

Marshall, T

The European Union and Major Infrastructure Policies: The Reforms of the Trans-European Networks Programmes and the Implications for Spatial Planning.

Marshall, T (2014) The European Union and Major Infrastructure Policies: The Reforms of the Trans-European Networks Programmes and the Implications for Spatial Planning. *European Planning Studies*, 22 (7). pp. 1484-1506.

doi: 10.1080/09654313.2013.791968

This version is available: <https://radar.brookes.ac.uk/radar/items/e56e6edd-d817-4f41-ad78-381da3f7fd7/1/>

Available on RADAR: July 2016

Copyright © and Moral Rights are retained by the author(s) and/ or other copyright owners. A copy can be downloaded for personal non-commercial research or study, without prior permission or charge. This item cannot be reproduced or quoted extensively from without first obtaining permission in writing from the copyright holder(s). The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the copyright holders.

This document is the post print version of the journal article. Some differences between the published version and this version may remain and you are advised to consult the published version if you wish to cite from it.

The European Union and Major Infrastructure Policies: The reforms of the TENs programmes and the implications for spatial planning

Tim Marshall
Department of Planning
Oxford Brookes University
UK
tmarshall@brookes.ac.uk

The European Union and Major Infrastructure Policies: The reforms of the TENs programmes and the implications for spatial planning

Abstract

The EU has been involved in influencing major infrastructure in the fields of transport and energy mainly by means of the TENs programme begun in the 1990s. Other macro planning and wider spatial planning exercises, including the ESDP, made reference to such infrastructure systems, particularly in relation to the need for connectivity and mobility, but normally did not attempt to intervene in an area seen as one of the prerogatives of national states. Much more important have been the wider programmes of liberalisation pressed by the EU since the 1980s, but these have had no specific geographical content.

A revision of the TENs programmes since 2008 has led to proposals to increase the role of the EU, by drawing up continent wide schemas indicating needs for future investment in many fields of both transport and energy, and introducing new procedures to streamline decision making by designating projects as of European interest. The initiatives in transport and energy are described here, including the two Regulations currently under discussion within the EU institutions. These include major proposals for cross European multi-modal transport corridors within an EU core network, and regional schemas for energy drawn up primarily by energy industries and government counterparts. Both are likely to be of real significance for spatial planners throughout the continent, and have major impacts on the shapes of future infrastructure networks.

These proposals are analysed, as cases of the rescaling and re-ordering of government, giving more force to the EU in these fields, and reinforcing sectoral or silo based decision making. It is argued that somewhat different outcomes will result in the few areas, such as the Baltic, where long term macro-regional collaboration has been present, from the rest of Europe, where these sectoral programmes may complicate further the mix of planning impacting on each region, making even more confused the accountability of governance. Suggestions are made for the careful assessment of these schemas by national and regional governments, and for the creation of some spatial planning analytical capability at EU level, which could examine this type of proposals, with powerful spatial impacts.

Introduction

Infrastructural investment has recently become a part of planning policy which has been attracting more attention, both amongst policy makers and academics (Fischer 2012, Flyvbjerg et al 2003, HM Treasury 2011, Marshall 2012a,b, OECD 2006, 2011, Priemus et al 2008). This attention results in large part from the perception that the planning and approval

of large infrastructure schemes has been becoming more difficult, across many countries. Sometimes this generates calls for streamlined permitting processes, which are expected to give approvals faster, whilst sometimes the call is to look rather more dispassionately at the overall circumstances and consider alternative approaches in the round. Up until the last few years, these policy debates have been occurring largely at national level. But since about 2008, the European Union has put a strong emphasis on the issue, as part of its revision of the Trans European Networks (TENs) policy area. This paper has its main focus on this policy development, and the overall purpose is to excavate the relationships that the TENs reforms may have in the future with spatial planning within the EU.

Comparative work on the way in which different European states manage infrastructure planning made clear the weak steering capacities or desires in most cases (Marshall 2012a). Such weakness was observed in Germany for example, where the planning of energy systems showed little direction, arguably hindering the possibility of serious progress to a lower carbon society. Equally there were many German criticisms (Hesse 2010), showing government inability to adopt a more strategic approach to transport planning, as against the business as usual of the federal transport plan (BVWP). An important question arising from this is how far the EU may be making up for these steering weaknesses in some respects. This interest was one motivation behind the work reported on here.

The specific questions under examination are the following:

Firstly, what is the relationship between the TENs reforms and spatial planning? This is explored in three dimensions. The first looks at the way in which the reforms have been formulated, and to what extent links have been made with any spatial or territorial thinking within EU processes. The second looks at possible impacts on spatial planning, in the short and medium term. The third discusses the scope for longer term impacts, via the more indirect effects on the way territories are imagined.

Secondly, given the answers to these questions, which will shed light on the nature of the links and impacts of the TENs reforms, how far can these be explained by features of the governance and management of infrastructure steering in Europe, at all levels? Here the discussion will focus on relatively familiar processes within European governing, such as rescaling, decision making within sectoral silos, and the decline of spatial planning at wider scales in many countries.

The paper is organised around these two questions. Before moving to examine the dimensions of the first question, an introduction is given to the TENs policy field, followed by a description of the proposed reforms. The paper concludes by summarising the answers to the questions, and discusses possible ways to make the relationship between the TENs reforms and spatial planning more fruitful.

The paper is based on interviews conducted in the European Commission in Brussels in late 2010, backed by some discussions to update the analysis in 2012. It also draws on extensive use of the very full documentation of the EU directorates involved¹. On the basis of the understanding generated of the making of the new TENs policies, it was possible to explore the possible impacts on spatial planning. The article is therefore primarily based on a combination of reporting on current policy making at EU level, and reflecting on this policy making, drawing on experience gained in a research project on planning for major infrastructure undertaken in 2008-2010 (reported on fully in Marshall 2012a).

The TENs programmes

Large schemes to transform transport and energy infrastructure have been recently under consideration across Europe (supergrids from Africa to northern Europe, motorways of the sea linked to cross continental freight routes, for example), following national level investment in several fields since the 1990s – in high speed rail, motorways, ports and airports, as well as gas, wind and other energy generation sectors. Whilst such continental wide schemes have a long historyⁱⁱ, the present round was spurred in part by the pressure of leading business executives in the 1980s, who identified “missing links” in all European transport systems (European Round Table 1984, 1991). The making of the single market project thus came to carry with it an interest in boosting the capacity of European transport systems. This combined with, or in part was inherent in, the liberalisation of the industries, mostly state owned, which for several decades had managed these infrastructure systems. This liberalisation became a core EU goal in the 1990s. Other more material factors were involved of course, such as the increasing freight movement across the world, impacting on ports and much else, a growth process predicted to continue (OECD 2006, 2007, 2011). One result was the creation of the TENs programme in the early 1990s, seen as a part of the Delors package which sought to modify or tame the single market programme. The idea behind TENs was that, with the Single Market, more traffic of all kinds would flow between countries and that transport and energy systems, like productive systems, ought to be harmonised and opened up to competition, to cope with the greater movement. Unlike the social programme also promoted by Delors, the TENs packages were progressively detailed and, on the transport side, given significant EU funding support.

In 1994 fourteen priority transport schemes were listed, to be extended to thirty by 2004. Most of this top set were rail schemes, with limited support for road and aviation, although these figured strongly in the sets of schemes in the rest of the listings. This leaning towards more environmentally desirable modes was another part of the political drive of the policy zone, ensuring some support from political groups interested in environmental gains. However environmental critics have shown that such environmental presentation is not the main drive of EU transport support: “The modal bias in favour of rail in the TEN-T funds has been far overshadowed by spending on roads and airports via cohesion policy” (Transport and Environment et al 2011 p.4).

Figure 1 shows the extent of the TEN-T programme in 2008 (CEC 2009c). There was a commitment to some financial support, mainly via loans – in fact the EU paid 29% of the total invested 1993-2006, with a similar proportion expected in 2007-2013 (CEC 2008a). Apparently the EU was committing 230 billion euros to transport infrastructure between 1996 and 2013 – a major contribution, most channelled by regional funding (CEC 2011e). As Duhr et al explain: “The process of selecting priority projects was a highly political exercise ‘from the bottom up’, characterised by pressures from national governments or industrial lobbies pushing for their national wish lists” (2010 p. 300, also Peters 2003).

Figure 1 about here.

The TENs scheme for energy also advanced through the 1990s, but with less political drive and little financial support. It gradually picked up momentum, mostly to ease cross border links in gas and electricity transport, to facilitate the single market in these products being introduced at the same time. Both programmes had a “fill the gaps” approach, rather than one in any way related to strategic cross-European planning. Given the slow progress with even this level of intervention, there was for years quite enough for the EU to do in trying to

get effective implementation. By 2008 some of the original priority projects had still hardly begun. Nevertheless, it was felt the time was right to review progress and adopt a more ambitious approach.

At the same time, spatial planning was making its bid to impact on EU policy making, by means of work on a cross European spatial framework, finally issued in 1999 as the European Spatial Development Perspective (ESDP), as well as through work on mega regional planning overviews, and support for cross border initiatives via INTERREG programmes. The now clear accounts of this story (Duhr et al 2010, Faludi and Waterhout 2002, Faludi 2010) show how variable and often limited the integration of this spatial planning work was to key policy areas – the big funding programmes, transport and energy policies, competition policy and so on. However, the work on spatial planning, now generally rebadged as territorial cohesion policy, continued through the 2000s (CEC 2008c). It is important to investigate any links between the continuing aspirations for some sort of territorial integration in the EU, and the TENs reforms which were worked up in 2008-2011 and are now in the process of being hardened into firm policy, including Regulations in the transport and energy fields. It is equally important to establish what may be the significance of the TENs reforms for the changing European geography, that is to think about what major initiatives like this do “behind the back of planning”, in generating the future shapes of urbanisation and environmental futures, and how the future territory of Europe is imagined.

Reforming the TENs systems 2008-2012

The reforms are examined separately for transport and energy (telecoms is omitted, as much less significant from a planning perspective). The account here largely reflects policy making up to mid-2012.

Transport

The TEN-T programme review began in 2007-8, and resulted in a final Commission proposal for a new policy in 2011 (CEC 2007, 2008a, 2009a, 2010b, c, e, 2011a, b, Fischer and Sykes 2009). The primary innovation was the making of a “core network” of routes, in multi-modal form, across the EU and connecting with third countries. This would supercede the project based approach used since the creation of the TEN-T in the early 1990s. The core was to include all modes, with a study identifying 57 ports or port complexes which should be the key port links to the terrestrial transport system (NEA 2010). The 30 projects agreed at the last revision in 2005 would mostly slot into such a core network, along with some more, but this time the result is supposed to be a genuine base network for the whole continent, not a patchwork of projects. Underlying this, the “comprehensive network” will continue, slightly amended, this being the main existing transport systems marked on a map, and showing the “missing links” still seen as needing connections or improvements. It must be remembered that this is a substantial existing project, which there is no intention of reducing, on the contrary it will be added to somewhat. As a working document (CEC 2010e) said:

“Today the comprehensive network comprises altogether 95,700 km of road links, 106,000 km of railway links (including 32,000 km of high-speed links), 13,000 km of inland waterways, 411 airports and 404 sea ports. It has to be noted that most of these links and nodes already exist. However, almost 20,000 km of the road links, over 20,000 km of railway link (overwhelmingly high-speed lines) and 600 km of inland waterway links remain to be built or substantially upgraded”.

The choice of the core network was based on a much more planned approach, through a methodology worked up in 2010-11 by an expert group, essentially based on linking key nodes of the European transport system. This meant in particular a big emphasis on ports and on freight, and the resulting ten corridors concentrate especially on rail links, with a major aim to encourage modal shift from road to rail and water. Figure 2 shows part of the core network, that for rail freight. The core network was to be given priority, with a chance to get some of the 50 billion euro Connecting Europe Facility announced at the same time (31 billion for transport, 9 billion each for energy and telecoms). It was also targeted for completion by 2030, as against 2050 for the comprehensive network.

Figure 2 about here.

The new way of dealing with the core network was through the creation of “Corridor Development Platforms”, consisting of a European Coordinator appointed by the EU to lead the work on that corridor, and of member states and relevant interests. They were to draw up a corridor development plan within six months of the entry into force of the Regulation. This was to be submitted to the Commission, who would give its opinion, and particularly say in what way it was going to support implementation. As an example, Corridor 2 runs from Warsaw to the English Midlands, and needs upgrading of rail lines along much of the route, as well as inland waterways works in Germany and at the Amsterdam locks, and port and multimodal platform works in England. Here four states will be involved, but in some corridors such as the north-south ones, governance will be more complex still. Figure 3 shows another example, for the Genoa-Rotterdam corridor.

Figure 3 about here.

These transport infrastructure proposals (and much more) are now presented in a Regulation, the form of EU legislation which, if approved, becomes directly binding on members. There will then be little scope for deviation, in principle, and all future investment should be guided by or be taking note of the TENs schemas – in principle for the coming decades, though we may fully expect regular revision. Of course the Regulation may not be approved, at least in its current form. Under the co-decision procedure, first the European Parliament needs to give its approval. At the time of writing there were several elements that looked controversial, with the Council preferring a more government (transport ministries) centred governing mechanism, and pressures from Green interests in the Parliament against other elements of the package.

Energy

For the TEN-E field, policy development began by 2008 (CEC 2008b, Ramboll/Mercados 2008) and Commission documents were published late in 2010, including on energy infrastructure (CEC 2010f, i, j), followed by the final policy package in October 2011 (CEC 2011c). The final TEN-E proposals are wide ranging and significant, though in a different way from those for transport, given the very different context of energy policy making. The infrastructure strand of energy policy relates strongly to the coming into force early in 2011 of the Third Energy Package. This liberalises European energy systems, with full unbundling of energy transport systems in particular.

There are two strands of special interest to spatial planners (CEC 2011c, the proposed Regulation, contains most details, but much related documentation is on the Energy directorate webpages for the October 2011 announcement). The first strand is the designation

of projects of common European interest (PCIs) and how these are identified. This is a strong stepping up of the EU role, responding to the worry that a liberalised pan European energy work will simply not have the technical infrastructure to work, particularly given the low carbon and security goals that the new competitive industries are also supposed to achieve. The projects are chosen by the Regional Groups for each fuel body, those created under the Third Package: ENTSO-E for electricity and ENTSG for gas. Figure 4 shows the regional groupings created for electricity. These groups have been doing planning work since their formation in 2009, in the Gas Regional Investment Plans (GRIPs) for example, and this is set within the overarching Ten Year Network Development Plans (TYNDPs) prepared for both electricity and gas by their respective bodies (Entso-e 2012, Entso-g 2011). So the energy field also has priority corridors, based on the ENTSO work, there being four each for electricity and gas, and one for oil, as well as three thematic areas, for smart grids, electricity highways (a long term super grid) and a cross-border carbon dioxide network.

Figure 4 about here.

The TYNDP for gas of 2011 (Entso-g 2011) followed the Entso-e approach in its first iteration the year before by not just listing the responses of the transmission operator of each country, but carrying out a “top down” research of the matching of supply and infrastructure systems to 2020. It admitted this was full of important uncertainties, but concluded that if the committed investments went ahead, there were only relatively limited areas of major risk in the event of disruptions, mainly on the eastern borders affected by Russian gas risks. These “Plans” were described in the gas case as intended to “provide stakeholders with signals that can be further investigated in their decision-making processes for market triggered investment or for European funding” (Entso-g 2011 p. 51). But the evidence now is that the planning is getting a little less cautious, reaching at least indicative status, even though the TYNDPs are definitely not binding documents. In due course it is expected that the Entsos will be able to take over all the planning and prioritising role, though in 2010 their limited resourcing (30-40 staff for electricity but only 4-5 for gas) did not allow this.

One key is attempting to leave the planning, or at least parts, to the private industries required to cooperate in the Entsos. Another is the regionalising approach, identifying areas like the North Sea, south west Europe, central and south eastern Europe and the Baltic as areas where European “added value” was most obvious or feasible. Figure 5 shows the main challenges and grid issues as seen in electricity in 2012.

Figure 5 about here.

A second important strand in the package relates to permitting. Energy companies, and to some extent governments, have long been pressing loudly their concerns at delays in giving consent to schemes which they see as essential to getting relevant new investment, especially in electricity transmission lines. Several national governments, including the UK, Netherlands and Germany, have reformed their procedures to make such permitting easier and quicker (at least that is the aim). This can involve the appointment of “independent” authorities, as was tried with the Infrastructure Planning Commission in the UK, aiming to depoliticise decisions. This therefore links directly to one wing of neoliberal thinking, to remove key decisions from electoral democratic arenas, as in the creation of autonomous central banks. The EU decided to make this a big element in its infrastructure package, and commissioned a study in 2011 from Roland Berger, a management consultancy, to work out how this might be done (Roland Berger 2011 for their final report). The result is a section in

the Regulation to alter procedures in all EU states, towards what is seen as best practice, including a one stop shop for authorisation, cutting overall maximum authorisation periods to three years (including one year for the official consent process) and introducing more effective overseeing of the processes at both national and EU level. There is scope for an EU appointed coordinator to intervene in cases where delays are serious, for projects of common European interest. Much of this is advisory, as it would depend on national legislative change, but it represents a strong push to the sort of approach implemented in the UK with the Planning Act 2008, seen by the consultants as very much a template for desirable reformⁱⁱⁱ.

The energy process is somewhat different from that for transport. The work is ongoing, less a “big bang” one which aims to set future directions at one moment. These directions for energy are set essentially by the industries themselves and brought together by the Commission, and depend on the Regional Groups for both designing priorities and implementation. The extra element is some funding help, for the priority corridors. As in the case of transport, the Regulation is not yet approved. But there is a very considerable head of steam behind this reform, with the European Parliament committees having already in June 2011 given a more or less green light to the proposals. It may be even more likely than with transport that the essence of the Regulation will be approved in due course.

The EU approach in this field is potentially powerful, creating a genuinely multi-level system for energy network planning, with the locus of much decision making probably shifting for some countries to these collaborative European institutions. Countries like France may resist such a shift, but given liberalisation and takeover processes affecting the network industries, such resistance may not be long lasting.

The reforms as a whole

In substantive terms, it is important to note that the Commission and the EU remain very much on the “missing links” track, rather than seeking a radical comprehensive low carbon mobility strategy for the long term. Certainly parts of such an agenda are referred to in the transport White Paper (CEC 2011a), but rapid growth remains a core part of the EU approach, which appears very hard to square with low carbon rhetoric. Such contradictory aims have equally been at the heart of the Lisbon and Europe 2020 strategies created to guide the EU overall since 2000 (CEC 2010a). The energy schemas point in mixed directions: to a considerable extent to business as usual, continued growth in the physical networks, but with some emphasis on the promotion of modal shift in the core network, away from the highest carbon generators (road and air). Similarly in energy, there is big support for fossil fuel generation systems (gas, oil), as well as nuclear, but equally a drive to promote transmission links helping renewables. Clearly this fits the double sided EU objectives, for growth but in principle with low carbon goals too.

So, potentially, this is a major shift in the governance of two key features of the future of Europe. Following on from the single market drive of three decades, and the liberalisation drive of roughly the same period (above all in infrastructure industries), these schemas give the EU an important role in the way big systems evolve in the future. As usual, this is not creating a direct transfer of powers to the EU, but increasing the diagonal nature of decision making, whereby states, Commission, major corporations, and other important lobbies interact in the advancing (and inevitable modifying, as circumstances change) of the investment streams proposed. The reasons this became necessary were precisely related to

the single market and liberalisation drives, which left European states without instruments to guide investment in these key industries to achieve their key goals – maintaining supply, skewing to low carbon priorities, and increasing competition where practicable, including between suppliers of the major fuel, gas. The 2012 packages, if passed, are intended to provide the new instruments, alongside the efforts of the states and corporations. There may be doubts as to the efficacy of these instruments, but ineffectiveness will be in a sense a political failure by the states, not supporting what they have created.

The relationship between the TENs reforms and spatial planning: how the reforms were formulated

Turning now to the first dimension of the linking to spatial planning, this is done by examining the process of preparation of the reforms, looking at the roles of the different directorates within the Commission, and the links to important aspects of territorial work, above all the work on “macro regional” strategies in the last few years. It is important first to understand the position of the regional directorate in the Commission, which is the one dealing with territorial issues and so to some degree touches on spatial planning. This will be followed by looking at other ways in which spatial planning may interact with these new policy directions. The main focus is on the regional strategies developed in recent years, and what their relationship is to the evolving infrastructure fields.

The regional directorate of the Commission is in some ways a powerful one, given its large budget, and the task of ensuring this is spent, and spent well. But it is clear that DG Regio is not seen as any sort of planning body in a substantive sense. The DG was hoping in 2010 to be able to strengthen its position within the Commission by aligning regional policy more tightly with the Europe 2020 strategy (CEC 2010a, g). The DG’s role is primarily procedural, ensuring the guidelines are followed, and cooperating with sectoral directorates like transport and energy to make sure that they are content that the criteria they set for their areas are also observed. There was little sign of much cooperation on energy issues with that directorate. With transport there was some contribution to the working on the recent TEN-T reforms, with Espon^{iv} material drawn to the attention of the policy makers there. Given that Regio has itself no independent remit on which to take a view of the proper spatial development of Europe, there was no strong base on which to advise Transport in its drawing of the core network. However, Espon did provide some valuable data foundations.

The direct input to the TENs reforms from Regio was thus limited, even though normal lines of consultation remained fully open. The linking of Regio to the reviews was primarily in relation to its core concerns of funding regional policy, and hence to major parts of the EU’s support for infrastructure. So the discussion of the new funding instrument (Connecting Europe Facility), and how this related to the 2014-2020 budget, was a very important cross Commission theme, much more significant than any geographical implications.

The greatest hopes have been in macro regional working, which has been seen to give real scope for integration in the future (CEC 2010h, l, m, Knippschild 2011, Metzger and Schmidt 2012, Stead 2011). Figure 6 shows the areas where this has occurred or may occur later. The Baltic strategy is the model here, being the first of a new breed (it was hoped by DG Regio) of macro-regional strategies (CEC 2009b, 2010d, Scoppetta 2012). Faludi (2010 p.182) calls it “an exemplar in planning for soft spaces”. It was prepared by a score of directorates-general in the Commission, with DG Regio as moderator – the ideal institutional architecture for EU action, in Faludi’s view. This built on a lot of work in the region since the 1990s,

some of which has had a strong spatial planning component. Baltic state planning ministers had started on a Vision and Strategies for the Baltic Sea Region (VASAB) in 1992, completing the strategy in 1994, and pressing on with much use of EU funds to the present. The latest VASAB strategy (VASAB 2009, 2010) had energy and transport as part of its three core areas, and laid out long term perspectives to 2030. The EU Baltic strategy benefitted from this spatial planning tradition and did have significant transport and energy elements. In the transport sphere this involved re-emphasising long standing priorities like the Rail Baltica link up from Germany through the Baltic republics, and the Fehmarn-belt link from Denmark to Germany, as well as stressing shipping improvements, but with VASAB's help this was placed in a spatial planning context. Nevertheless, as so often, when one examines the regional policy funding, the biggest sums go to road building (over 18 out of 27 billion euros in the 2007-13 ERDF were for this purpose – CEC 2010n). For energy the Baltic Sea Region Energy Cooperation, set up in 1999, had also prepared the way, and the Baltic Energy Market Interconnection Plan of 2008 was a cornerstone, intended to reduce the energy isolation of the Baltic republics. So in both areas the spatial elements and understandings were well developed, and a supranational sphere does appear to be in real flow, even if resulting actions are judged to fall well behind these understandings.

Figure 6 about here.

A Danube strategy was launched at the end of 2010, at the request of the European Council. This may also develop important implications for the transport and energy fields, though at present the content of the Action Plan concentrates on issues easily linked to the Danube itself, such as the river's navigation, and hydro power possibilities of tributaries of the river (CEC 2010k). One does not get the impression of anything like the same developed spatial elements as in the Baltic, valuable though the experience has been so far in several ways (Sielker 2012). Given that many of the bordering states are not EU members, and with the more difficult cohering role of just a long and winding river, this is not surprising. Experience will show whether this second macro-region develops a strong momentum, particularly in being able to cohere infrastructure plans. The Baltic may be the odd one out. Larger states like France, Germany, Italy, Spain or the UK are not likely to be cooperative in this way, and they naturally dominate many of the powerful networks in the continent. For the moment it looks as if seas may be the most fertile places for regional cooperation (Baltic, North Sea, possibly parts of the Mediterranean).

The regional approach leaves scope to play across to the regional initiatives of DG Regio (see below) or perhaps in due course to other policy fields. However it was clear that the Commission is operating largely by individual sectors. Certainly all Commission work is relatively collegiate, working by inter-service groupings, with all COM documents agreed across the Commission. But the regional cross-sectoral implications are not considered much by the Energy directorate in this reform drive. The main aims are sectoral, rather than integrated or territorialised: the TENs are further evidence of this reality.

The relationship between the TENs reforms and spatial planning: possible impacts on spatial planning in the short and medium term

The transport TENs reforms are, it is argued here, a major new initiative, forming in themselves a sort of spatial planning, which will impact on "conventional" spatial planning. The transport corridors core system, designed from above, on a relatively rational planned basis, is a radical departure for the EU, as is the form of implementation. It is an essentially

transport silo/sectoral initiative, which will empower the rail and port operators and transport ministries in particular, but the planners on each route will surely also wish to be involved in the platforms, to adjust the plans to their objectives, or learn how the transport schemes impact on other proposals. Although routes and implementation will be contested, it is most likely that planners will have to take these schemas as a committed starting point, as they are used to doing in most states when handed down big transport decisions by national governments. But they will sometimes be able to adjust schemes, especially when these become politicised and negotiating on land use issues becomes critical.

It is more difficult to gauge the significance of the energy TENs reforms interaction with spatial planning concerns, though these are clearly present, for example in marine spatial planning, and in the implications for the long run sustainability of different sorts of regions. Figure 7 shows the implications of wind farm development in the northern seas, where international cooperation on a possible grid is at least under discussion. It is not so likely that planners will get involved in these regional groupings, which are likely to be dominated by the major companies and their ministry expert counterparts. However, when difficulties emerge in implementation, planners may find themselves involved.

Figure 7 about here.

From a planning perspective, the venture into the zone of permitting is a very interesting initiative, representing a possibly strong incursion into national regulatory territory. Whilst it is likely that a relatively soft approach will be used, perhaps not forcing member states in such permitting reform, a style of procedures is likely to be set by the Regulation which will gradually infiltrate national practice, especially where EU funding support is hoped for, support which will doubtless be dependent on moving towards the recommended model. The energy corporations can be expected to put maximum pressure on states who do not move to an expedited approval model. Whilst this is unlikely to be the precursor for the much discussed harmonisation of national planning regimes across Europe, it does represent a significant step for this rather special category of projects.

It may be noted that a significant exercise in institutionalisation has been taking place in this policy process. Both fields will now have European coordinators, with potentially strong brokerage power. The Corridor Development Platforms for transport (if they materialise) and the Regional Groups for energy are important new bodies. The Commission will be advised by a new committee for TEN-T, and the energy field already has ACER, the grouping of European national regulators. The European Railway Agency created in 2006 is the nearest thing to institutionalisation in the transport field. The drive for a single national competent authority for infrastructure projects will affect national institutions as well. All this is strongly sectoralised, and largely invisible to the public view, as is the norm at EU level, but they are already, or will be, important actors in infrastructure making.

These reforms could be highly significant for planners – and for all citizens. They lay out geographical templates in a way that has never been done before at the continental level in Europe. The move to designate a core network in transport, and articulating this as corridors, and the making of regional schemas in electricity, gas and to some extent for oil and for forms of storage, places an infrastructure overlay on the map of Europe. The authors of the ESDP might be green with envy, had they been able to integrate such an overlay with other forces affecting locational change. Transport infrastructure in particular could be extremely important over coming decades in locking in certain geographical patterns and dynamics,

giving locational advantage to some regions and disadvantage to others. The same will apply in the energy field, but how this plays out is very uncertain, as the marketisation of energy investment is considerably more advanced than in the transport field. Although the potentially radical decisions affecting any transition to a low carbon Europe will be extremely important in the long run, there must be doubts whether the TEN-E process will actually lead in this direction, rather than solidifying existing fossil fuel based and to an extent nuclear geographies. Decisions in the key national states will be vital, especially in Germany and France, influenced by their large energy corporations.

However the TENs reforms are far from the final steps in policy making around new infrastructures and cross European policy changes. The schemas laid out in both transport and energy are indeed much more detailed than those attempted before, and, if these survive the process of horse trading between member states, and pressures from other lobbies, this does leave rather less scope for subsequent detailing for planners at regional and urban levels. However such scope will still exist, and will be played out over the coming years as schemes get near to implementation, whether through the leadership of states, developers or in some cases EU brokered deals. This will in many cases mean that the integrating skills of spatial planners will come into the frame, as a major infrastructure scheme for say a rail line or transmission line, only sketched in broad terms in the TEN-T or TEN-E core networks or regional corridors, comes into the political jurisdictions of particular states or regions or cities. So even in the majority of the EU where no stronger macro regional working is present, there are likely to be opportunities for modest input to detailing of TENs schemes, and sometimes, where conflict emerges, more major roles.

The relationship between the TENs reforms and spatial planning: possible impacts on spatial planning in the long term – ideas and imaginaries

The “real” impacts on geographies are likely to be very considerable, if these packages are approved and implemented over the coming decades. They are meant to be for the long term, with schemes to be reviewed in 5-10 years time, but looking at the horizons of 2020, 2030 and 2050, as is no doubt appropriate for investments of this range and type. Given the long life of most infrastructures of this kind, they are likely to be therefore framing life into the twenty second century – or involving some extremely costly write-off of mistaken investments, which took the continent on multiple wrong tracks. Many of the elements of the schemas are likely to be contested, from contrasting positions on the political or philosophical spectrum – too green, not green enough, too directive, not market sensitive enough and so on. However, if approved, they may over time impact on the shape of the continent and also how people think about that shape and shaping. If one imagines the changes wrought in recent years by essentially unplanned changes in the transport systems, such as low cost flights from different national locations, or the evolving high speed rail networks, it is clear that these have changed how we think about Europe (Jensen and Richardson 2004, McNeill 2004). The freight corridors and proposed energy geographies may be somewhat less near to the thinking of most people or opinion formers, but over time, the fact that say half the energy supply came from wind farms on and off shore, often within the jurisdiction of other countries, would create one way of thinking about our interdependencies. A similar shift to locally based solar or related electricity generation would create another change in how we think of our ways of life geographically – a downscaling of imaginaries and spatial linkings.

A previous study of national planning and its absence generated reflections about the forming of such ways of thinking about big scale geographical change (Marshall 2012a). Such thinking appears to have a continuing national presence in some countries, such as the Netherlands and France, and, if in much more negotiated and conflictual ways, in Germany and Spain, reflecting their federal or proto-federal natures. It is generally resisted in the more peculiar hybrid UK state, as in some other countries which cannot perhaps “afford to” speak or think openly about their geographical nature and balances. The impossibility of an intelligent debate about the HS2 project (high speed rail line) in the UK, in the absence for over three decades of a mature spatial framing, shows how critical such absences can be in real world decision making.

At the continental level, there can be little in the way of a shared imaginary, with horse trading between member states largely taking the place of any explicit consideration of what could or should be done where – hence the nature of EU spatial planning or its absence. However, the TENs schemas do seem to be a first example of placing very definite prioritising of corridors on maps. In debating them, fighting them, implementing them, many people will come into contact with the idea that say the north-south freight route across the Alps is important to European functioning, and its planning might usefully be shared (Hesse 2010). Equally, a shift to a genuinely low carbon future has a massive geographical component, alongside the issues of principle about fuels, external security and so on. If there is to be a sensible use of the energy potentials of the North Sea, for example, planning will be unavoidable, with an underwater offshore transmission network looking the “obvious” course of action. Nevertheless that does not mean that such planning will occur, as the large obstacles in its path make clear (House of Commons, Select Committee on Energy and Climate Change 2011). Maritime spatial planning is emerging as a new practice, and though it will have specialised and technical elements, the effect over time on how everyone thinks about seas and their “services” to states near them, must change our geographical imaginings.

This is not to argue that the TENs schemas in themselves will start to make explicit thinking about geographies more central to politics. No doubt such thinking goes too near the bone of numerous power interests and threatens to open too many democratic and radical questions to wider view. However, the simple fact of the EU getting involved in such areas may impact on what national states (or regions) feel they may need to do – perhaps even reinventing national spatial planning in the Dutch or Scottish mode. The making of National Infrastructure Plans in the highly liberalised UK may be one sign of an understanding of the need for new kinds of national steering (HM Treasury 2010, 2011).

Understanding and explaining the encounter of the TENs reforms and spatial planning

So, how can this particular intersection of a set of sectoralised reforms and spatial planning be understood and explained? How far can the intersection be explained by features of the governance and management of infrastructure steering in Europe, at all levels? Here it is argued that a combination of rescaling and sectoralised policy processes goes some way to explain the nature of the reforms and how they are likely to play out.

Geographers and political scientists have long considered the shifting of scales underway since the 1980s (Brenner 2004, Jessop 2002, 2008), whereby the EU has taken on more “meta-governance” roles, whilst leaving the states, and in some cases regions and city authorities, with major powers over the levers of economic and social change in their territories. The single market project, and the associated “annexes” mentioned above, were

critical ingredients of this shifting kaleidoscope which has made the EU such a core element of government in the last two decades – as the post 2008 economic crisis has made ever clearer each year. This rescaling is linked to the difficulty in making democracy work during the same period, and can be seen as an attempt to depoliticise key decision making areas. As was argued long ago, rescaling is often deeply political (Swyngedouw 1997). This change in vertical articulation of governing can also be usefully linked to the horizontal question at the core of all planning, given the powerful “silo” effect in most governing systems, which, we have seen, is strongly present in the TENs reforms. Between them, changes in scaling of governing and the extent of sectoralised policy making are critical dimensions of the way major infrastructure is governed in present day Europe. This assemblage of mechanisms is reflected powerfully in the form of the TENs reforms and in part conditions the nature of the linking to spatial planning.

Rescaling is variable across policy fields, as any text on the EU makes clear. What we see here is a move to recalibrate governance in one field, one highly relevant to the interests of planners and territorial specialists. The peculiar melange of forces that is the polity of Europe (states plus the EU’s institutional formulas and behaviours) has moved on again, completing the work of the 1980s and 1990s. Seen as a whole, this can be seen as a further distancing of decisions from wider political and democratic control. This is inherent in the project of neoliberalisation, which is in its essence hostile to strong democratic control of major decisions – such as the future shapes of countries, industries, ways of life. If these can be hived off to economic decision makers remote from electoral or pressure group influence, and where necessary, if powers can be allocated to governance assemblages and polities which are equally difficult to understand, track and affect, then there is more scope for the “powers that be”, and less for “the many” within that governance machine. The new structures created in the TENs systems appear to have much of this character.

It may be said that schemes will be locally resisted, that depoliticisation never really works, that pressures pushed aside at one level will burst out elsewhere. This may be true, but it leaves a highly uneven spread of resistances, which may have high societal costs, and may result in a pattern of investment to the liking of hardly anyone, and inefficient in achieving wider agreed goals. The result may not be depoliticisation of investment decisions in the full sense, but certainly the removal of effective democratic steering over the key long term patterns of life. In the long run, de-democratisation generates depoliticisation, or perhaps more precisely the narrowing of political life to the activities of a small range of elites (Flinders 2012, Hay 2007).

There is a great deal more to be said on the issues of democratisation or otherwise in the EU and in planning, going beyond the discussion of representative and deliberative elements, to consider the claims of different publics and actors (Saward 2010), but this is not the place to enter these complex areas of political discussion.

The strongly siloed or sectoralised character of the TENs schemas is another major ingredient which acts to form the governing ensemble managing infrastructure sectors now. In this it mimics normal state behaviour (Marshall 2012a). It is normal for policy making for energy or transport to be highly sectoralised, often subsectoralised (for just roads, rail, ports, or just for gas, nuclear, renewables, oil etc). There are exceptions, where a more integrated approach has been taken, as in the famed Dutch national spatial planning, or the work of the Grenelle in France to try to integrate across sectors. It is true that the EU TENs efforts have strived to at least integrate above subsectors. The TEN-Ts schemas are remarkable for really

trying to integrate freight routes, linking rail and ports above all. And the energy schemas do try to make connections between different fuels and storage needs, going above the individual fuel sectors. But, as we have seen, there is not much integration beyond this in a geographical sense, so sectoralism remains dominant.

We can see therefore how new forms of policy making are being institutionalised and naturalised, by the shifts in scalar governance, and by the forming of organisational structures, deliberately created as policy silos. This necessarily generates a separation from spatial planning. Whilst rescaling promotes the geographical steering of big infrastructure at a high, to an extent continental, scale, spatial planning's instruments and structures have been cut back at national and often regional scales, and conscious comprehensive steering is largely absent continentally. So a complete mismatch of policy scales is being generated. Furthermore, silo based policy making damages good spatial planning at all scales, cutting out a major way in which deliberation on societal futures could be secured within democratic forms. But, as explained here, the impacts on spatial planning concerns, on real geographical change, occur nevertheless, and it will be up to those concerned with spatial change, including local and regional pressure groups, NGOs, planners and many others within local and regional governments, to become aware of the potential impacts of the TENs reforms schemas, if they are approved, on the geographical zone which interests them.

Summary, and reflections on possible ways to improve the relationships between the TENs reforms and spatial planning

In summary, it has been argued that the TENs reforms could have important impacts on spatial planning concerns, even though they have been prepared largely in sectoral policy arenas, with little effort in most parts of Europe to make links to the realities of real geographies with their integrated interactions (the case of macro regions like the Baltic with a history of big scale spatial planning deliberation, including on infrastructures, is exceptional). The impacts will be in part quite concrete, as the implication of a major freight route or energy transmission line is played down into real regions and localities. The impacts will also be potentially long term, as some sort of infrastructure led imagining of Europe's geographical skeleton takes root over coming decades, no doubt with many changes along the way to the schemas being currently discussed.

In response to the second question, it has been argued that much of the way the TENs reforms could impact on spatial planning can be understood by analysing the ways the governing and policy making structure is set at all the relevant levels. Policy making for the major infrastructure is being scaled upwards, whilst spatial planning at the upper scales (international, national, regional) is in most EU states being weakened. Sectoralised planning is much stronger than any kinds of more comprehensive planning. This interplay of scale and silo generates a problematic relationship between planning for major infrastructure and spatial planning. Given this argument, one way to make improvements in the future would evidently be to tackle the various elements of this situation, but of course this would be an enormous challenge, given the powerful forces fuelling rescaling, and the always strong tendencies to policy making in sectoral terms.

This paper is not primarily intended to sketch possible responses to these new ways of managing infrastructure investment in these two fields. Like many observers, I am sympathetic to some of the substantive content (such as the goal to shift freight to more environmentally friendly modes, and some aspects of the facilitation of a low carbon energy

world), less so to other parts. The question here is rather what link to spatial planning might be valuable, if any, and how that might be progressed. The difficulty here is that the European polity is such a difficult species, that it is challenging to think of a way that might usefully link together real life concerns of populations and their democratic representatives and these very high level proposals. In principle, both the whole schemas and the details in each corridor should be examined by national and lower authorities, in the full view of the public sphere. This would, in many countries, be very difficult to do with any real evidence base, given the dismantling or weakening of planning capacity at most levels in many cases in recent years. If critical views were extensive, this would be a message that the schemas needed reworking, making more integrated links to national and regional development aspirations. Again, such reworking would be difficult, as many European states and regions may now lack clearly based goals formed from competent spatial planning processes. Such national and regional strategies would be needed, in principle, so that the corridor proposals could be checked as to their sense in relation to these schemes – in the same manner as the Raumordnungsverfahren process in Germany. Another way of putting this would be to subject the schemas to Territorial Impact Assessments, if such an instrument ever comes to exist (Bohme and Eser 2008).

Beyond such a procedure, it would be valuable if the EU developed some analytical spatial planning capacity in order to influence the making of such sectoral schemas. Whilst this might have been seen as an unnecessary luxury in the 1990s, the degree of impact and intervention envisaged in the TENs reforms does point to the value of such a capacity. Although for the moment this might be a case of closing the stable door after the horse had bolted, there may well be further such initiatives with major spatial implications, and the formation of such planning capability, well beyond the valuable but essentially research based input of Espon, would easily prove its worth in that case.

Macro-regional strategies, as mentioned above for the Baltic and Danube, might be one ingredient of a more integrated approach, but it is unlikely that such strategies will become widespread, given the logical resistance of larger states to such stronger collaboration. A fuller examination of the Baltic case and the links to current TENs packages should reveal the value of a continuing integrated spatial planning over many years. But we should not hold our breath with the idea that such strategies will emerge elsewhere as containers for future planning of big infrastructure. If that is to happen, it is more likely to occur at the national level, through a return to some sort of national spatial planning. In a neoliberalising world, however, the real and ideological barriers to such a return are significant.

Of course at a wider level, the debate is always a political one about what sort of Europe is desired. Should it be a minimal budget and economy-driven model as at present (the Anglo Saxon form blended with some Rhineland elements, as Faludi and Peyrony 2011 have it), or something more like their European model, with far stronger EU policies and territorial cooperation? Should it be economic growth driven and based on market dominance, or with more social and environmental priority? Infrastructure industries are increasingly in the marketised zone, and so more resistant to spatial planning, and so the current TENs packages fit into these givens of the EU political economy. For the moment realities seem to be that the main scope for a meeting with spatial planning will be in the detailed regional working – the Corridor Development Plans, the regional energy packages. Planners would do well to keep their eyes on how these new forms develop.

Acknowledgements

I would like to thank the interviewees mentioned in the endnote, and comments received from participants at the AESOP congress at Ankara in July 2012, particularly David Evers and Thomas Fischer, and from John Glasson. I am also grateful to two anonymous referees, for their helpful criticisms.

References

- Badenoch, A. and Fickers, A. eds (2009) *Materializing Europe* (Basingstoke: Palgrave Macmillan).
- Bohme, K. and Eser, T. (2008) 'Territorial impact analysis of EU policies', in Faludi, A. ed *European Spatial Research and Planning*, (Cambridge MA: Lincoln Institute of Land Policy).
- Brenner, N. (2004) *New State Spaces*, (Oxford: Oxford University Press).
- CEC (2007) *Trans-European networks: Towards an integrated approach*, COM(2007) 135 final, 21/3/2007, (Brussels: CEC)..
- CEC (2008a) *Trans-European Transport Network: Implementation of the Priority Projects. Progress Report*, (Brussels: CEC).
- CEC (2008b) *Towards a secure, sustainable and competitive energy network*, COM(2008) 782 final, 13/11/2008, (Brussels: CEC).
- CEC (2008c) *Green paper on territorial cohesion: Turning disparity into strength*, COM(2008) 616 final, (Brussels: CEC).
- CEC (2009a) *TEN-T: A policy review*, COM(2009) 44 final, 4/2/2009, (Brussels: CEC).
- CEC (2009b) *EU Strategy for the Baltic Sea Region* (Brussels: CEC).
- CEC (2009c) *A Sustainable Future for Transport* (Brussels: CEC).
- CEC (2010a), *Europe 2020. A strategy for smart, sustainable and inclusive growth*, COM(2010) 2020 final, 3/3/2010, (Brussels: CEC).
- CEC (2010b), *Consultation on the future Trans-European transport network policy*. Commission working document, COM(2010) 212 final, 4/5/2010, (Brussels: CEC).
- CEC (2010c), *Proposal on TEN-T network planning*, by Expert group 1, Methodology for TEN-T planning, (Brussels: CEC).
- CEC (2010d) *The European Union Strategy for the Baltic Sea Region. Background and Analysis*, May 2010, (Brussels: CEC).
- CEC (2010e), *TEN-T policy review – background papers*. Commission staff working document, SEC(2010) 613 final, 11/5/2010, (Brussels: CEC).
- CEC (2010f), *Summary of the impact assessment (for Energy infrastructure priorities for 2020 and beyond)*, SEC(2010) 1396 final, 17/10/2010, (Brussels: CEC).
- CEC (2010g), *The EU Budget Review*, COM(2010) 700 final, 19/10/2010, (Brussels: CEC).
- CEC (2010h), *Conclusions of the fifth report on economic, social and territorial cohesion: the future of cohesion policy*, COM(2010) 642 final, 9/11/2010, (Brussels: CEC).
- CEC (2010i), *Energy 2020. A strategy for competitive, sustainable and secure energy*, COM(2010) 639 final, 10/11/2010, (Brussels: CEC).
- CEC (2010j), *Energy infrastructure priorities for 2020 and beyond – a blueprint for an integrated European energy network*, COM(2010) 677 final, 17/11/2010, (Brussels: CEC).
- CEC (2010k) *European Union Strategy for the Danube Region*, SEC(2010) 1489 Final, Commission Staff Working Document, December 2010, (Brussels: CEC).
- CEC (2010l), *The future role of regional initiatives*, COM(2010) 721 final, 7/12/2010, (Brussels: CEC).
- CEC (2010m), *Investing in Europe's Future. Fifth report on economic, social and territorial cohesion*, (Brussels: CEC).
- CEC (2010n) *EU Strategy for the Baltic Sea Region. Action Plan*, December 2010 (Brussels: CEC).

- CEC (2010o), *Energy infrastructure priorities for 2020 and beyond – a blueprint for an integrated European energy network*, DG Energy booklet summarising COM(2010) 677 final, Brussels: CEC.
- CEC (2011a) *Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system*, COM(2011) 144 final, (Brussels: CEC).
- CEC (2011b) *Proposal for a Regulation of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network*, COM(2011) 650 final, (Brussels: CEC).
- CEC (2011c) *Proposal for a Regulation of the European Parliament and of the Council on guidelines for trans-European energy infrastructure*, COM(2011) 658 final, (Brussels: CEC).
- CEC (2011d) *A growth package for integrated European infrastructures*, COM(2011) 676, (Brussels: CEC).
- CEC (2011e) *Panorama*, 38, p. 38, (Brussels: CEC).
- Duhr, S., Colomb, C. and Nadin, V. (2010) *European Spatial Planning and Territorial Cooperation* (Abingdon: Routledge).
- Entso-e (2012) *Ten-Year Network Development Plan 2012* (Brussels: Entsoe).
- Entso-g (2011) *Ten-Year Network Development Plan 2011-2020* (Brussels: Entsog).
- European Round Table of Industrialists (1984) *Missing Links*, (Brussels: ERT).
- European Round Table of Industrialists (1991) *Missing Networks*, (Brussels: ERT).
- Evers, D. (2012) The significance of European policy in the context of decentralization of planning: The case of the Netherlands, paper presented at AESOP congress, Ankara, 10-14 July 2012.
- Faludi, A. (2000) ‘The performance of spatial planning’, *Planning Practice and Research*, 15, pp. 299-318.
- Faludi, A. (2010) *Cohesion, coherence, cooperation. European spatial planning coming of age?*, (Abingdon: Routledge).
- Faludi, A. and Peyrony, J. (2011), Cohesion policy contributing to territorial cohesion – future scenarios,
- Faludi, A. and Waterhout, B. (2002) *The Making of the European Spatial Development Perspective – not a Master Plan!*, (London: Routledge).
- Fischer, T. (2012) ‘Best value for the taxpayer?’, *Town and Country Planning*, 81, 2, 70-73.
- Fischer, T. and Sykes, O. (2009), The TEN-T – an environmental pitch, *Town and Country Planning*, April, 198-200.
- Flinders, M. (2012) *Defending Politics*, (Oxford: Oxford University Press).
- Flyvbjerg, B., Bruzelius, N. and Rothengatter, W. (2003) *Megaprojects and Risk*, (Cambridge: Cambridge University Press).
- Hay, C. (2007) *Why we hate politics*, (Cambridge: Polity).
- Hesse, M. (ed.) (2010) *Neue Rahmenbedingungen, Herausforderungen und Strategien für die grossräumige Verkehrsentwicklung*, (Hanover: ARL).
- HM Treasury (2010) *National Infrastructure Plan*, (London: HM Treasury).
- HM Treasury (2011) *National Infrastructure Plan*, (London: HM Treasury).
- House of Commons, Select Committee on Energy and Climate Change, (2011), *A European Supergrid*, Seventh Report of Session 2010-12, (London: House of Commons).
- Jensen, O. and Richardson, T. (2004) *Making European Space*, (London: Routledge).
- Jessop, B. (2002) *The Future of the Capitalist State*, (Cambridge: Polity).
- Jessop, B. (2008) *State Power*, (Cambridge: Polity).
- Knippschild, R. (2011) ‘With “Regional Territory Agendas” towards territorial cohesion?’ *Studies in Agricultural Economics*, 113, 133-137.
- McNeill, D. (2004) *New Europe: Imagined Spaces* (London: Arnold).
- Marshall, T. (2012a) *Planning Major Infrastructure*, (Abingdon: Routledge).

- Marshall, T. (2012b) 'Infrastructure planning UK style', *Town and Country Planning*, 81, 2, 74-76.
- Metzger, J. and Schmitt, P. (2012) 'When soft spaces harden: the EU strategy for the Baltic Sea' *Environment and Planning A*, 44, 263-280.
- NEA (2010) *Ports and their connections within the TEN-T* (Zoetermeer: NEA).
- OECD (2006) *Infrastructure to 2030. Telecom, Land Transport, Water and Electricity*, (Paris: OECD).
- OECD (2007) *Infrastructure to 2030. Mapping Policy for Electricity, Water and Transport*, (Paris: OECD).
- OECD, (2011). *Strategic Transport Infrastructure Needs to 2030. Main Findings*, (Paris: OECD).
- Peters, D. (2003) 'Cohesion, polycentricity, missing links and bottlenecks: conflicting spatial storylines for pan-European transport investments', *European Planning Studies*, 11, 3, 317-339.
- Priemus, H., Flyvbjerg, B. and van Wee, B. (eds) (2008), *Decision-Making on Mega-Projects: Cost-benefit Analysis, Planning and Innovation*, (Cheltenham: Edward Elgar).
- Ramboll/Mercados (2008) *TEN-E Energy Priority Corridors for Energy Transmission*, report for European Commission, November 2008.
- Roland Berger (2011) *Permitting procedures for energy infrastructure projects in the EU: evaluation and legal recommendations*, (Berlin/Brussels: Roland Berger strategy consultants).
- Saward, M. (2010) *The Representative Claim*, (Oxford: Oxford University Press).
- Schipper, F. and van der Vleuten, E. (2008) 'Trans-European network development and governance in historical perspective', *Network Industries Quarterly*, 20, 3, 5-7.
- Scoppetta, C. (2012) Synaptic spaces of Europe: A challenge for spatial planning, paper presented at AESOP congress, Ankara, 10-14 July 2012.
- Sielker, F. (2012) The EU strategy for the Danube region - The emergence of soft spaces and the role of actors, paper presented at AESOP congress, Ankara, 10-14 July 2012.
- Stead, D. 2011 'European macro-regional strategies: indications of spatial rescaling?', *Planning Theory and Practice*, 12, 1, 163-167.
- Swyngedouw, E. (1997) 'Neither global nor local: 'glocalization' and the politics of scale', in Cox, K. (ed.) *Spaces of Globalization; Reassessing the Power of the Local*, (New York: Guildford), pp. 137-166.
- Transport and Environment, CEE, Birdlife, (2011) *Briefing. Transport in the EU Budget: Making spending sustainable*, (Brussels: T and E).
- Van der Vleuten, E. and Kaijser, A. eds (2006) *Networking Europe* (Sagamore Beach: Science History Publications).
- VASAB (2009) *VASAB Long-term Perspective for the Territorial Development of the Baltic Sea Region, Background Synthesis Document*, (Riga: VASAB Secretariat).
- VASAB (2010) *VASAB Long-term Perspective for the Territorial Development of the Baltic Sea Region*, (Riga: VASAB Secretariat).

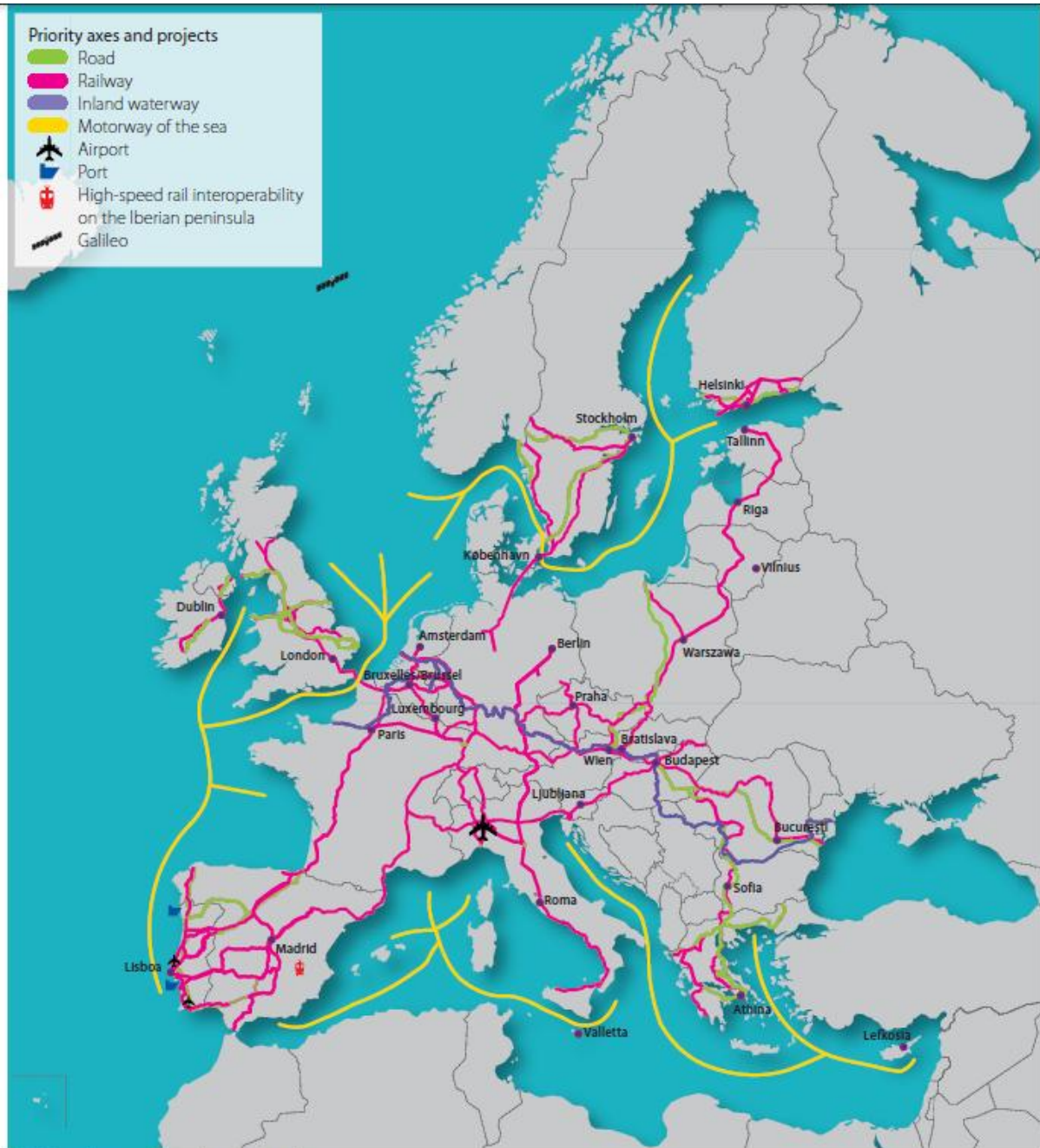


Figure 1

Trans-European transport networks (TEN-T) priority areas and projects in 2008

Source: CEC (2009) *A Sustainable Future for Transport*, Brussels: DG Energy and Transport, European Commission

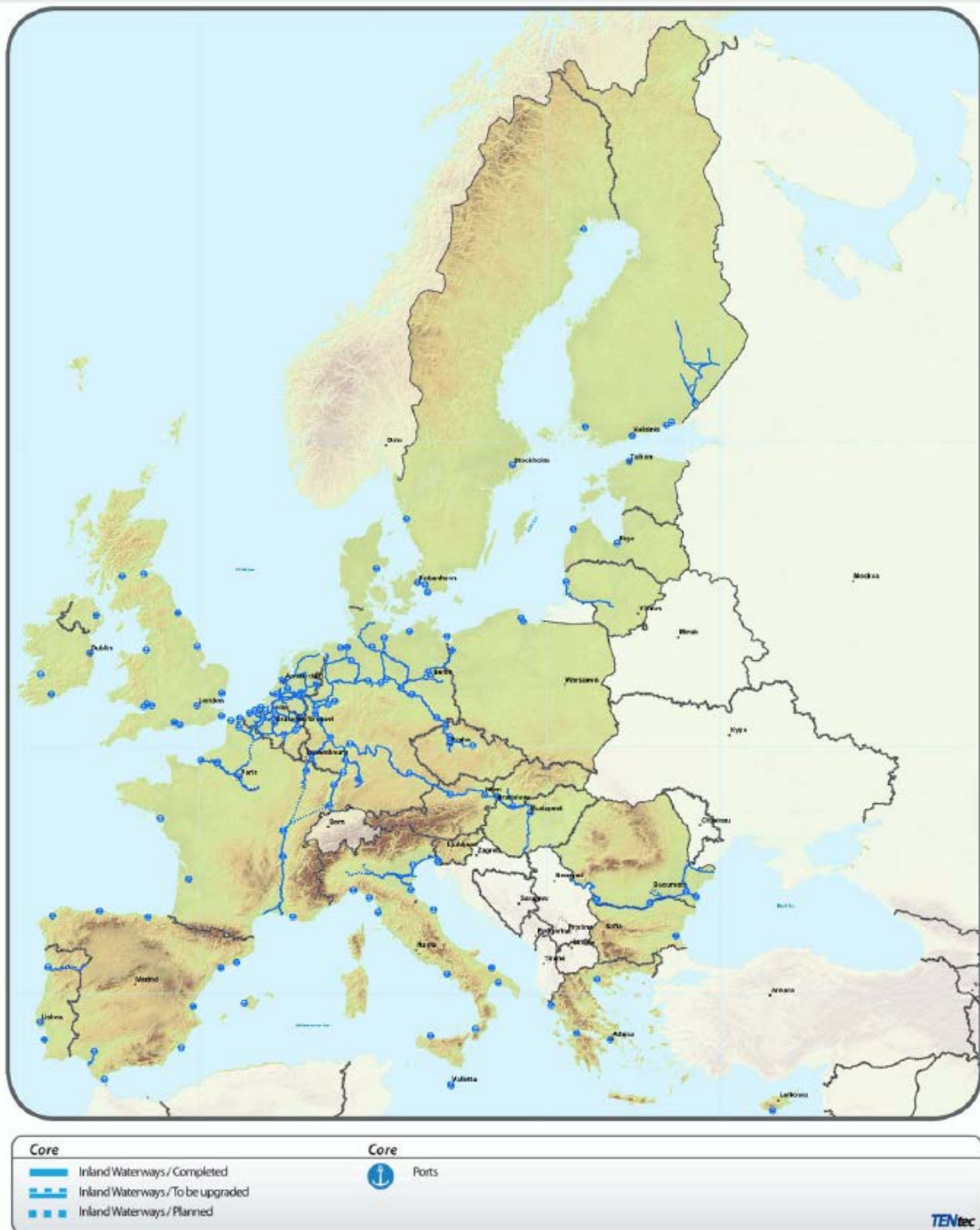


Figure 2

Trans-European Transport Network: Proposed core network, for railways (freight), ports, rail-road terminals (RRT),

Source: CEC (2011) Annex to proposal for a Regulation on Union guidelines for the development of the trans-European transport network, COM(2011) 650 final/2, Brussels: European Commission.

6. Genova – Rotterdam

Genova – Milano/Novara – Simplon/Lötschberg/Gotthard – Basel – Mannheim – Köln
 Köln– Düsseldorf – Rotterdam/Amsterdam
 Köln– Liège – Bruxelles/Brussel– Zeebrugge

Pre-identified sections	Mode	Description/dates
Genova - Milano/Novara - CH border	Rail	studies; works starting before 2020
Basel - Rotterdam/Amsterdam/Antwerpen	IWW	upgrading
Karlsruhe - Basel	Rail	works to be completed by the end of 2020
Frankfurt - Mannheim	Rail	studies ongoing
Zevenaar - Emmerich - Oberhausen	Rail	works to be completed until 2017
Zeebrugge	Port	locks: studies ongoing

Figure 3

The Genoa - Rotterdam corridor, showing works to be completed and some completion dates

Source: Source: CEC (2011) *List of Pre-identified projects on the core network in the field of transport*, part of TEN-T revision package on EU webpages:

http://ec.europa.eu/transport/infrastructure/revision-t_en.htm. Accessed 15 August 2012.

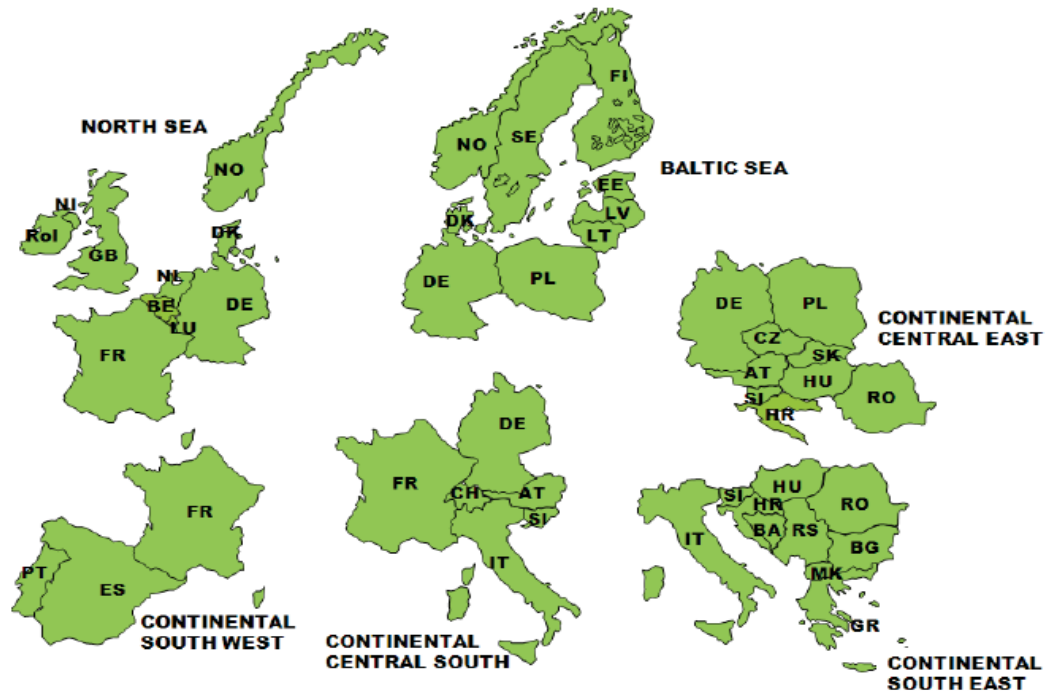


Figure 2.1: ENTSO-E regions (System Development Committee)

Figure 4

Regional groupings for developing analysis and proposals in ENTSO-E electricity schemas

Source: Entso-e (2012) *10 Year Network Development Plan 2012*, Brussels: Entso-e

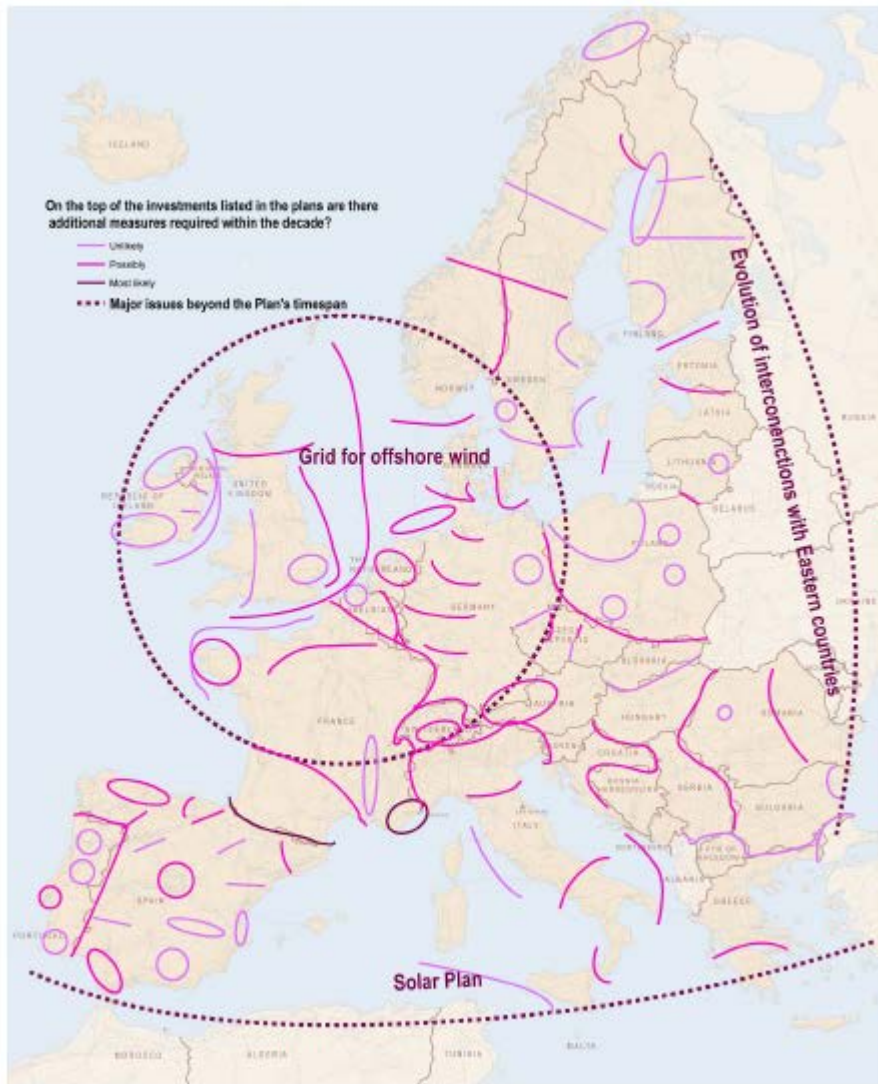


Figure 1.9: Transmission adequacy

Figure 5

Future challenges and indications of grid transmission adequacy, 2012

Source: Entso-e (2012) *10 Year Network Development Plan 2012*, Brussels: Entso-e

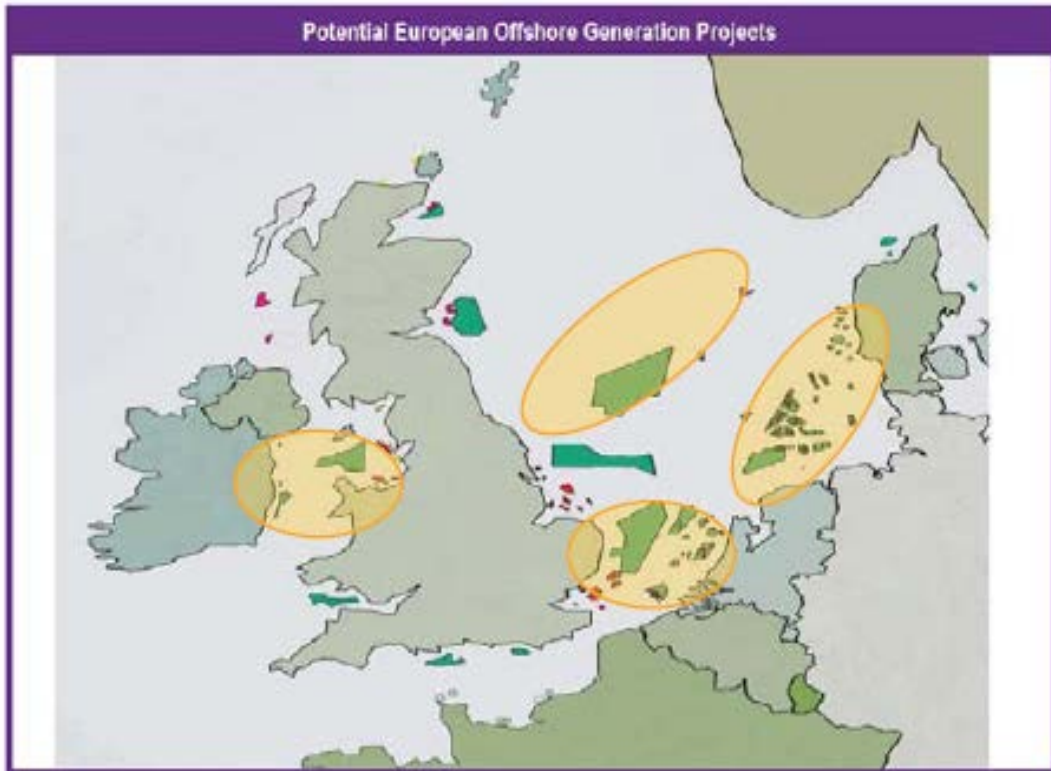


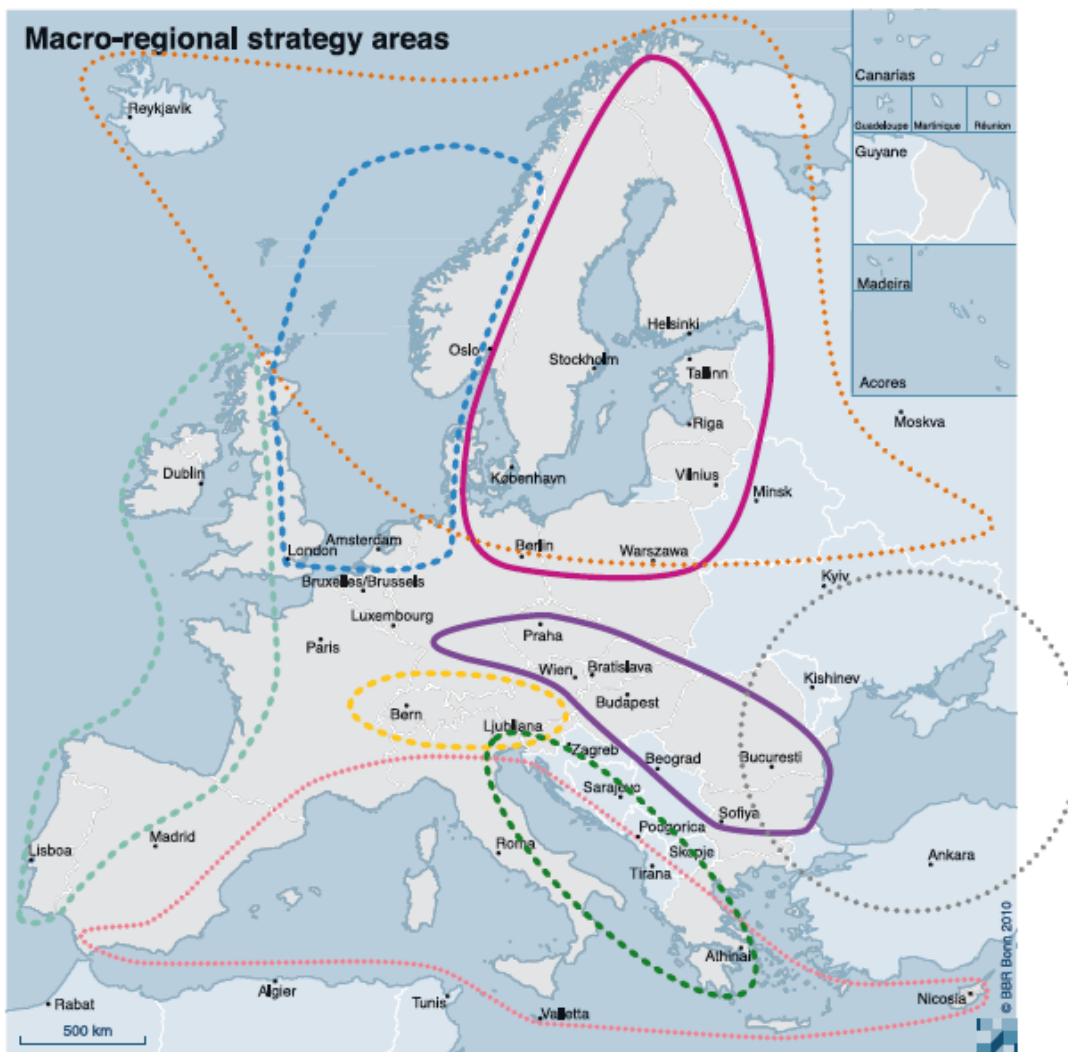
FIGURE 11-1 MAP OF OFFSHORE GRID RESOURCES

Figure 6

Likely sites of wind farm development areas, from marine spatial planning, with implications for long term marine grids

Source: Entso-e, (2012) *Regional Investment Plan North Sea 2012* (consultation draft March 2012), Brussels: Entso-e

FIGURE 1: MACRO-REGIONAL STRATEGY AREAS IN THE EUROPEAN UNION



Core areas of macroregional strategies of the European Union

- | | | | |
|-----------------------------------------------------------------|-------|--------------------------------|-------|
| Existing or adopted | | Under discussion | |
| European Danube Strategy | — | European North Sea Strategy | — |
| EU Strategy for the Baltic Sea Region | — | Atlantic Strategy | — |
| Existing of different character | | Alpine Strategy | — |
| Mediterranean Strategy | ••••• | Adriatic-Ionic Initiative | — |
| Black Sea Synergy | ••••• | Regionen NUTS 2 | ••••• |
| Northern Dimension (EU, Norway, Iceland and Russian Federation) | ••••• | Geometrische Basis: GFK MACON | |
| | | Quelle: Europäische Kommission | |

SOURCE: BBSR RESEARCH NEWS 2/2010 AND UPDATES FROM VARIOUS SOURCES

(http://www.bbsr.bund.de/cln_016/nn_222942/sid_E9C9BA6FC5A05BEF2E330F00BC994994/BBSR/EN/Publications/ResearchNews/researchnews__node.html?__nnn=true)

Figure 7

Core areas of macro regional strategies of the European Union (existing or possible)

Source: Duhr S (2011) *Baltic Sea, Danube and macro-regional strategies: A model for transnational cooperation in the EU?*, Brussels: Notre Europe.

ⁱ Interviews at the European Commission in 2010 included those with Helmut Adelsberger, Transport Directorate, Kitti Nyitrai, Energy Directorate and Jean Peyrony, Regional Directorate, as well as, by telephone, with John Walsh, Regional Directorate, in 2012. I was also able to speak with Andrew Price in the UK Department for Transport, in 2011-2012. I am grateful to these interviewees for their help.

ⁱⁱ See the fascinating historical excavation by the Making Europe project, including Badenoch and Fickers 2009, Schipper and van der Vleuten 2008 and van der Vleuten and Kaijser 2006.

ⁱⁱⁱ This Act created a new body to take decisions, the Infrastructure Planning Commission (IPC), emphasising both pre-application consultation by developers, and faster decision making once an application was submitted. The other element of the Act was to create National Policy Statements for each sector, to be approved by government. This Act was revised by the next government in the Localism Act 2011, which abolished the IPC, but created a similar body within the Planning Inspectorate, although ministers again make final decisions.

^{iv} Espon is the EU supported network of spatial planning research, which since 2002 has assembled large scale data and analysis on European territorial trends and policies: <http://www.espon.eu>