

A PRESCRIPTION FOR EUROPE

Part 1: Options and Opportunities for Europe to Ease Dependency on Russian Natural Gas

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I. Introduction

There are myriad factors contributing to the European Union's addiction to Russian natural gas, but a lack of awareness is not one of them. In recent years, there have been serious policy efforts and various business initiatives designed to reduce this dependency, yet most have largely failed. Voluminous research and analysis from well known think tanks and knowledgeable individuals have made very clear warnings, yet there is a relative paucity of viable policy proposals. What has prevented the European Union from successfully diversifying its energy suppliers (and thus deepening security), and why should consumers and citizens be concerned about Russia's domination of the market? What options and opportunities are available for the European Union to improve energy relations with Russia?

This paper aims to identify some of the principal obstacles and challenges which have inhibited Europe's response to the growing politicization of energy exports by from Russia, and shall set forth a series of proposals for both government and industry leaders to alleviate the problem and help avert a future supply crisis.

The policy proposals outlined below are intended to contribute to the EU-Russia energy dialogue, and advance discussions of how a more competitive and more secure energy market can be established for the mutual benefit of both suppliers and consumers. The urgency of some of these new ideas has increased with the passage of time, as some of the underlying issues behind the current problems were visible years ago, when direct action could have had a greater impact. Europe can ill-afford to waste another five years passively watching (and, in some cases, actively participating) in the erosion of consumer security and possible subjugation of sovereignty to a foreign authoritarian state with monopoly control over energy exports.

For some time we have argued that there is problematic methodology driving Russia's energy relations with Europe, guided by the principles of disaggregation, asymmetry, and cooptation.

Energy "disaggregation" refers to Russia's success in preventing a common EU energy policy, and establishing a pervasive and problematic pattern of bilateral energy deals across the continent. Mark Leonard and Nicu Popescu of the European Council on Foreign Relations documented this trend in a report¹ last year, pointing to Russia's "picking off individual EU member states and signing long-term deals which

¹ "A Power Audit of EU-Russia Relations," by Mark Leonard and Nicu Popescu, European Council on Foreign Relations, 2007. http://ecfr.3cdn.net/1ef82b3f011e075853_0fm6bphgw.pdf

undermine the core principles of the Union's common strategy." Europe's disunity on energy is recognized as Russia's greatest advantage.

This contagious bilateralism has made collective bargaining, transparency, and the institution of an equitable rule-based system to de-politicize the energy trade near impossible. In 2007, we saw Russia's disaggregation agenda aggressively advanced with major pipeline deals involving both Italy and Germany, an agreement with France's Total on the Shtokman Field, and the ongoing quid pro quo in the form of foreign investment hostages with both BP and Royal Dutch Shell.

The growing interdependence of Europe and Russia is a natural and, in theory, positive development that can strongly contribute to security of supply and security of demand for both sides. However, this interdependence has not developed within a market context of equal access, and frequent "asymmetries" have been the result, much to the detriment of Europe's interests. Gazprom's monopoly over the export market, ordained by law, is just one of Russia's many anti-competitive measures in the energy sector, which have combined to significantly diminish the range of alternatives available to importing countries, creating great imbalance in the negotiating process.

Further contributing to the asymmetry are aggressive restrictions on foreign participation in Russia's strategic sectors (such as gas and oil), and a notable lack of adherence to international norms in terms of rule of law and property rights. While Gazprom went on an unprecedented spending spree in Europe over the past number of years to gain direct access to the consumer, Russia has not allowed comparable acquisitions by European companies that would give balance to the relationship and represent real interdependence.

Lastly, we have seen Russia's cooptation agenda greatly advanced in the past year, whereby alternative energy suppliers and projects outside of Moscow's control were successfully made economically unviable and unattractive by pre-emptive deals and pacts. This was most successfully demonstrated by Russia's memorandum of understanding with Algeria's Sonatrach, which in theory would have put 69% of Italy's natural gas under the control of one group – a frightening prospect which may have motivated the energy firm Eni to sign one of Gazprom's largest supply deals in the world.² Russia also made advances and suggestive comments about the formation of a gas OPEC, which although critics dismiss as an impossible project, would still be an incredibly powerful group given its ability to coordinate markets and water down competition.

Across the globe, Russia has been far more proactive than Europe in locking in agreements with other energy suppliers from Venezuela and Bolivia to Iran, Kazakhstan, and Turkmenistan. Their most recent Central Asian pipeline deal, which observers say cost Moscow far more than was anticipated, is being viewed as a political masterstroke to defeat the competing Nabucco pipeline, which would have offered Europe natural gas outside of Russia's direct control.

² In early 2008, it was reported that the Sonatrach-Gazprom cooperation agreement was abandoned, while Russia campaigned for an asset swap with Eni to gain access to strategic natural gas production projects in Libya.

There is no simple panacea for Europe's current dependency, but it is hoped that if both Brussels and the market can begin to ask the right questions about Russia's conduct in energy policy, than perhaps some fresh ideas and constructive, pragmatic proposals can be undertaken. We are quickly approaching the point at which inaction will exact a far greater cost upon the EU than proactivity, so the simple message to take away from this paper is that the time is now for Europe and the international community to demand that Russia observe international law and de-politicize the energy trade. The benefits of a new rule-based relationship between consumer and producer will contribute to long-term sustainability for all parties.

II. The Problem – Dynamics of Dependency

Europe is addicted to natural gas. Demand is currently around 500bn cubic metres a year (cm/y), and is expected to rise to 800bn cm/y within the next decade, according to most forecasts. In theory, this shouldn't present a problem: the European Union is surrounded by countries with ample gas reserves to supply the growth. But the reality is different. There are several issues:

1. Political: Europe's dependence on imported gas complicates its relations with the suppliers. With the exception of Norway, the gas that Europe needs lies in countries that are relatively unstable. These are, primarily, Russia (share of European market is approximately 25% and growing) and Algeria (share of European market is approximately 10% and growing).
2. Infrastructure: the existing infrastructure to import the gas and to transit it throughout the continent is inadequate.
3. Upstream: dependence on the supplier nations equates to dependence on the upstream plans of the producers there. With the exception of Norway, there is little clarity about upstream development data in Europe's biggest suppliers and potential suppliers (Russia, Central Asia and North Africa).
4. Downstream: Brussels wants to establish a common energy market in the EU. This ambition adds another complicating element to the problems of security of supply. Suppliers are more reluctant to commit because of the absence of long-term guarantees and the EU's third-party access requirements.
5. Environmental: although natural gas is cleaner than coal or oil, it remains a significant contributor to the EU's emissions. Continued growth in consumption of natural gas will undermine the EU's commitments to fight climate change.
6. Price: wholesale prices for imported natural gas will continue to rise in line with the bull-run in the oil markets. This will undermine Brussels' promise to consumers that liberalisation will deliver lower-cost gas.
7. Lack of transparency in supply contracts: Almost all of Europe's gas comes from non-transparent sources. Indeed, for all of the bluster from European politicians about the sophistication of the deregulated European market, there is less information available on pricing and gas transit than there is in the CIS.

The combination of these forces has left the EU in a serious predicament. Security of supply, a common liberalised energy market, and the battle to reduce emissions – the three stated energy goals of the Commission – seem mutually exclusive.

If present policies continue, the continent will become increasingly reliant on Gazprom and the whims of the Russian government. Gazprom already supplies the EU with about 160bn cm/y of gas – about one quarter of the EU's needs. It aims to protect this market share as demand rises. Gazprom recently told us that it will increase exports to Europe to as much as 250bn cm/y by 2020. In truth, Gazprom at present is in no danger of losing market share: it remains the only exporter with pipelines and reserves at its disposal to increase supplies to Europe. Indeed, new projects, Nord Stream and South Stream, are under development.

This poses two different problems. First, politically it leaves the governments of EU countries with little negotiating power – over natural gas prices, over increased co-operation in the energy sectors of both countries, and over wider political and human rights issues – vis-à-vis the Kremlin.

Second, it leaves the EU dependent on Gazprom's investment decisions. Development of the Bovanenskoe field, one of the large Yamal fields that will be essential for future Gazprom production, is already under way without any oversight, investment or involvement from foreign companies. Bovanenskoe and other Yamal fields are critical for Europe's future supplies. Europe should be able to have some faith that they will come on stream when Gazprom says they will. But Gazprom's own plans depend in part on liberalisation of gas prices in Russia. The company has stalled development in Yamal in an effort to justify higher gas prices domestically, effectively meaning that the most important gas developments for Europe's future supply are being used as bargaining chips in energy battles being fought between competing Russian interests.

Furthermore, Gazprom remains a dynamic operator and is seeking aggressively to increase its range of assets outside of Russia, signing contracts and heads of agreements in countries as far afield from its base as Nigeria and Bolivia. The company's strategy in Western Europe, the gas world's prize market, is to increase its downstream presence: with supply domination of Germany, for example, it would like to develop a distribution network there, allowing it to integrate its position in arguably the EU's most important market.

In Austria, it has successfully entered into a partnership with OMV, the energy firm whose largest shareholder is the Austrian government. A joint venture between the two companies has given Gazprom half of the Baumgarten gas terminal in Austria. The ambition of both companies is to turn this hub into the EU's largest.

But Gazprom has another motive for its move to capture the Baumgarten hub. The terminal and its storage facilities have been earmarked as the terminus for the Nabucco pipeline, which EU planners hope will help diversify the continent's supply away from Gazprom's gas. OMV is the lead company in the consortium developing Nabucco and its joint venture with Gazprom allows the Russian company to hedge against the prospect of that pipeline ever coming on stream. As originally envisaged, Nabucco would bring new non-Russian gas into the European grid. But with Gazprom's stake in Baumgarten, the origin of the gas would become irrelevant, because even if the Russian company could be kept out of the upstream, it would control the pipeline in the downstream.

Whether it will in reality be denied access to Nabucco is, however, questionable. Gazprom's venture with OMV appears to be part of a larger strategy to bring the Russian company into the Nabucco project itself. Aware of the difficulties the Nabucco partners face sourcing supplies for in the upstream (at present, only Azerbaijan has committed gas, which would amount to less than one-third of the nameplate capacity of the line), OMV has talked of "synergies" with Gazprom. Effectively, this means that Gazprom will likely become a supplier to Nabucco, too, rendering its original strategic purpose – diversification *away* from Gazprom – redundant.

In part, this reflects the realities on the ground. Gazprom has gas, Nabucco needs it to become viable, and competing sources in the volumes necessary have not emerged. But it also represents another victory for Gazprom's strategy in southern Europe. There, it intends to bring on stream the South Stream pipeline, a 31bn cm/y link between Russia and markets in the Balkans and central Europe. This would constitute the southern flank of Gazprom's ambition to encircle the EU with new supply lines (the northern flank being the Nord Stream pipeline through the Baltic Sea). Aware of Nabucco's problems and the likelihood that it will become, effectively, a new pipeline for the supply of Russian gas anyway, the countries of southern and eastern Europe have been competing to become transit states for South Stream. Already, Bulgaria, Serbia and Italy (whose company, Eni, is Gazprom's partner on the line), have committed to South Stream. Gazprom is understood to be negotiating with Hungary, Romania and Austria about other transit contracts.

South Stream will be expensive: costs of construction are estimated as high as \$15bn, twice the price of Nabucco. Yet Gazprom's ability to offer the volumes of gas needed by the countries of the region is ensuring its speedy progress – and the support of European governments. Both Nabucco and South Stream are hoping to come on line by 2013. But the Russian project looks the far likelier project.

In recent months, nowhere has the ability of Gazprom to win the support of European governments through political influence and the promise of gas supplies been more pronounced than in Serbia. In January, Gazprom offered to route at least a spur line from South Stream through Serbian territory. The Kremlin also reiterated its support for Belgrade over the Kosovo issue. The quid pro quo demanded in exchange for this munificence was that Serbia hand over control of its energy sector to Gazprom for a knock-down price. It did so, selling the state petroleum company Nis, as well as several strategic natural gas assets, to Gazprom for \$400m (plus \$0.5bn investment to 2012). The sale was controversial, given that Belgrade had planned to privatise the firm piecemeal and had previously placed a book value of over \$2bn on it.

Gazprom's seizure of the Serbian energy sector gives its oil arm, Gazprom Neft, a launch pad for business in the Balkans – and within the EU, in the event that Serbia becomes a member of the union. It also sews up another downstream gas market for the company. Its ability to negotiate so cheap a transaction for assets that will only become more valuable as Serbia more closely integrates with the EU reveals both the weakness of Brussels' influence in the country and the extent of Gazprom's strength.

With South Stream progressing, a greater presence in the Balkans, and the ambition to bring Nord Stream on line, Gazprom stands poised to pounce on downstream assets

within the EU. Its domination of the upstream supply to Europe will make efforts to resist the Russian monopolist from extending its reach throughout the EU increasingly difficult.

III. Options and Opportunities

1. Russia and the Energy Charter Treaty

It is hard to underestimate the importance of enforcing rule of law in Europe's energy relations with Russia, beginning first and foremost with the Energy Charter Treaty (ECT). Russia has signed, but not ratified, this important agreement which would put the relationship on a new, rule-based footing, and would prevent the kind of bullying and harassment recently experienced by Royal Dutch Shell and BP. Clear rules on energy transit and investment are desperately needed in order to depoliticize the sale and purchase of natural gas. Europe needs to face the fact that there are a number of corporations and financial institutions which have willingly encouraged Russia to ignore its obligations to the ECT, and get over this institutional resistance to get the treaty ratified by Russia.

However it is more complicated than that. It is no longer just Moscow that is stalling over the ECT, but Brussels. Officials from both sides had agreed on a new wording for the Transit Protocol of the ECT (previously the remaining sticking point for Russia), and Moscow has indicated that it is prepared to bring it before the Duma for ratification. Brussels is stalling because they are concerned that the protocol will not prevent Russia from signing long-term take-or-pay bilateral contracts for supply of gas to the EU. Therefore, if the treaty were ratified, it would undermine the EU's claims that such contracts are illegal, taking legal precedence over regulations on energy infrastructure.

Ratification of the treaty and the opportunity to put EU-Russia energy relations into a stronger legal framework is more important than Brussels' obsessive need to end long-term take-or-pay supply contracts. Brussels should back down by allowing Russia to claim a tactical victory over the Transit Protocol section of the ECT. That would give the EU a strategic victory in the long term. It is the lesser of two evils.

2. Long-term contracts and third-party access

The issue of long-term take-or-pay bilateral contracts is one of the major points of dispute between Gazprom and the EU. Gazprom prefers to structure their deals in this fashion, and the EU is opposed, recognizing the limitations such arrangements pose to the common energy policy. Russia argues they are essential to securing financing and guaranteeing future demand, but Brussels believes that they cannot exist in a liberalised common energy market.

The reality is that if Brussels is to regain some power in negotiations with Gazprom, it must concede this point. (And, as argued above, it would have to do so in any event if the ECT were to be ratified.) In practice, it already has – Brussels frequently gives derogations on energy infrastructure, allowing them to go ahead on long-term-contract grounds.

But Europe's ideological objection to these deals is provocative to Gazprom, and worsens relations between the EU and Russia, resulting in the isolation of Brussels. No one else in the energy world supports Brussels' opposition to long-term contracts. All investors and developers consider them essential to big projects. And they see Brussels' opposition as a barrier to making the kinds of investments in infrastructure that the EU needs.

Brussels should quietly change its position and welcome long-term contracts. This would be a victory for Gazprom – but it would also be a victory for the other suppliers of natural gas that wish to compete with Gazprom, such as LNG developers.

There is a major caveat that must be attached to any discussion about relaxing the rules governing long-term supply contracts: long-term contracts should be the reward for full cooperation (by Gazprom, as by any other supplier) in the drive to make downstream markets fully liberalised and competitive. Long-term contracts must exist if the needed infrastructure is to be built and companies are to secure the financing to do so. But they cannot be allowed to undermine fully open, liberalised and transparent markets in the downstream. That is why long-term bilateral deals can only be part of the full gamut of recommendations that we propose, including price transparency, proper diversification of suppliers and energy types, and strict application of existing competition law.

3. Russian investment in downstream

It is extremely important that Europe recognize what Gazprom is, and what Gazprom isn't – it is state-owned corporation under tight control by the executive, often pursuing political, not commercial, objectives. It is not a normal company, but rather the Saudi Aramco of the gas world. Expecting it to liberalise naturally under market conditions is naïve. Nevertheless, Gazprom should be a welcome participant in downstream in Europe – provided that it obeys the EU's rules. These rules should include the following:

- All supply contracts to be public and transparent, including arrangements in countries that transit gas to Europe. (In other words: you want access to European downstream, then open the books on companies like RosUkrEnergo and publish the contract details for all agreements to supply EU countries.)
- Full separation of distribution and generation assets, including cross-investments: i.e., break up the cartels in Gazprom's key "hub" states, like Germany.
- Full third-party access and liquid contracts governing infrastructure in which Gazprom is an investor *within* the EU. I.e., the new Baumgarten hub in Austria.

This is a pragmatic approach. It says: we realise that Gazprom has the gas we need. We respect that. Now Gazprom must realise that we have the consumers it craves. And it must respect that. Gazprom's supplies to Europe needn't be "liberalised", but once the company or its gas arrives within the EU it must be.

Regarding the notion “publish what you pay” – Africa isn’t the only continent that needs to be transparent about its energy contracts.

Almost all of Europe’s gas comes from non-transparent sources. The gas industry has always been a highly secretive business and remains so: there is virtually no publicly available information on the pricing of this strategic resource or on the commercial arrangements under which it is imported or (for locally produced gas) sold. This applies to gas imported from Russia, Algeria or Norway or gas produced within Europe.

There is some price transparency in the UK (through futures-related National Balancing Point figures) although the details of bilateral deals – prices, volumes and the parties involved – remain confidential. Most gas deals carry confidentiality clauses.

Generally in Europe (especially continental Europe) there is no information on wholesale prices, which presents a significant barrier to the European Commission’s cherished notion of competition. Brussels would like this to change, but the Commission lacks the power to force companies to release data. Granting it that power would inject fresh life into Brussels’ drive to competition. Indeed, for all of the bluster from European politicians about the sophistication of the deregulated European market, there is less information available on pricing and gas transit than there is in the CIS.

4. The buyer’s cartel

It isn’t just suppliers who can make cartels. European companies must act as a monopsony in negotiations with Gazprom and other suppliers. Gazprom’s clever exploitation of the divergent paranoia and needs of different member states has prevented any of them from acting in unison vis-à-vis supplies from Russia. But this must stop.

To create a monopsony of buyers, Brussels must do more than plead for Europe to “speak with one voice”. It must legislate for the following:

- A Brussels body to oversee new contracts with suppliers and approve them only on grounds of their contribution to energy security.
- Open and transparent contract negotiations.

As we argue above, bilateral contracts are fine. But they must be approved by Brussels and be transparent. No more secret deals cut between Gazprom and friendly politicians in Central and Eastern Europe.

This recognises that the EU needs more gas from Russia – but it would help to make future supply deals account for the wider needs of the EU.

5. Infrastructure Investment

As Jonathan Stern has written, the biggest threat to Europe's energy markets in 2006 was not the brief supply interruption when Gazprom cut exports to Ukraine... it was the fire at the Rough Storage terminal in the United Kingdom.

It may not be appealing, but the truth is this: the EU needs to do its own groundwork and investment in energy infrastructure, now, to make its internal market work. The dangerous lack of gas storage facilities in such countries as the United Kingdom causes spikes in the price of natural gas, and the lack of pipelines (and electricity transmission) within the EU, between countries like France and Italy, means that the internal market is unrealistic. Unbundling is a good start (see below) and it must be followed through.

However, investment and development efforts need to be directed toward the right kind of infrastructure. Gazprom is and will remain Europe's main gas supplier, but care must be taken to ensure that Russian gas is imported as efficiently as possible. Under the arrangements proposed at present – and supported by the European Commission, and various European energy companies and European governments – that is not the case: the cost of Nord Stream, for example, is unacceptably high and, if the project goes ahead, European energy consumers will have to pick up the tab in the form of higher energy prices.

There remains no compelling rationale for Nord Stream's offshore route other than to satisfy Gazprom's desire to avoid transit states, and create greater political leverage in its foreign relations. It brings no particular benefit to Europe (and there are even question marks over Gazprom's ability to fill the pipeline with gas). Indeed, it brings disadvantages: the pipeline would circumvent Poland, an EU member. This is something that Brussels is duty-bound to resist vigorously as it divides the interests of EU members. The Commission must stop paying lip service to the notion of solidarity on energy issues and defend the interests of Poland.

Numerous concerns have also been raised about the environmental consequences and risks of an undersea pipeline such as Nord Stream.

For Poland, there is an obvious danger of being completely cut off by Nord Stream. However, an alternative proposal would see Poland receive gas from Nord Stream through a spur. However, this is also undesirable; although acceptance of this compromise might ease strained relations with Germany and Russia and please the European Commission, it would significantly increase Poland's dependence on Russian gas and, in the process, would very likely kill off embryonic attempts to diversify Polish gas supply. Also, a spur would not remedy the potential environmental damage needlessly risked through the undersea route.

A sensible alternative to Nord Stream would be the Amber pipeline, which would involve building a second pipeline alongside the existing Yamal pipeline from Russia and Belarus, through Poland to Germany. Amber is the preference of the new Polish government. It would be far cheaper, does not raise environmental issues and does not divide the European Union, but ultimately still serves the same markets. In addition, energy diversification in Poland would not be undermined, as Poland could choose

either to be a buyer of the gas or serve merely as a transit state (or obviously a combination of both).

However, whereas the previous Polish government was staunchly opposed to Nord Stream, the present government is more ambivalent. It has set out its stall as being eager to improve relations with Russia and Germany. This makes it harder for it to take a strong stand on Nord Stream. It remains unclear what position the Polish government will take, but it would be in the country's long-term interests to block Nord Stream. This is unlikely to be achieved politically because of the high degree of backing the project enjoys from the German and Russian governments. The most effective approach would be to stall the project with environmental and other regulatory objections, forcing up costs (and creating delays) to levels that are unpalatable even to the politically supported consortium.

Current budget estimates are Euro8-10bn, up from an original estimate of Euro2bn, but it is thought that the pipeline's cost could rise as high as Euro15bn. This would be absurdly expensive, even for Gazprom and its partners, and, given the problems in financial markets, arranging financing may be difficult.

6. Unbundling and the Russia Debate

The Commission committed a tactical mistake by adding the reciprocity issue to its proposal, which led France and Germany to enlist Gazprom's support to defeat the third energy package in order to protect their national champions. The two issues must be separated again before it is too late. The most important items in the Review, such as unbundling, are too important to be threatened by an unholy alliance between France, Germany and Russia. Russia has no business involving itself in the internal market decisions of the EU, but the Commission's blunder has allowed it an opportunity to do so.

If the Commission separated the issues, and followed the advice above, it could deal with the divergent issues in their own space and not allow them to become conflated.

7. Diversification of gas supplies

The Nabucco debacle is symptomatic of the Commission's back-handed approach to diversification. Even if Nabucco were to bring 31bn cm³/y of Central Asian gas directly to the heart of Europe, it would do little to diversify the continent away from Russian gas domination. By the time it came on stream, Nabucco's contribution would make little more than a dent on Russian supplies. And, in any case, it now looks certain that *if* Nabucco ever proceeded, it would supply Gazprom gas to Europe anyway.

Pretending that it is a panacea is therefore ridiculous. And it distracts debate away from the genuine efforts to diversify that the EU could be making. What are these efforts?

- a) Increase its presence in Central Asia. Whatever the EU thinks, its presence in the politics of Kazakhstan and Turkmenistan is infinitesimal compared with the Kremlin's. If the EU is genuinely interested in bringing those countries

into the fold it must do more than send Malcolm Wicks, UK energy minister, to Kazakhstan to discuss supply. On the ground in Kazakhstan there is one foreign energy partner, and that is Russia. Matt Bryza of the State Department has done more in the last year to increase the presence of the West in Central Asia than Andris Piebalgs has done in three years. At the same time, the EU must ask: is Central Asian gas going to be any more reliable than Russian gas? Why are dictators in Ashgabat and Astana preferable to dealing with the Kremlin? (The answer is that three unreliable sources are better than one unreliable source.)

- b) Iran. Unlocking Iranian gas and opening up an export corridor to Europe would transform the entire supply debate in the Middle East and the EU. In light of the recent National Intelligence Estimate from the US, the EU should now be pursuing settlement with Tehran and a new rapprochement. Long-term, Iran is the real answer to diversification of gas. Iraqi gas could also make a significant contribution.
- c) North Africa. Algeria and Libya should be competing with Gazprom to supply gas to Europe – not colluding with it over prices. The EU should strengthen relations with both countries to recover the momentum it has lost in North Africa. Doing so could also make ambitious projects like the Trans-Saharan gas pipeline more realistic. That pipeline could transit Nigerian gas through Algeria to Europe. But it won't, unless Algeria sees that it is in its interests to promote it. At present, the EU is antagonising countries like Algeria at the worst moment (by, for example in Spain, putting a cap on the amount of gas it can sell to customers). The EU needs to send a strong signal of support for the supply side: that means encouraging, not discouraging, long-term contracts, which give suppliers and investors the assurances they need to put their eggs in one basket. At present, the EU remains blinded by its “customer is king” rhetoric, which ignores the huge financial complexities of upstream and downstream development on the scale required in this type of energy project. What government or company in its right mind is going to be enthusiastic about investing colossal sums in supplying a marketplace whose authorities want to deny them the comfort of guaranteed long-term off-take (and payback), characterise them as inherently unstable and unreliable, and want to limit severely their role as a downstream investor?
- d) LNG infrastructure. Companies won't build LNG infrastructure unless they have long-term contracts, because it is expensive. They should be encouraged to do so by scrapping regulations preventing the long-term contracts and by receiving streamlined approval for developments from Brussels. LNG won't break Russian domination of supply; but the availability of receiving capacity in Europe will keep a cap on prices of pipeline gas (i.e., if piped gas becomes too expensive, LNG shipments will start arriving). The UK now has spare LNG capacity. But other countries, like Italy, do not. They should. And the EU must encourage companies to build it. How can this be done? Speaking with the elusive single voice that Brussels incessantly champions – creating a pan-EU strategic energy body that looks at energy investment on a European, not national scale, and has the legal power to push through its vision. This would require a regulator in Brussels with power over all member states, working in tandem with national regulators.
- e) It must also be accompanied by internal infrastructure development. Creating new entry points for gas is useless in terms of improving energy supply to the

European market if there is insufficient capacity to transport the energy (gas and power, much of which is generated from natural gas) to the parts of the network where it is most needed. Network investment must therefore be encouraged. And the EU must do more to force national champions to follow EU rules on liberalisation and unbundling.

8. Alternatives

Given the worries over climate change and energy security, the political will to diversify into alternative energy is there, but the reality isn't. The Commission says it is "agnostic" about nuclear energy. It can't afford to be. Ramping up nuclear capacity in Europe would solve some energy security and diversification worries without affecting the emissions targets. It is an obvious solution. But the up-front investments and lead-times in developing nuclear are large and long. So Brussels needs to act now. Financing needs to be tweaked. Gas-fired generation has dominated Europe's energy path in the last 10 years because it is easy to finance. Up-front costs are low, relative to other energy, so capital is available on the markets. For nuclear, as indeed for many renewable energy projects, the cheapest way to finance the large up-front costs would be sovereign debt. If the EU is serious about diversification, it needs to encourage nuclear generation: making debt cheaper for companies that invest in nuclear would be a way to do it. It needs to happen now. The EU needs to send out a strong political signal of support for nuclear energy – and end its present non-committal stance. It is absurd to make such ambitious promises about climate change (and energy security) and then express ambivalence about the one energy source that is capable of supplying baseload power without increasing emissions and without relying on large increases in imports of fossil fuels.

Carbon capture and storage. It could bring coal back into the mix without ruining the EU's environmental aspirations. But it needs enormous investment to make it a reality and it needs a concentrated development programme. The EU is planning 10-12 industrial-scale CCS demonstration projects (at an estimated cost of \$1bn each). Brussels hopes that by 2020 all new EU power plants will be emissions-free. But there is a disconnect in Europe between rhetoric and action when it comes to energy and the environment: for all the abuse meted out to the Americans in Bali, the EU's performance on emissions has been worse than that of the US in the last five years. Similarly, the good game that the EU has talked on energy liberalisation has, in the case of many countries, proved a failure. It is time for Brussels and European governments to close the gap between rhetoric and reality.

9. Energy efficiency measures

The EU must get serious about reducing demand, especially for fossil fuels. This will help it meet the goals of reducing its carbon footprint and improving energy security by making it less reliant on unpredictable countries. Energy savings can be achieved among other measures through: smaller car engines, greener buildings, more efficient power plants.

In OECD countries, according to the IEA, gains in energy efficiency are only about half the rate seen in the 1970s and 1980s. This is not good enough in the current political context. The EU (along with other major governments) must encourage much

greater use of energy-saving measures, as well as renewable and nuclear energy. In nuclear's case, this could be achieved by adjusting the regulatory framework to make nuclear power easier to finance: as we describe above, at present, the regulatory environment is geared to gas-fired power generation. In the case of renewables, the industry must be given a kick start. The German government has taken a lead in subsidising renewable energy at a very localised level (i.e. in people's houses as well as at a larger scale). A similar approach needs to be replicated across Europe. It is not even too far fetched to start talking about renewables as another piece of essential state infrastructure (like roads or sewers) that is a fact of life and has to be paid for. But at present for individuals and (mostly) for businesses, renewables and other green sources of energy are an expensive luxury (and therefore something to be avoided) and very much a peripheral part of the energy mix.

Governments must generate better data on energy consumption and CO2 emissions, so that efficiency measures and CO2 control measures can be implemented more effectively. The EU must support technology development at many different levels (e.g. cars, CCS, renewables).

It is time for joined-up thinking. In the case of the UK, for example, a tough-talking stance on global warming (led by Tony Blair) is all very well, but if it is not matched with effective legislation at a consumer level (as well as at an industrial level), the country has little chance of meeting its ambitious carbon targets.

10. Long-term carbon prices

Regarding climate change and energy security, the former shouldn't distract us from the latter.

The solutions to climate change are – fortunately – consistent with Europe's other key policy aim, of shoring up its energy security. Lower emissions can be achieved by controlling demand for fossil fuels (including natural gas, which, while cleaner than coal and oil, still generates a large amount of CO2 emissions) and stimulating demand for alternative sources of energy, such as nuclear and renewables. Increasing the use of nuclear and renewables also means lowering or capping reliance on imports of gas (if CCS proves to be viable, greater coal use could also displace some gas demand). Climate-change reduction aims are therefore to be encouraged for energy-security reasons (as well as for environmental reasons).

In order to achieve these twin aims, however, the European Commission would have to abandon its desire to provide consumers with cheap energy. The cost of energy will have to rise if Europe is to meet its ambitious goals for reducing emissions. However, this does not mean that the idea of a competitive energy market is defunct: ensuring that competition thrives will mean that energy is as competitively priced as possible given the type of energy (i.e. low-carbon) being demanded. Without an open and transparent market, prices would be even higher.

The EU's Emissions Trading scheme has had mixed results. It flopped initially because of the old chestnut of national interests trumping the EU interest: individual governments allocated too many carbon allowances to their industries, flooding the market with carbon allowances and causing the price of carbon to slump.

Improvements have been made since the initial disaster and the carbon price has risen (to around €24 per tonne), but further increases are needed. A recent CBI report said €60-90/t would be necessary to stimulate investment in emerging technologies such as renewables. Also, there is no meaningful carbon price beyond 2012 and the EU must fix this immediately: the price of carbon is a major determinant of the price of power and energy investors with long-term planning horizons cannot make the necessary investments without long-term price transparency. In addition, other measures, such as linking CCS schemes to the ETS would help achieve the joined-up thinking that is lacking. In the long-term, this emerging low-carbon economy offers the EU a major economic opportunity, as well as a way of reducing its dependence on a small number of gas suppliers and of meeting its climate goals. The time to act is now.