Energy trends and transitions in Europe

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Good afternoon everyone.

An invitation from the German Marshall Fund is always a pleasure, not least because the origins of this organization ground any discussion in pragmatism and reality. And current events certainly remind us of the necessity for pragmatism.
Understandably, all eyes are on the situation with Russia and the Ukraine. And while I don't intend this to be the locus of my speech, clearly the topic of European energy involves a significant relationship with both countries.

Recent events have challenged important international principles and agreements. That is clearly a matter for government to government action and does not fall under the purview of business men and women.

For those of us conducting business in European energy, however, it is important to remember that the co-dependency of European energy supply and the Russian economy has been a material and important source of security and engagement for both parties for many decades. Europe's need for secure, affordable lower-carbon energy will involve a focus on diverse sources of natural gas including those of Russia.

Any policy for energy has to be strong enough to serve a competitive Europe for decades, but also supple enough to accommodate unexpected shocks – even those of considerable magnitude.

In the speech to which this organisation can trace its origins, George Marshall described the circumstances in the 1940s as follows:

'the problem is of such enormous complexity that the very mass of facts presented to the public make it exceedingly difficult for the man in the street to read a clear appraisement of the situation.'

Today's energy challenges in Europe are no less complex. But I will aim to be as clear as possible:

- First by setting out the global energy context.
- Then identifying the European challenges posed by that global context – both in terms of economics and energy.
- Then by examining the current focus of EU energy policy.
- And finally, by explaining what I see as the priorities for energy policy.

1. The global context – challenges for energy demand, supply and sustainability

Demand

Starting then with the global context –the first thing to say is that energy demand continues to increase. Not quite as steeply as over the past two decades, but still substantially.

At BP our latest Energy Outlook forecasts a global increase in primary energy demand of 1.5% a year – amounting to a 41% rise by 2035 – and despite a 36% reduction in energy per unit GDP.

That is the equivalent of adding another US and another China to global consumption – or three European Unions.

But the pattern of demand will look very different. Fully 95% of the increase in demand is going to come from the rapidly industrialising non-OECD countries, led by China and India.

Demand for oil will grow the slowest at 0.8% a year, gas the fastest at 1.9%, and coal in between at 1.1%.

Supply

In terms of meeting that demand, we expect oil, gas, and coal to converge on equal shares of the energy market, at 27% each by 2035.

Non-hydro renewables are set to grow fastest of all, but from such a low base that we forecast they will still only contribute 7% of the total global energy mix by 2035.

CO2 emissions and sustainability

This of course raises questions about CO2 emissions and sustainability.

Our BP Outlook projects global CO2 emissions rising by 29% by 2035, with all the increase coming from developing countries – more specifically, from growth in coal use in industry in China – where emissions are already 2.3 times those of the EU.

In striking contrast, EU emissions today represent around 11% of the world's total, and we expect that to decline to 7 or 8% by 2030 – by which time India alone will emit more CO2 than all 28 EU members combined.

The European Union's emissions are now at pre-1970 levels – down over 17% from their 1979 peak. And US emissions are down below 1995 levels.

Both the EU and the US have improved energy efficiency, and both have reduced the volume of coal they burn. But then the paths diverge.

The US has seen a major switch from coal towards gas in power generation and now gets 30% of all of its energy from gas compared to 24% in the EU.

That change has largely come about through technology and the operation of the market, benefiting taxpayers and consumers.

By contrast the EU's approach has included a major focus on renewables, with the result that it now gets 6% of its energy from renewables compared to 2% in the US.

Yet, in the short term, switching from coal to gas is a more powerful lever for emissions reduction than ramping up renewables.

Our economics team calculates switching just 1% of global power production from coal to gas would reduce emissions as much as increasing global renewable capacity by 11 per cent.

2. European challenges – efficiency and competitiveness

Given that broad global context, let's turn now to the challenges for Europe.

Principally the challenges reside in Europe being squeezed between high unit energy costs that are uncompetitive with the US and high labour costs that are uncompetitive with Asia.

High unit energy costs arise from the need for energy imports combined with an internal energy market which should be more competitive.

The need to import is illustrated by the EU having less than 0.5% of global proved oil reserves, and less than 1% of proved gas reserves. Relative to the scale of our economy this says it all.

Efficiency

On the positive side, this vulnerability has undoubtedly contributed to the EU using energy more efficiently than anywhere else in the world – encouraged by incentives from the Commission and member states.

A clear illustration is the number of barrels of oil equivalent of energy it takes to generate $1,000 of GDP.

The world average is about 1.3 barrels of oil equivalent per $1,000 of GDP, costing about $140 at today's oil prices.

In China it's around 2.5 barrels.

In the US it's about one barrel – so ahead of the global average.

But in the EU, it only takes three-quarters of a barrel of oil equivalent to generate $1,000– less than one third of the intensity of China.

This is a strength that Europe needs to value and exploit.

Competitiveness

So the EU uses energy sparingly, but it pays a high price for it.

EU electricity costs are over two times those of the US – at $280/ MWH vs. $120/MWH. Electricity comes at a particularly high cost, largely because of the price we have paid to stimulate a low carbon economy.

To give a specific example, in Germany power costs have increased by 68% since 1998 despite the costs of power production and distribution increasing by only 11%. The rest of the increase arises from a combination of the Eco-Tax, Renewable Energy Act, Combined Heat and Power Act, Concession Levy and Value Added Tax.

This matters for the EU's competitiveness.

EU labour costs are also among the highest in the world and over double those in Asia.

These facts matter a lot because the EU's prosperity depends largely on its industry – with exports of goods, at around €1.7 trillion a year, worth around three times its exports of services.

And it matters a lot given the goal – a good goal – of industry contributing one fifth of GDP by 2020 from only about 15% today.

3. View on EU policy – the 2030 framework

Three phases of energy policy

First a word on the context. The EU has seen two phases of what I call 'post climate-awareness energy policy'.

The first, lasting roughly from 1995 to 2005, was one of vision and alignment – defining a common vision of the desired future, and aligning a strong global response to an undesirable one: that of global warming.

The second phase, from 2005 to 2015 and now coming to a close, has been one of greater understanding and experimentation with policies – notably the Emissions Trading System and targets for renewable energy and energy efficiency.

The third phase, for the decade to 2025, needs to build on the first two. It also needs to be a phase of pragmatic action.

Pragmatic aspects of the 2030 framework

In this context, the 2030 framework is in many ways a positive step forward. The Commission clearly now recognises the dimensions of competitiveness and specifically the importance of jobs, growth, affordability and security.

The target to reduce greenhouse gas emissions by 40% on 1990 levels by 2030 is an ambitious one. BP supports having a clear objective but we are concerned that the goal should first be proportionate given the EU's share of global emissions and second be realistic, given the imperative of competitiveness.

We continue to support strongly reliable forms of carbon pricing and believe that if the European Emissions Trading System can be implemented effectively in conjunction with a single overarching goal it should not be necessary to have separate targets for renewable energy and energy efficiency. These are important components, but they should not represent competing ends in themselves.

4. Priorities for energy policy

Learn from experience

The first general point is to learn from experience.

In my view it has been beneficial for the World that the EU has sought to lead in tackling climate change in its first two policy phases on the issue.

However, we have learned that measures, predominantly and independently focused on addressing climate change, have had unintended but serious impacts on competitiveness. We have also created perverse and unintended outcomes, and lack of coherence of policy which leads to confusion and a burden industry can ill afford.

Rebalance the focus

The second priority is therefore to rebalance the focus of energy policy in favour of competitiveness.

The EU is a world leader in energy efficiency – but lags much of the world in the cost of that energy. The EU has also been a material proportion of historical carbon emissions but will be an increasingly small part in the future.

It is time to address that cost deficit through competition and making European energy markets more efficient.

In the current context and start point, the correct order should be:

Shape pragmatic pathways

- first, to maintain leadership in energy intensity of GDP,
- then to reduce the cost of that energy,
- and then to reduce carbon content.

My third priority is the shaping of specific pragmatic pathways for the two big applications of energy: power and heat; and transport.

The starting point for both is a complete and competitive Single Market – that favours the most efficient and innovative operations, supported by a well-functioning carbon trading market.

Research is also vital – with strong investment in both public and private R&D to maintain Europe's technological and commercial edge.

That is the platform. In terms of the two pathways themselves, the lion's share of energy is used for power and heat and here an important means of reducing costs and emissions is within our reach.

The vision of a continent running on sunshine, wind and waves is an inspiring one – no less so for an oilman like me. And in the very long term, it may be an attainable one.

But trying to make that vision a reality prematurely has led to many unintended consequences while the proportion of renewables in the EU's energy mix still only stands at 6%.

The lesson from the US is that switching from coal to gas can have at least as big an impact on emissions as extensive programmes to promote renewables.

And Europe is surrounded by competitive natural gas supplies - including those from Norway, the Caspian Sea, North Africa, the Middle East and potentially the East Mediterranean – as well as Russia, of course.

The current crisis underlines the importance of increasing and diversifying Europe's gas supplies – something that BP and others are already working on.

As many of you know, we are a leading partner in the project to open up the southern gas corridor from the giant Shah Deniz gas facility in the Caspian to Europe.

For heat and power, the right pathway should focus on energy efficiency, natural gas, nuclear power where it is supported, and over time steady growth in competitive renewables. And we must, as part of this, move away from unabated coal.

The second pathway is transport

Battery electric vehicles have potential, but, realistically, will only be deployed at scale when low-level pollution is addressed, the power grid is decarbonised; and when there's a demonstrable saving in total energy use over a significant distance. This will also require some breakthroughs in battery technology.

The pragmatic transport pathway is that of continued improvements in fuel economy through downsizing, boosting and hybridizing internal combustion engines – and by increasing the use of competitive biofuels.

Energy and international relations

That brings me to my fourth and final priority – which is for Europe to not only learn from other regions, but to use its capability in international relations to mutual advantage.

One substantial and specific contributor to this process should be the Transatlantic Trade and Investment Partnership – or TTIP – which is now taking shape.

BP has suggested that energy should be an explicit theme within the TTIP, with the aims of improving the competitiveness of both parties and avoiding distortions.
This could include using shared standards, pooling best practice on energy efficiency, joint R&D programmes and perhaps most importantly finding a way to ensure the pace of carbon price intensification is monitored on both sides of the Atlantic to avoid unintended dislocations and loss of competitiveness.

Alignment between the US and EU could also materially accelerate the global dialogue and negotiations on climate change. If the EU and the US align, others may just follow.

Conclusion

Let me attempt now to draw these strands together, while maintaining some Marshall-like clarity if I can. The challenge is on, globally, to get energy policy right, because energy is such a large part of the economy.

Europe is one of the most efficient global energy blocs, and one of the lowest carbon emitters. But it is one of the least competitive. It has the greatest need for the greatest improvement in its energy costs.

Travelling on our recent path, we now find ourselves in an unexpected place:

- Europe has been leading, but on this path cannot win
- The US has not been leading, but may be winning, and…
- China has the greatest potential contribution, and if we engage with her, she may yet lead.

Europe must rebalance its energy policy towards competitiveness and the provision of secure, affordable energy, and not only lower carbon energy. This means focusing on energy efficiency, natural gas, new technologies, opening up new corridors of supply, and encouraging more gas-on-gas competition, greater diversification of power generation, and a fully functioning single market in energy.

Current circumstances certainly serve to underline these needs.

We would all do well to invoke the spirit of George Marshall and the need for understanding, cooperation and great wisdom that has served Europe and its neighbours so well for so long.

Thank you.