

The Energy Partnership

THE EUROPEAN COALITION FOR RENEWABLE ENERGY AND GAS

A 2030 Framework for Climate and Energy Policies: The Energy Partnership's response to the consultation by the European Commission 02 July 2013

1. About The Energy Partnership and this submission

The Energy Partnership is pleased to submit its comments on **The Green Paper: A 2030 Framework for Climate and Energy Policies**. We are a unique alliance of companies from the energy industry that seeks to promote greater political and public understanding of the merits of a capability-based energy market focused upon the integration of Renewables and Gas.

The contributors to this submission are DONG Energy, First Solar, GE, Shell and Vestas. We have joined forces based on a shared vision that an **ambitious framework for renewables electricity sources (RES) and Gas with binding legislation is urgently needed** and that inaction risks investments and will fail to deliver an energy mix compatible with the EU 2050 Energy Roadmap. Inaction would also make a reduction of CO₂ emissions in the longer term more challenging.

2. Overall Position of the Energy Partnership

The Energy Partnership is concerned about the risk of climate change and therefore acknowledges the EU 2050 Energy Roadmap and associated 'no regret' options for transforming the energy system which includes: a higher share of renewables, more energy efficiency and smarter infrastructure. The energy industry is currently facing a crisis that requires appropriate policy actions. If not addressed, this will result in the absence of energy investments, missed targets and higher costs in the long run.

The Energy Partnership believes that **leveraging and fully integrating the capabilities of Renewables and Gas as complementary technologies** is the most effective way to achieve those objectives. This can most efficiently be achieved via an ambitious and binding policy framework that works for renewables and gas via a **robust and meaningful price for CO₂**.

A robust and meaningful CO₂ price is the preferred solution however a failure of the EU Emissions Trading Scheme (EU ETS) to achieve such a price signal would require other additional supporting measures to promote a market based on renewables and gas. Within the Energy Partnership some members favour a set of targets similar to the existing framework for 2020 while others believe that the carbon price signal from the EU Emission Trading Systems should be the leading policy instrument to drive decarbonisation.

Whilst much of the focus of the debate relating to a new 2030 Framework has been on targets, the Energy Partnership also agrees there is an urgent need to operationalise the existing power system.

3. Assessment of the Current Situation

The EU's energy industry faces a large and pressing investment challenge. **Whilst significant investment needs to be mobilised throughout the energy supply chain, the current policy framework will not deliver and is deterring investment required beyond 2020.** This creates the risk of an unwelcome scenario where more CO₂ intensive technologies would be used and thereby an additional burden to reduce the CO₂ emissions in the future.

The original aim of the current Climate and Energy Policy Framework, underpinned by an Internal Energy Market (IEM), was to promote sufficient competition and scale to provide security through a diverse mix of energy sources and critical mass of low-carbon investment. As a result, **renewable energy has moved to the core of the European energy system** with the policy trajectory for 2020 now increasingly clear (230 GW forecast to 2020 and a roadmap to reach a 50-90% share in the energy mix by 2050). It is therefore important to integrate Gas and Renewables technologies in the market to maximise the synergies they offer.

The 2050 Energy Roadmap can be best met with a combination of RES, gas and energy efficiency. However **Europe is actually challenged by a dual scenario of CO₂ intensive coal-based production and RES** which could continue for the next decade if measures remain inadequate. For example, the traded price of carbon is too low to change the behaviour of power generators and current climate policy is increasingly characterised by un-coordinated interventions at the national level.

4. Solutions

Ambitious and Dedicated Framework for RES & Gas

The 2030 Framework for Climate and Energy Policy should be seen in the perspective of a competitive low carbon economy in 2050 and a reduction of greenhouse gases by 80-95%. We call for **an ambitious and binding policy framework that works for renewables and gas**, as it offers the most efficient way to deliver an energy mix that is compatible with the 2050 Energy Roadmap. A coherent, stable and predictable framework will significantly minimise the costs of uncertainty, lowering the investment risk and reducing the costs of capital for all investments including RES and Gas.

Important for this approach is an EU ETS policy tool that has the objective to reduce emissions and promote new technologies like RES and Carbon Capture and Storage (CCS). **Unfortunately, the EU ETS is currently not providing a stable framework for investments.** While the Energy Partnership recognises the EU is on track to meet its GHG reduction target, the drivers that have achieved the reduction are external (e.g. financial, sovereign and economic crisis) and are therefore unsustainable.

Wind and solar technology have both helped to reduce GHG in a sustainable way. **However, more could have been achieved if the EU ETS would have sent the right signals to shift away from CO₂ intensive technologies in favour of more Gas and Renewables.** The short term gains achieved from a low CO₂ price will be more difficult to correct in future if a Gas and Renewables pathway is not followed. The EU

should also **develop and promote innovative financial EU instruments** (guarantees, Grants, NER300) that are time bond and aligned with the decarbonisation objectives.

An ambitious and binding policy framework provides certainty for investors, producers, power generators and network operators. It reduces uncertainty and therefore financing cost.

RES integration, market-design and creation of a level playing-field

i. RES integration

All long term scenarios that meet the required carbon reduction goals contain a significant share of renewable and gas energy. **Renewables and gas combined offer the potential of cost effective lower carbon energy production.**

Renewable energy in particular has shown rapid growth across Europe in recent years to a level that is now a significant part of the energy mix. This has been driven in large part by the range of support schemes that are offered by Member States. Whilst the budgets for these support schemes have been high, **concerns about the integration, affordability and the economic crisis** have raised questions about the viability of these budgets in the long-term and about the interactions and synergies between technologies active in the energy system. The partnership therefore supports the recent initiatives of the European Commission to review all financial support schemes such that as technologies mature they can be integrated into the market and bare the similar risk and rewards as the other technologies active in the same market.

At the same time **the renewable energy industry is demonstrating its capacity to deliver cost reductions, provided that appropriate policy frameworks are in place and enacted.** Pathways for further significant reduction of installation cost for wind and solar are clearly defined in order to lead to competitive energy and power generation across many regions of the EU. **A significant cost reduction curve for promising, but not yet fully industrialised renewable technologies** such as offshore wind, is also projected for the next 10-15 years. Similarly, the CCS demonstration program is aimed at highlighting the cost reduction potential of CCS.

Utility-scale Renewable Energy systems today offer advantageous and demand driven grid integration solutions, which support the integration of RES in the power generation portfolios and a better interaction with flexible gas fired plants.

ii. Market Design

Any new Framework for Climate and Energy Policies will need to **better value operating flexibility** in order to meet the needs of the evolving energy system. In addition to measures that ensure an efficient reduction of CO₂ emissions for baseload plants, power system flexibility and backup for variable generation or peak supply needs to be recognised in the market.

Whilst the first phase of electricity market liberalisation developed pricing mechanisms to remunerate baseload capacity, these structures have so far proven less effective at providing incentives for investment in flexible generation to balance the system. **A properly functioning market-design should maximise the availability of all sources (flexible gas generation, storage and demand response) but also appreciate flexible plants** which contribute to the stability of the system by offering services like fast start, efficiency at part or base-load, while contributing to a lower carbon energy system

Such mechanisms should allow flexible plants to dispatch across all markets (wholesale, capacity and ancillary services) leading to the most efficient overall energy system and allowing providers of flexibility to cover the additional capital costs.

iii. Level-playing field

Current arrangements to support all forms of power generation need to reflect the dynamic nature of the EU's energy system. **Liberalised market principles should continue to be encouraged.**

The increasing size of global renewable markets and the diversity of suppliers have produced more competitive markets for renewable technologies but, as stated elsewhere in this submission, **the transition to market risk exposure for mature renewables can only be successfully achieved with the support of an adequate market design, strong policy framework and a robust price for CO₂.**

This means that future financial support mechanisms must evolve to be market compatible and provide renewables operators with incentives to minimize balancing costs. At the same time, Member States should wherever possible **phase-out market distortions for all forms of subsidies (conventional and non-conventional)** taking into account the total life cycle cost of energy sources and technologies.

This should be accompanied by efforts to **remove a number of wider administrative burdens** such as fragmented planning and permitting requirements that unnecessarily increase deployments costs.

iv. Implementation of Internal Energy Market (IEM)

The implementation of the Third Energy Package needs to remain a priority, with market integration to be completed as soon as possible to drive better co-ordination and prioritisation of investment plans throughout the European network. **National and European policymakers should work toward greater co-ordination of national policy frameworks** in order to minimise distortions and costs for power markets.

The extent to which policies can be co-ordinated will determine how much co-operation and optimisation relating to clean technology deployment is possible, and whether some of the system sources of flexibility can be pooled and leveraged across markets.

Infrastructure Investment

As Governments in Europe are engaged in policies to support new RES generation there is also an increasing **need for ‘physical’ investments in smarter infrastructure** that recognises not only the benefits of integrating electricity grids and gas pipelines to support a responsive and integrated energy system but ultimately also provides greater optionality for other use e.g. heat, biogas, hydrogen or other sectors, e.g. transportation. The immediate needs for greater RES integration include network automation, interconnectors, demand response and energy storage that can provide network operators and utilities with improved operational efficiencies.

Further development and use of the existing gas infrastructure, including gas power plants, to provide system flexibility should be endorsed to fulfill the 2050 Energy Roadmap aspirations. This will result in improved strategies for system operation, the ability to increase coordination between control areas and integrate power generation and system planning strategies.

5. Innovation and clean technology support

The deployment of clean power generation technologies is essential to the EU’s move to a low-carbon economy; with innovation drastically improving the cost-effectiveness and efficiencies of renewable and flexible gas power generation.

For example in the wind sector, high-output wind turbines are being deployed with state-of-the-art controls and sensors to offer better blade angling and automation delivering up to 25% more efficiency and generating 15% more electricity. Similar responsiveness and efficiency benefits are reachable with utility large-scale PV power plants as the improved performance is derived not only from scale but also how power generation is working with data.

Another promising development aims at reducing the curtailment of RES by converting surplus of electricity into other energy carriers like hydrogen that could be used in the gas infrastructure or in transport.

To push the development of emerging renewable technologies, targeted policy is vital. Such policy should stimulate R&D ('learning by searching') as well as market demonstration / pre commercial deployment ('learning by doing') to take out the costs associated with project risk. Companies are willing to invest in R&D and cost-reducing supply chain solutions when there is a clear longer term market perspective.

6. Conclusions

The Energy Partnership believes that leveraging and fully integrating the capabilities of Renewables and Gas as complementary technologies is the most efficient way to achieve a long-term European objective of GHG reduction. However this can only be achieved via:

- **Carbon market reforms** to restore its credibility for low carbon investments.
- **A policy framework that works for renewables and gas**, as it is the most efficient way to deliver an energy mix that is compatible with the 2050 Energy Roadmap ambitions.
- **Market Design** that promotes the synergies of RES & Gas with full integration into the current power systems and improved system flexibility.
- **Investments in 'physical' infrastructure** like wires and pipes that support the integration of Renewables and Gas. RES generation requires system flexibility, energy storage, network automation and interconnection that can provide network operators and utilities with improved operational efficiencies. Whilst Europe's energy strategy has relied on liberalisation, 'physical' investments have often suffered significant delays.
- **Innovation** which has led to more efficient and cheaper technology and 'learning by doing' to remove costs associated with project risks. To push the development of emerging technologies targeted R&D and demonstration / pre commercial deployment policies are vital to support the GHG reductions ambitions.