projects to achieve their targets on their domestic markets. Little use has been made of the cooperation mechanisms. In order to achieve the EU renewable targets cost-efficiently, joint projects should be pursued. Cooperation mechanisms are only one element for these projects to be facilitated: regulatory convergence and stability will be needed. The North Sea Countries Offshore Grid Initiative should be used as a case example.

Cooperation with third countries should be further promoted.

Southern neighbours can contribute to increasing EU's security of energy supply. In the medium-term, solar energy in North Africa represents an opportunity of achieving CO₂ emissions reduction targets while diversifying supply. Political impetus should thus be given to initiatives such as the Mediterranean Solar Plan and the Mediterranean Grid. The EU should make sure that such **cooperation agreements are designed in order to be beneficial for all parties and to ensure open competition among industrial players**. The EU should not appear as the promoter of specific industrial groups or consortia.

Strong development of interconnections will be needed to enable large scale deployment of renewables from Southern Mediterranean countries. However, such developments will only take place in a medium-to-long-term perspective. The development of renewables incentive schemes similar to those available in the EU – so that projects can be supported equally and prove beneficial for all parties – should be a first priority. In terms of interconnections development, **higher priority should be given to the fulfilment of the EU internal market and connections of the large offshore wind potential**.

G. Technological development

The SET-plan initiatives have been successful, but dedicated funding still needs to be secured.

Cross-collaboration between European players will be required to address the R&D and innovation challenges related to the decarbonisation of the power mix. The SET-Plan has been successful in gathering technology providers, utilities and national and European research institutes within European Industrial Initiatives. These public-private partnerships have enabled the alignment of EU strategic research agenda with industry priorities.

Going forward, AREVA considers that, regarding **offshore wind and solar CSP Fresnel** further consideration should be given to technology performance and cost-competitiveness, as well as industrial manufacturing and supply chain. Beyond 2020, significant efforts should be made to develop **competitive technologies for electricity and thermal storage**.

If the SET-Plan benefits from sufficient funding to finance prototypes and pilot projects, it could enable to accelerate the deployment of the 6 first energy technologies selected by the European council in 2010 (wind, solar, bioenergy, CCS, sustainable nuclear, smart grids). Due consideration should thus be given to **earmarking existing funds and instruments** (e.g. Horizon 2020, EIB, RSFF, the Marguerite Fund, NER300, ETS revenues and structural and cohesion funds) towards the SET-Plan.

In parallel to the SET-Plan, the EU will need to sustain its long-term basic research efforts and secure an **adequate budget for the Knowledge and Innovation Communities** (KIC) of the European institute of Technology (EIT).

As the EU R&D and innovation is moving towards more PPP, a more result-oriented system should be adopted. **EU R&D priorities should be revised according to technology development** having achieved a certain result by a certain deadline.