Energy and climate policy after Copenhagen – a pragmatic response

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Copenhagen – end of the beginning

It's good to be here in Brussels this morning just over a month after Copenhagen. The EU invested heavily in Copenhagen – both in committing its own climate change response and inviting others to join in a global agreement. There was a powerful global political build up and all the big players were present – Premier Wen Jiabao of China, President Obama, President Barroso, Chancellor Merkel, President Sarkozy, Prime Minister Gordon Brown, Secretary General Ban Ki-moon and many others.

And yet – despite this truly heavyweight participation – much of the immediate response suggested disappointment and failure. Why? Were expectations simply too high? And have we really failed?

As we're here in Brussels let me recount a story often told by Jean Monnet – le Père de l'Europe, the initiator of European integration, the moving force behind the European Coal & Steel and much that followed. In the 1920's he was sent by the French Government to the League of Nations in Geneva. He vividly remembered and often recalled how the main British representative would often fall asleep during proceedings but when woken by the Chairman's bell calling for a vote would wake and invariably say "His Majesty's Government is opposed."

At Copenhagen the UK gave strong support to the EU commitment to significant cuts in CO2 emissions. Nevertheless the Copenhagen Accord fell far short of the new global Treaty that many had hoped for. It looked like a missed opportunity but there is also room for a more pragmatic view.

In reality it was always doubtful the deliverables from such a complex multilateral negotiation could match the hype that preceded it. But a number of important tasks were accomplished. For these reasons I concur with Professor Robert Stavins at Harvard University, when he writes that after Rio and Kyoto, Copenhagen was a "potentially very important third step" towards meaningful global action on climate change.

In simple terms this is because for the first time it brought the US and China into a global framework for committed action. The Copenhagen Accord may not be perfect but it could be deliverable – and it is this which gives reason for encouragement.

Furthermore the personal participation of so many world leaders at the crucial moments, gives the outcome real potential as a springboard for action. It would be genuinely surprising if the issue was allowed to slip down the international agenda. So personally, I do see Copenhagen as "the end of the beginning" in moving to concerted and material action.

My argument today, therefore, is that we now need to move forward with material action on a pragmatic basis – not to give in to despondency about what was not achieved but to focus instead on what can be done over the next two decades. We know enough to do a lot and we must start now.

I said the next two decades because the need for urgency has not disappeared. The progress we make by 2030 will determine whether we have a chance of halving global emissions by 2050. If we sit paralysed by our current inability to agree binding dates and targets, we will find ourselves in real peril. Copenhagen correctly recognised the long-term challenges but I also believe we need to stop "polishing the 2050 diamond" and instead deliver material action today in the right direction.

And if the vector of our actions is right, then as Europe we can act now and if necessary unilaterally. As I have said many times before in Brussels, while it would be good to have the whole world acting in unison, in reality the sensible measures are good for all seasons and the EU is sufficiently large for unilateral action to be credible. If this is done right, it could also yield real advantage in terms of learning to drive new energy practices into our economy before other developed regions and in so doing improve security, cost efficiency and competitiveness.

This morning I would like to deal with three steps in a pragmatic response. The first is practical action and what this really means. The second is to think about the policies that can support practical action. The third is to consider which partnerships are key to success. Before concluding I would also briefly like take a look at the role of BP as one of the world's leading global energy companies.

Practical actions and energy pathways

Foundations of action – good for all seasons

There are a whole range of actions we can take that are good for all seasons – not only for climate change but for economic competitiveness and for energy security. The most important of these in my opinion are technological innovation, ensuring markets are efficient, setting an economy-wide price for carbon and driving energy efficiency.

If there is a silver bullet it is energy efficiency. This means efficiency in energy production and distribution, in transport and in end use including equipment and buildings.

The well-known McKinsey curve is a powerful reminder of what could be achieved. Energy use could be cut by more than a fifth by 2020 – and 8 billion tonnes of greenhouse gases avoided – through energy efficiency investments that can pay for themselves without the price of carbon.

Innovation can sound like a cliché but is at the heart of the matter. As shown by the recent Bruegel policy brief on 'No Green Growth without Innovation', technology development is essential to resolve the trade off between immediate costs and long-term benefits in addressing climate change.

Of course innovation is not a new subject. The European Round Table of Industrialists has emphasized this subject for years. For our part in BP we have learned a great deal from the 'innovation machine' in the US and increasingly in emerging economies such as China. Our Group Head of Technology is deeply engaged in the work of the Innovation Board in Brussels, to see how innovation in Europe can move into a higher gear.

Efficient markets are the key to delivery of quality goods and services, effective resource allocation and enabling the lowest cost to society. This is equally true in energy and for Europe the single energy market is central to affordable and secure energy supply and delivery of lower carbon forms of energy at a competitive cost. There is no single market without access and connectivity and we strongly support the full implementation of the Third Energy Package.

If efficient markets are the key to effective resource allocation, then a carbon price remains indispensible to energy and climate policy. A credible carbon price will drive energy conservation and make lower carbon energy choices more cost competitive.

A carbon price can be established by capping carbon emissions and allowing a traded market to find the clearing price. The carbon price can also be imposed through direct taxation or implied by regulation. In our view the cap and trade system has merits for large industrial installations – such as power stations or oil refineries – as it is targeted directly at the desired outcome of reduced CO2 emissions. The overall choice and mix of instruments is a matter for public policy but should ensure two things – as far as possible a consistent carbon price across the economy as a whole and a direct link between the action involved (for instance operating a refinery, driving a vehicle or designing a building) and the resulting CO2 emissions.

Over time the carbon price – actual or implied – will signal the path to a lower carbon economy but targeted transition measures may also be needed to accelerate the commercialisation and deployment at scale of material new technologies. In such cases, any transition support which implies a price for carbon, should apply only as long as is needed to achieve the commercialisation objective and should ultimately merge with the longer term carbon price.

And finally we must not forget the challenge of public acceptance. We are talking ultimately about changes that will impact people's lifestyles and expectations. Whether this is about nuclear power in Germany, UK citizens investing in home insulation or US motorists shifting from SUVs to hybrids, our governments will need to take the people with them. The need is to build public support and influence individual decisions through education and information. The trust of the public is and will remain critical.

Energy pathways

Over the last few months in BP we have worked hard to build on these foundations and develop them into practical suggestions for the two core products we deliver to our customers – fuels for transport and primary energy for electrical power generation. Working through a long process of technological and economic evaluation and peer review, we have attempted to define cost-effective pathways to a lower carbon economy in both these areas.

The outcomes suggest that a great deal of progress can be made through the progressive application of cost effective technologies and energy mix decisions.

Let's look first at vehicle transport.

The key is to distinguish between near-term and longer-term options. In the longer-term, electric vehicles and hydrogen fuel cells may well have a part to play but will need a much higher availability of decarbonised grid electricity to deliver full CO2 reduction potential.

In the shorter term it seems clear from our work that by far the most effective pathway to lower carbon transport is through making existing vehicle engines more efficient. In particular there are major gains to be obtained from advanced gasoline engine technology. Combined with step by step hybridisation – starting with recovery of braking energy – we can see the potential for nearly halving CO2 emissions per km. And importantly this can be delivered at a much lower incremental cost than a full battery electric vehicle.

When such a vehicle pathway is combined with the use of the right biofuels, it becomes even more effective in reducing CO2 from transport.

Biofuels work by removing CO2 from the atmosphere during growth before releasing again in combustion. Indeed some biomass sources such as grasses can remove more CO2 from the atmosphere than they release in combustion by also fixing CO2 in the soil – a potential reduction of greater than 100%.

This is why as BP we are investing significantly in sugarcane, advanced biofuels, such as biobutanol, and in ligno-cellulosic conversion to biofuels, that don't compromise food production or endanger biodiversity but do provide substantial 'well to wheel' CO2 savings. When combined with advanced gasoline technologies and hybridisation, the way is open to even more significant improvement in overall vehicle CO2 performance.

Those of you who remember my speech here in Brussels in November 2008, will also recall the interaction with taxation of transport fuels and the trend towards diesel in the European economy. Over time this has resulted in a substantial switch from gasoline to diesel use in vehicle transport.

The high diesels loading also biases the call on bio-components from ethanol for gasoline blending towards environmentally more problematic vegetable oils for diesel. Diesel engines will probably always be advantageous for commercial transport because of their high torque/ low revs characteristics. However, we should think hard about why we would continue to favour diesel development for personal transport, given the potential advances of both gasoline technology and sustainable biofuels sourcing.

So to summarise, we believe that development of electrical vehicles should continue but the next steps on the pathway to lower carbon from transport should come from advanced engine techologies, especially gasoline, progressive hybridisation and greater use of the right biofuels.

For the economy and society as a whole, this will lever the huge existing infrastructure of vehicle manufacture and fuel supply to provide substantial CO2 reductions, while still allowing the time and resources needed to find and develop longer term solutions.

I would now like to turn to pathways for lower carbon power generation.

I believe that efficient, modern, innovative energy production is encouraged by free and open markets, where companies can bring together assets, resources and capabilities in different ways – in other words, a diversity of investment with different players bringing different capabilities to the industry.

The acid test of any policy is: Does it drive efficiency? Does it drive innovation? Does it drive modernisation? In other words, does it serve the customer?

I would judge, for example, that the Nordstream pipeline passes these tests. It makes practical and economic sense as an addition to the existing infrastructure and one that serves a specific and necessary purpose. It is also a good example of partnership and of an outbound investment – in this case by Gazprom – that will benefit many customers. I hope that inbound investments by international companies into Russia will be judged by the same criteria.

Huge additional electrical power capacity is required globally by 2030 and the decisions made about this capacity will impact energy security and CO2 emissions to 2050 and beyond. If we make the wrong decisions now, we are locked in to the consequences for a long time to come.

In this context, there are a small number of really material things which can be done. We see a pathway which has at its heart first energy efficiency, then the use of more natural gas as a lower carbon bridge, combined with entry or deepening into nuclear in some jurisdictions, and the potential

use of CCS for some coal applications. We also recognize that renewable sources will play a role, but may not provide the same level of certainty in terms of capacity addition at material scale until 2030 and beyond.

Why do we believe it makes sense to use more natural gas for electrical power? Gas is easily the cleanest burning fossil fuel, with CO2 emissions in power generation around 50% of those from coal. It's also very efficient. Combined-cycle turbines, fuelled by natural gas, are quick and relatively cheap to build. Combined Cycle Gas Turbines produce about 400 kg CO2/MWhr or about half that of Super-Critical Coal, while average capital per kW is about $1,000 compared with around $2,500 for coal. So on a cost per kg CO2/MWhr basis, gas generation is about four times as efficient.

Gas can also complement renewable energy, by covering the inherent intermittency of wind and solar power operations.

There is also plenty of gas available in terms of global resources. The development of so-called ‘unconventional gas’ in the United States has doubled reserves and revolutionised the market. For this reason the US has just overtaken Russia as the largest natural gas producer in the world.

There is another important impact. A great deal of liquefied natural gas (LNG) capacity is being developed around the world, in part in the expectation of supplying the US market. With the growth of US reserves, some of this production is being displaced from the US onto the world markets, where it is competing for the first time with other gas on the basis of price rather than indexed contracts.

This is important because it address the perception that Europe cannot use more natural gas, because this in turn would make us more dependent on a narrow range of imports and on Russia in particular. In fact the opposite is true and there are three points to make.

The first is that Europe depends on trade in all areas including energy. Oil is mainly imported, coal is largely imported and the proportion of gas imported in the future will also rise. This is not a problem for a trading economy provided that we use energy efficiently and we ensure a diverse portfolio of both domestic and international sources.

Second, when it comes to natural gas, supply to Europe is already diverse and will become even more diverse in the future.

Russian gas is and will remain important but complemented by ample pipeline volumes from Norway and North Africa and in the future by pipeline gas from the Caspian and a growing volume of competitively priced liquefied natural gas on the world markets. Russian gas supplies to Europe have in fact been decreasing – not increasing – as a proportion of gas consumption and Russian producers will need to compete with other suppliers for future market share on a normal commercial basis.

And again it should go without saying that energy security within the EU would only be strengthened by overcoming the remaining obstacles to the proper functioning of the single energy market.

So in power, we see natural gas as a key ingredient for a European pathway, together with energy efficiency and nuclear, coal with CCS and renewables to the extent that they can with certainty provide material additional capacity. I recognize that nuclear is not supported in some countries, but where it is used it needs to be expanded and we must start now, because it will take time to replace the existing fleet of stations before real growth can happen.

Policies

Importance of jurisdictions

Turning now to policy. Energy policy must enable the pathways to take effect as quickly as possible and should be designed to achieve three things:

- enable material pathways to deliver significant impact
- limit and ideally minimise the cost to society
- build capability to sustain, improve and innovate

It can also be argued that the Copenhagen Accord shifts the architecture of the global climate change response. In many respects a 'top down' approach of 'dividing the cake' of global C02 emissions has been replaced by a 'bottom up' architecture of national and regional undertakings. It may not be neat and tidy and the models may indicate an outcome outside the consensus 'safe' limit of an average 2ºC temperature rise.

But at least we will know where we stand. Governments will then have to decide if they are doing enough – and voters will be able to make similar judgments. Meanwhile there should be more scope for each major jurisdiction to decide and deliver its own next steps. And, as I have suggested, at this moment the most important requirement is to avoid paralysis and to take those next pragmatic steps down the road to a lower carbon economy.

Europe has built strong foundations

From this perspective the EU has built solid foundations that will serve well in the years to come. Most measures taken so far are 'good for all seasons' and they will endure.

So where Europe should go next? This of course is a matter for the member states and the new EU institutions but let me make some suggestions.

EU ETS

The first is to underpin the role of the EU ETS. We now have five years of experience and we have demonstrated that the market responds effectively to the signals it receives. It is not a time to change horses and jump to another track – and we remain confident that over time other international jurisdictions will move towards a compatible approach.

The task is consequently to strengthen the ETS and ensure that it enters phase three as a robust and credible instrument. Key factors are still the detailed design of the auctioning system, the benchmarking of free allowances from 2013 and the handling of CDMs after the end of the first Kyoto commitment period. The guiding principle in all these issues should be the integrity and credibility of the trading system.

On carbon taxes we can see merits in further harmonisation of existing taxes on a C02 basis - for example in fuel duties – but double taxation of the traded sector would compromise the operation of the ETS and impose an additional burden on the competitiveness of important industrial sectors.

And in case the questions arise – I completely concur with the Trade Commissioner designate that border measures to address fears of carbon leakage would be a considerable mistake. There are at least four good reasons – the complexity of assessing the C02 content of a product, they do nothing to support exports and invite retaliation, the doubtful protectionist logic of such a move and the

dubious acceptability under the WTO. As a region very largely dependent on trade for its fundamental welfare, this is not a good place for Europe to go.

Innovation

The second is to take innovation policy seriously. Companies can indeed do more to improve their own innovation performance and in BP this is exactly what we are doing. But public policies also play a role.

In this context it seems inconceivable that the next EU budget would not be used to signal a shift in priorities towards innovation.

Supporting and resourcing material effort in Research, Development, Demonstration and Deployment of new technologies is vital to delivering a successful outcome, and also to ensure it is done at the lowest cost to society. The fact is that Europe is not as good as the US in delivering 'mission-based' multi-disciplinary RD&D and we need to work especially hard at getting this right in the next phase.

Materiality

My third point links to this and is the need for materiality. We need to concentrate on the big ticket items that can make a material impact on net C02 emissions.

I have already mentioned the key steps as I see on the pathways to lower carbon transportation and power - namely energy efficiency, the right biofuels, natural gas, nuclear and carbon capture and storage and renewables to the extent they can with certainty provide material additions.

As a practical suggestion the Commission could perhaps follow and specifically report on progress in these areas in its biannual Strategic Energy Review. It is one example of how the SER could be consolidated and strengthened as the leading energy and climate document for general European use over the coming decades.

New European Commission

The coincidence of the new European Commission with the post-Copenhagen era offers a real opportunity to strengthen the approach to energy and climate change.

With some hesitation as a businessman commenting on public affairs, let me make three suggestions.

The first is that there is a tremendous opportunity to coordinate the activities of the Energy and Climate Commissioners – together with Environment, Competition, Research and Enterprise – to drive forward a shared programme. This would build on the remarkable efforts of Commissioners Piebalgs and Dimas in the outgoing Commission and I am sure is in the minds of their successors. I think we can be confident that such an approach would find much support within the wider business community.

The second comment is about international energy relations. The role of the new High Representative and the Commission will be of central importance in shaping the ongoing relationships with key production and transit countries, including Russia, Ukraine, Azerbaijan, Georgia and Turkey. The issues are complex and can have a huge impact on energy investment and trade – while foreign policy itself needs to be informed by a sound understanding of the commercial realities.

This in turn suggests two key points – that dialogue and consultation with business in this area is more than usually important – and that the work of the High Representative and the Commission needs to be tightly coordinated at a senior level across all the principal Directorates. We hope very much that this will be clearly recognised in the new institutional structures.

Continuity

Which brings me to the need for continuity and predictability. Our low carbon journey from 2005 to 2050 will take us through a total of nine European Commissions. The baton has just been passed on from the first to the second and the new Commission will build on all that has been achieved. The Commission is uniquely placed to ensure that this continuity is maintained into the future.

The outgoing Commission, for example, established the High Level Group on Competitiveness, Energy and the Environment, on which I was happy to serve. Its five reports between 2002 and 2007 promoted an integrated approach to competitiveness, energy and environment policies and engaged with business as a top priority. Again it might be useful to contemplate a similar approach going forward, that could build on the commitment displayed by this group.

As you will have gathered from what I said, I believe the Commission has a special role. For policies to succeed there must be continuity and predictability. The Commission has already demonstrated both and should continue to do so.

I said earlier that Europe could act alone and should not hesitate to do so if necessary. However, ideally I believe that the EU should seek to reach alignment, if not agreement, with other major players on energy policy. In this context, there is still one relationship that carries more weight than the others and this is the transatlantic relationship between the EU and the US. Between us we still represent the larger part of global trade and investment flows and of scientific and technological capital.

Of course we also understand that the US energy mix is different from Europe and the policy and legislative procedure has different characteristics and emphasis. Nevertheless there is much more in common and we have a shared interest in exercising influence and avoiding serious trans-Atlantic market dislocations. After all, many industries are in similar stages of development on both sides of the Atlantic, and are in direct competition with each other.

If the EU and US could broadly remain coherent in terms of the timing of key signals into the marketplace, it would set the tone in terms of pace, send a very powerful signal to the rest of the world, and avoid unnecessary trade barriers and competitive discontinuities.

On this basis it seems to me that we should aim to further strengthen trans-Atlantic energy cooperation at both a strategic and regulatory level. The Energy Council will form the focal point and the EU should dedicate the resources and capability to show that it takes this agenda seriously.

BP's role

Before closing, let me say a few words about the role of BP.

Against this challenging backdrop of energy post-Copenhagen, our aim is to contribute more fossil fuels today, to enable more efficient production and use of them and to make a material contribution to a lower carbon future. It is a journey and it is what we mean by ‘Beyond Petroleum’.

For this journey the world still needs fossil fuels and we will strive for exploration success, to access new frontiers, to bring in more natural gas and local hydrocarbons and to deliver secure fuels to the market safely and at competitive cost every day of the year.

In the drive for efficiency, we will collaborate with the vehicle manufacturers on advanced engine technology and lubricants and provide better and cleaner transport fuels through less energy intensive processes.

And we will make a material contribution to the lower carbon journey through the development of natural gas, the right biofuels, carbon capture and storage and wind power and by addressing the challenges of solar energy.

I would remind that we were the first energy company to be widely recognised as accepting the obligation to act on climate change, we have invested nearly $4bn in our low carbon business since 2005 and we are on course with our commitment to invest $8bn in alternative energy by 2015.

We have a track record of OEM collaboration and investment in cleaner fuels and manufacturing processes. We are investing heavily in current and future energy supply to Europe and we are committed to well-informed interaction with the Commission and the other European institutions on energy and climate policy.

I hope you will agree that it is a pragmatic approach that addresses the need for practical action in the post-Copenhagen environment.

Conclusions

In conclusion I would like to return to Copenhagen. Much has to be done to build from the Copenhagen Accord and to find a way to incorporate the Kyoto track and move forward. But Europe has built strong foundations and should not step back – while for all of us there is plenty of room to take pragmatic steps in those areas where we have the capability and competence to do so. In my view this is also a matter of obligation.

For BP these steps will include more investment in high quality energy today and serious progress down the pathways to lower carbon energy for the future – most notably in transport fuels and the provision of natural gas for power generation, but also in developing other sources of energy for tomorrow.

Ladies and Gentlemen, in summary. It is clear we know enough already about what can be done to make a material impact. We are at the end of the beginning, and the start of the next phase of material action. We must stop polishing the diamond of the destination. We need to pursue policy not politics. Policy must stimulate material action in broadly the right direction. And there are clear pathways for logical material progress for both transport and in power generation.

The new Commission and European institutions must continue to drive that policy, with continuity and a focus on alignment with the other major global players, most notably the US, in terms of pace and signals to business.

And business is ready to do its part.

It is I think a robust agenda and one where we can make a real contribution.

Thank you for listening.