ERGEG's response to the European Commission's Communication "An Energy Policy for Europe"

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Executive Summary

i) The **European Regulators' Group for Electricity and Gas (ERGEG)** strongly welcomes the communication from the European Commission to the European Council and the European parliament "An Energy Policy for Europe" [1] and its commitment to single energy markets in electricity and gas as the only means of achieving the EU's core objectives of "sustainability, security and competitiveness". This ERGEG response, which focuses on the internal energy market, represents the ERGEG advice to the European Commission.

ii) A single European energy market does not currently exist; nor does a comprehensive EU-level regulatory framework to facilitate and oversee such a market. The existing regulatory picture is one of primarily national frameworks, although within a growing regional framework. Present EU legislation addresses only a limited subset of cross-border issues. The resultant "regulatory gap" creates uncertainty which acts as a barrier to the necessary investment.

iii) The European regulators believe that the time has come to bridge that gap and to create a comprehensive EU-level regulatory framework which builds on the roles and responsibilities of the existing, successful, national and emerging regional models. The heart of such a framework must remain the promotion of competition and investment, and the central importance of integrated single European grids for electricity and gas as the basis for a single energy market. This paper sets out the requirements we believe will be needed to establish a new and strengthened legislative framework and the required regulatory arrangements.

Key features of the proposed model are:

- **The development of integrated single grids for the EU internal market in electricity and gas (3).** Current networks have been built and developed primarily for national purposes. Insufficient interconnectors, bottlenecks and unclear competences are a hindrance to the achievement of the single EU market. A pan EU-grid must be identified

[1] COM(2007) 1 Final, {SEC (2007)12)} 10.01.2007.

by greater integration of national grids than there is today. This "EU grid" or "EU supergrid" will have the infrastructure capacity necessary to facilitate cross border flows, including interconnections and increased reinforcements, whilst "national" grids will continue as the infrastructure required to serve indigenous consumers.

- **Regulatory oversight at national and EU level (4).** Given that transmission networks are natural monopolies delivering services and a secure and efficient supply of energy in the wider interest of European energy customers, effective regulatory oversight is essential. A stable and predictable regulatory climate is also a prerequisite to provide the confidence to the capital markets to deliver the massive investments needed to build the integrated grid. Oversight arrangements should be based on the existing regulatory structures, both at Member State level where national regulators oversee the responsibilities of individual Transmission System Operators (TSOs) and at EU-level with ERGEG. Thus we propose that a European regulatory body, developed around the existing ERGEG structure, should be the model to oversee the collective responsibilities of EU TSOs.

- **Accountability (5)**. Whilst regulators and TSOs have central roles in the development an integrated EU grid and single EU energy markets, it is clearly essential that appropriate democratic accountability is ensured. Parallels might be drawn here with the "Level 1" framework principles in the Lamfalussy process.

- **Effective unbundling (6).** Effective competition requires that a TSO acts – and is perceived to act – independently of commercial interests in a strictly non-discriminatory manner. This is also essential to ensuring the necessary investment is forthcoming, and therefore to resolving to security of supply concerns. Action must be taken against the abuses of competition highlighted in the Commission's Sector Inquiry. Further consideration may be given to the regulators' role in the application of competition law. We do not make specific proposals in this paper for the unbundling of distribution networks. As a matter of principle, the level of unbundling required should be proportionate to the scope of the network operator for discrimination.

In order to deliver this model new legislation will be needed in order to:

- Define high level public interest objectives for the secure and efficient operation of an integrated EU grid.
- Place obligations on national transmission system operators (TSOs) collectively to develop European operating and security standards for the EU grid which meet the defined high level objectives.
- Develop two EU networks bodies for gas and for electricity (identified respectively as GIE*plus* and ETSO*plus*). The TSOs themselves should develop the detailed operating and security standards for the EU grid, and therefore only by acting collectively will they be able to fulfil their new EU obligations in respect of the EU grid.
- Place additional obligations on TSOs individually to comply with these European (as well as national) standards in the operation and development of their networks. Thus TSOs will remain responsible for the management, operation and development of their national networks, but will at the same time have a dual responsibility to ensure their network operates as part of the integrated EU grid.
- Define the roles and responsibilities of the TSOs to ensure that the necessary investment decisions meet the needs of the network users and ensure security of supply across the EU. Some of this investment will be driven by the European operating and security standards and be made by TSOs, which we consider to be an efficient means of achieving an integrated EU grid.
- Deliver an upwardly harmonised level of minimum powers and independence for each national regulator when acting at national level and collectively at EU level. This is essential for creating and maintaining a stable climate for investment.
- Place a responsibility on national regulators to oversee the secure and efficient development and operation of the EU grid. A duty should be laid on each national regulator to ensure that the TSO(s) under their jurisdiction build and operate their networks not only to the national standards but also to the required European standards.
- Enhance an existing European regulatory group. A collective and accountable regulatory body is needed to oversee the collective activities of ETSO*plus*/GIE*plus*. Given the present structure of the European market, this is best achieved by building on existing structures and enhancing the independent decision-making capacity of ERGEG*plus*,

which would be primarily responsible for approving the European operating and security standards and the methodologies for allocating costs and risks across borders. ERGEG*plus* would be fully accountable and independent and would retain responsibility for providing advice to the European Commission on measures required within the EU framework.

- Ensure effective market oversight and a duty to co-operate. As national markets become more integrated, distortions in one Member State will have their effects in another. Appropriate market oversight is thus essential both at national and EU levels by national regulators and ERGEG*plus.* There needs to be a mutual duty to co-operate placed on national regulators to allow for cross-border information exchange, investigation and enforcement. ERGEG*plus* should facilitate such co-operation amongst the national regulators.
- Ensure proper accountability through requirements on ETSO*plus*/GIE*plus* to publish annual reports on the performance of the EU grid and to require ERGEG*plus* to be accountable to the EU Institutions for the fulfilment of its EU duties.
- Ensure ownership unbundling of transmission assets, or at least an equivalent alternative without delay. For our energy regulatory arrangements, our preferred way to achieve this is full "ownership unbundling", although other options provided they deliver the required objectives could be envisaged, including the "independent system operator" model put forward by the European Commission. Alternative models may be less effective and may well involve significant, additional regulatory oversight. The scope of any agreed proposal on unbundling will thus need urgent scrutiny without in anyway delaying the introduction of this key policy requirement.

iv) This is an ambitious package, necessary to meet the important challenges of the "new energy era". Those challenges, however, cannot wait for the necessary political discussions in the negotiation of legislation. We must therefore identify complementary short term goals as well as this medium term vision.

v) With the following response to the European Commission's Communication "An Energy Policy for Europe" the European Regulators therefore call on the EU Institutions, including the forthcoming Energy and European Councils and the European Parliament, to:

- Politically endorse the Commission's commitment to competitive markets, and allow the Commission to bring forward the necessary legislative proposals, based on the model set out above, by summer 2007;
- Facilitate the agreement of these proposals via the co-decision process as soon as possible;
- And, in addition, facilitate practical progress and co-operation on the part of the Regulators in the interim period whilst legislation is negotiated, in particular by enabling a greater exchange of information, raising the domestic powers of national regulators, implementing ERGEG guidelines as soon as possible and providing full political backing to the Regional Initiatives in gas and electricity.

ERGEG's response to the Commission's Communication "An Energy Policy for Europe"

1 Introduction

1. The European Regulators Group for Electricity and Gas (ERGEG) strongly welcome the European Commission's Communication "An Energy Policy for Europe", the accompanying Communication on the internal market[2] and the final report on the Sector Inquiry. We also endorse the commitment to a successful internal energy market as the only way to achieve the Union's core energy objectives of "security, sustainability and competitiveness". ERGEG agree with the Commission's view that the objective of an internal European energy market has not yet been achieved and fully supports the Commission's intention to bring forward new legislative proposals in the course of 2007 to promote competition and investment.

2. The present paper focuses on the main requirements of such single market legislation and primarily on the regulation of the networks, where national energy regulators have particular expertise and responsibility. Where we have views on wider issues in the Strategic Energy Review e.g. on environmental and external issues, we will respond at a later date. The approach taken in this paper builds on the regulatory model that has already worked successfully in a number of member states. It also builds on the work that ERGEG has undertaken since 2003, including the papers published on the Electricity Roadmap[3]; the Gas Roadmap[4], the response to the Commission's Green Paper[5] and our work in developing the Regional Initiatives[6]. It responds to the specific proposals on these issues put forward by the Commission and presents proposals for moving further towards

[2] Communication from the Commission to the Council and the European Parliament - Prospects for the internal gas and electricity market/COM/2006/0841 final.

[3] The Creation of Regional Electricity Markets – An ERGEG Discussion Paper for Public Consultation, 8 June 2005.

[4] Roadmap for a Competitive Single Gas Market in Europe – An ERGEG Consultation Paper (Ref: E05-SEM-13-03), 21 November 2005.

[5] CEER Response to the Energy Green Paper, (Ref: C06-SEM-18-03), 11 July 2006.

[6] The Creation of Regional Electricity Markets – An ERGEG Conclusions Paper (Ref. E05-ERF-03-06a), 8 February 2006; and Roadmap for a Competitive Single Gas Market in Europe – An ERGEG Conclusions Paper (Ref. E06-GMI-02-03), 28 March 2006.

the comprehensive EU legal and regulatory framework that will be essential for the development of a genuine single energy market. More specifically, the paper covers:

a. **An overview of the legal and regulatory framework for a functioning single market:** including the roles and responsibilities of the principal actors;

b. **The development of the integrated, functioning European grids in gas and electricity necessary for the EU internal energy market:** defining EU grids and European standards and activities; responsibilities of national Transmission System Operators (TSOs) and requirements for an EU-level organisation (called here ETSO*plus*/GIE*plus*)[7];

c. **How effective and predictable regulatory oversight can be established:** creating a stable climate to foster investment; the powers and independence of national regulators, including enhanced and effective cross-border co-operation; EU-level regulatory powers and market monitoring; and the requirements for an EU-level organisation (an enhanced ERGEG*plus*);

d. **Accountability:** defining the public interest objectives of EU energy customers, especially for a secure, reliable and efficient supply of energy; and the necessary reporting structure of the enhanced ERGEG to the EU Institutions;

e. **Unbundling:** addressing the fundamental importance of effective unbundling, including the advantages of the Commission's preferred option of "ownership unbundling" over the alternative of an Independent System Operator (ISO) model. We support the European Commission's call for effective unbundling. "Ownership unbundling" is in principle our preferred option: it is the basis for the views expressed in this paper and the proposed regulatory framework. Accordingly if an ISO model is pursued some elements of the framework would require re-examining, notably the nature and degree of regulatory oversight that would be required but also the membership of ETSO*plus*/GIE*plus*. Our prime concern, however, is that whatever decision is taken at the political level, it must not lead to any reduction in the effectiveness of the approach nor delay its application.

[7] We call the required EU networks bodies here ETSO*plus*/GIE*plus* as the existing membership of ETSO and GIE appear to meet the necessary criteria. However, as is explained, we do propose bestowing powers and obligations on the proposed independent bodies which would need to be created in European legislation. The proposed institutions are therefore different to the existing organisations. The paper assumes that the bodies are constituted by effectively unbundled TSOs, which in the view of ERGEG, is an essential requirement.

3. Whilst new EU legislation is essential, progress cannot wait. We therefore need to define and pursue complementary short and medium term objectives. Given the urgency, scale and importance of the challenge, this paper sets out those measures that must now be taken forward within the existing legislative framework. ERGEG itself will continue its work throughout 2007, first on a series of recommendations and guidelines for implementation as soon as possible, and secondly on accelerating progress under the Regional Initiatives, including a broadening of present political support and the practical application of appropriate regional measures that contribute towards the establishment of a single EU internal energy market.

4. **European energy regulators join others in their call on the EU Institutions publicly to demonstrate their political will to reach the necessary decisions, based on the European Commission's proposals, and to encourage the Commission to bring forward the necessary legislative proposals by summer 2007. We further respectfully encourage Member State governments, the Energy Council, the European Parliament and the European Council to add their support to speed up progress towards more competitive EU energy markets. European Regulators will play their full part in further developing these ideas and will provide advice on any future legislative proposals. We will also continue to develop on a practical basis the necessary mechanisms and practice to ensure the effective pan-EU regulatory arrangements that are fundamental for a fully effective single energy market.**

2 The framework for a Single European Energy Market – an overview of roles and responsibilities

5. Markets, networks and regulatory design have each evolved to reflect their essentially national perspectives. The existing EU legal and regulatory framework, whilst acknowledging its incomplete implementation, is primarily designed to set the conditions for competitive markets *within* Member States. Recent events in 2006, however, have highlighted that security and operational standards as well as close cooperation between TSOs have a crucial, wider European dimension. An integrated transmission network, allowing gas and electricity to flow freely across borders as if it were a single grid, is a prerequisite for cross border trade and for the achievement of a truly internal EU energy market, and an essential contribution towards the resolution of Europe's security of supply concerns. The concept of an integrated European grid implies focussing on the development of existing national grids, thereby joining together national markets with each other, and crucially operating the national grids so that collectively they can be said to form a single grid. An EU-wide regulatory framework needs to be developed to provide a robust basis for infrastructure, trade and markets *across* borders, and one that promotes investment, security of supply and competition at an EU-level. Such a legal and regulatory model is central to the achievement of the goals the European Commission has outlined in its Communication 'An Energy Policy for Europe'. Arrangements that have been tried and tested at national level provide a sound basis for its development.

2.1 Roles commonly found at national level today

6. There are clear differences between gas and electricity markets but, from a strategic perspective certain common features can be identified and a homogenous regulatory approach can be adopted in both markets. At a national level, Transmission System Operators (TSOs) are currently responsible for the construction and operation of their domestic networks. Transmission networks are natural monopoly activities, whilst also delivering services which are in the wider public interest: the transmission networks for gas and electricity are central to the security of supply of national energy consumers, as well as to the operation of the marketplace. As a consequence, national networks and their operation are subject to regulatory oversight at national level to ensure that these public interest requirements relating to energy customers are met and that the networks are operated efficiently by their monopoly providers. Regulatory oversight, where properly

established, provides for the approval of strict standards to which the networks must be constructed and operated. The primary responsibility for the provision of the national transmission networks nevertheless remains with the national TSOs.

7. The key features of what is essentially a nationally-based approach are:
   - High level public interest objectives to ensure the security, reliability and efficiency of national networks established in law by national governments;
   - Detailed security and operating standards developed by national TSOs aimed at meeting the high level objectives whilst fulfilling the technical requirements relating to the national grid;
   - National regulatory approval of the proposed standards to ensure that they meet the high level public interest objectives in the best available way;
   - Ongoing review of the standards by TSOs and regulatory oversight by national regulators;
   - National regulatory monitoring and oversight to ensure compliance with the standards;
   - Public reporting, normally by the national TSO and the national regulator;
   - Penalties on the TSO for non-compliance with the requirements which are applied by the regulator;
   - Market monitoring and market oversight.

2.2 What is meant by "Operating and Security Standards"

8. The standards which a TSO must meet when operating and investing in its transmission network are described under a variety of terms throughout the EU and in national legislation. Terms include:
   - Transmission network security rules
   - Transmission network standards
   - Security and reliability rules and standards
   - Security and quality of supply standards
   - Safety and operational standards
   - Planning and operational standards
   - Grid Code
   - Operating and security standards

   All or part of such rules and standards can be part of a European Grid Code.

In our response we utilise the terms "Operating standards" and "Security Standards". They are the standards and rules which each TSO must follow when operating its network, and when investing in and maintaining its network (including national standards for the purely national parts of the network; and in addition EU standards where that network forms part of the integrated EU grid). Standards provide the mechanism through which TSOs can meet their higher (public interest) obligations by providing a secure, efficient and economic network at both domestic and European level. TSOs will need to bring forward new investments and to run their networks to ensure that they operate securely and efficiently and that they facilitate the efficient operation of both their national and the wider EU market. As it is the responsibility of the TSOs to develop and operate their networks to meet current and prospective demands of users (both of consumers and producers), it should be noted that the term 'security standard' therefore contains requirements relating both to security of supply and to meeting the (economically justified) needs of the market. Whilst European security standards have yet to be developed, operating standards do exist (as developed by UCTE and Nordel) which relate to regions of Europe including those which extend beyond the boundaries of the Union.

2.3 The existing EU framework

9. Very little of the national approach outlined above is reflected in European law for application at a European level. Cross border regulation is limited to a subset of issues including electricity inter-TSO compensations, capacity allocation and congestion management of interconnectors. The present legal and regulatory framework thus does not deal with the creation of European grids nor their regulatory supervision. The present EU legal framework must therefore be complemented and clarified in respect of the public interest that relates to European energy customers, and in order to ensure that all national TSOs comply with the European standards when dealing with the European grids. The model set out in this paper is intended to provide a comprehensive EU-level regulatory framework for the first time, whilst building on existing national models and developing the partial framework provided by existing EU legislation.

2.4 Roles in relation to a future integrated European grid

10. How a European grid functions has many similarities with that of a national grid: it is central to the security of supply of European consumers and to the operation of the European marketplace. The EU regulatory model must therefore reflect the national arrangements in respect of the primary division of roles and responsibilities between TSOs and regulators, whilst at the same time taking into account the interaction between those national and the EU responsibilities. Different issues arise in gas and electricity at an EU-level: in gas, for example, critical issues include the large pipelines that supply European markets from external sources, the existence of storage facilities and the development of LNG; whilst in electricity important issues include loop flow phenomena and land use permitting (as the network is predominantly above ground). Again, however, there are also substantial common features and a homogenous EU regulatory approach can be adopted in both markets.

11. The future European grid will comprise national networks which are joined together more effectively than today and operated as part of an integrated whole. The European grid will need to be defined in law and regulation so that each participating TSO will be clear what is required of its own organisation and its network as part of the European grid as a whole. Whilst there are a number of definitions of the EU grid in EU law (such as Article 2 of Decision 1229/2003/EC relating to Trans-European networks, and Article 3 of Regulation 1228/2003/EC relating to the electricity inter-TSO compensation scheme), none is appropriate for this purpose and a more precise definition will be necessary. The development of an integrated European grid by joining together national grids will require massive investment at national, regional and EU level. It will also require demanding planning and co-ordination of functions.

12. Against this background the roles and responsibilities of the different actors in an EU framework will be defined as follows:

2.5 National TSOs

13. National TSOs will continue to be responsible for the management and operation of their individual networks, each of which will be a component part of the wider European grid. Their primary responsibility for the development of their national networks will need to

coexist with a broader collective responsibility to build and operate the European grid in a way which meets public objectives for its secure and efficient operation as established in EU legislation. **Each TSO will thus have a dual responsibility – for the management of the national network, and for the participation of its network in the European grid.**

2.6 EU networks bodies

14. Since no individual TSO acting alone can fulfil all of the European responsibilities identified above, some of which must be fulfilled by TSOs acting collectively, an organisation for gas and another for electricity will be required to act on behalf of the national TSOs in fulfilling their collective European responsibilities. These bodies will also facilitate the co-ordination and co-operation between TSOs which will be necessary for the operation of the European grids. These bodies will together need to be responsible for bearing the cost of the penalties in respect of any breaches which relate to the TSOs' collective EU responsibilities, with the power to attribute such costs to the relevant, constituent national TSO(s). Membership of the two bodies should include effectively unbundled TSOs with no interests or affiliates in the competitive areas of the market[8]. The current (EU) membership of ETSO and GIE should be the basis for the two new EU networks bodies which we identify as "ETSO*plus* and GIE*plus*"[9].

2.7 National Energy Regulators

15. National Regulators are responsible for ensuring that market participants and networks companies work in the public interest within a framework set out in national legislation. Their essential functions are to oversee the activities of the relevant TSOs within their jurisdiction and to ensure that each TSO complies with its national responsibilities. National energy regulators will similarly be responsible in the future for ensuring that each TSO in their jurisdiction fulfils the relevant European responsibilities. In respect of the European requirements that relate to the role of its national network as part of the wider European grid, additional powers and responsibilities (in legislative form) will be

[8] Whilst the responsibilities of TSOs would be clear if full ownership unbundling is adopted, further (more complex) definition would be required if an ISO model were adopted.

[9] See footnote 7.

needed. This reinforces the need for greater regulatory independence of national regulators from both industry and political influence in undertaking their work. Such independence will help achieve enhanced regulatory certainty. In addition their EU duties must be framed in such a way that national responsibilities do not override their wider European ones.

16. A distinctive feature of national regulators is their establishment by legislation with their duties and functions set down in national law. Unlike commercial enterprises, regulatory bodies can do only those things established in law (whereas, generally, commercial bodies can act provided it is not prohibited by law). These new EU functions for national regulators will therefore need to be based on new EU legislation.

2.8 Enhanced European regulatory function – 'ERGEG*plus*'

17. As with the national TSOs, no individual national regulator will be able to oversee the fulfilment of the collective (as opposed to the individual) responsibilities of TSOs. Therefore an appropriate EU-level regulatory organisation will need to be created in EU legislation to oversee these collective European obligations. The starting point for such changes should be existing structures: the required outcomes can best be achieved by building on the powers of ERGEG, which was established by Commission decision (2003/796/EC).

2.9 Political institutions

18. A central aspect of this model in which an enhanced ERGEG would play a significant role is the public interest objectives and obligations defined in EU legislation. Issues such as the level of supply security that should be expected of the national grid, and therefore the resulting investment at national level that is required (which customers must ultimately pay for), are properly determined by the relevant national institutions. Similarly, therefore, it will be for the EU legislature (European Parliament and Council) on the basis of a Commission proposal to determine the high level public interest requirements which must be fulfilled for the secure and efficient operation of the EU grid.

The overall framework

The **essential elements** of a comprehensive European legal and regulatory framework are:

- High level public interest objectives for the secure and efficient operation of an integrated EU grid defined in EU legislation
- Obligations on TSOs collectively to develop European operating and security standards for the EU grid and to have in place the organisational arrangements to achieve this through the establishment of two European networks bodies in the form of ETSO*plus*/GIE*plus*
- Obligations on TSOs individually to comply with these European (and national) standards in the operation and development of their networks
- Upwardly harmonised minimum powers and independence of national regulators
- Duties on national energy regulators, and appropriate powers, to oversee the compliance of individual TSOs with the European (and national) standards
- Duties on a European regulatory body in the form of an enhanced ERGEG*plus,* and appropriate powers, to oversee the collective obligations of TSOs (as delivered by ETSO*plus*/GIE*plus*)
- Proper public accountability of regulators and TSOs (including ERGEG*plus* and ETSO*plus*/GIE*plus*) in respect of these European responsibilities
- Effective unbundling of TSOs in order to ensure that their incentives are clearly to fulfil these public interest responsibilities in respect of the network and thus to provide the platform for European-wide electricity and gas markets, preferably through "ownership unbundling" of transmission assets.

Table 1

In the sections that follow each of the issues identified above and in Table 1 is examined in detail.

3 Developing a European Grid

3.1 Defining the European grid

19. The concept of an integrated European grid implies the development of the existing national grids by joining and operating them so that collectively they form a single grid. Article 2 of Decision 1364/2006/EC defines an EU grid in electricity as those wires "used for inter-regional or international transmission" is already provided in. However, this definition only applies with regard to projects in the trans-European networks programme and does not establish a full regulatory framework for investment in and the management and operation of such a grid. Nor is there any legal definition in respect of the European gas grid. It is also important for the European grid that an appropriate agreement between the Commission and Switzerland is finalised.

20. Drawing a distinction between what constitutes part of a national as opposed to the European grid is essential, but needs to be addressed at a conceptual and functional level. The definition of the European grids as part of, but distinct from, the national grids, is central to determining the potential scope of the activities of a European regulatory body, and also helps to inform its structure. This definition will need close legal drafting, but the underlying intention is that the "European grid" is that part of the "national grids" that can be distinguished by its underlying purpose to enable gas or electricity to flow between the national networks (which would, in principle, otherwise be isolated from each other). This definition includes interconnections between national grids, but also infrastructure within national grids that is necessary to facilitate flows across borders. National grids, on the other hand, in addition to their role within the European grid, would continue to serve to deliver gas and electricity from sources of supply to indigenous consumers.

European gas and electricity grids will need to be defined in legislation. This will require precise legal drafting which will require careful consideration.

21. The activities associated with the European electricity and gas grids would thus include: the allocation of capacity across interconnections; their operation (balancing, congestion management, capacity allocation across borders, etc); the development of new interconnection capacity and related reinforcements within national networks; and the

allocation of costs and risks relating to the European grid capacity. "National" grids would comprise the infrastructure capacity and those activities which were aimed at meeting the needs of national production and national demand.

22. Infrastructure assets and their operation will often have multiple purposes – an electric transmission line within the territory of a Member State can serve national consumers and simultaneously convey cross border loop flows as well as ancillary services essential for grid operation; or a pipe may transport gas destined for national consumers as well as for other markets. It is thus recognised that co-ordination between national and European regulatory and network bodies and their respective frameworks will be needed. The need for co-ordination between networks also means there must be a precise definition of the European public interest of EU energy consumers, since this definition will drive the activities of both TSOs and regulators. So, again, careful legal drafting is needed.

3.2 European Standards

23. The responsibility for ensuring that each network is operated and developed in compliance with compatible national and European standards will rest with each TSO, which will operate and develop its network as though it were part of a European grid. Appropriate operating and security standards must define the requirements that each TSO must meet so that the reality of a European grid is delivered. These requirements will be restricted to the capability of each network to sustain cross border flows, leaving the domestic performance of each network as essentially a national matter. European standards will, in effect, overlay national ones but will have effect only when a higher European standard is required to sustain cross border flows. In this way new investment required to develop the European grid – and hence the European market – will be targeted at the infrastructure required to enable cross border trade (in line with the definition of the European grid). These required EU standards can be developed from the existing experience of national standards and also, in the case of electricity operating standards, from the existing experience of the synchronous areas such as the UCTE and Nordel.

3.3 Transparency

24. It is of central importance that the information necessary for the efficient operation of the market is made available promptly and without discrimination to market participants. The availability of network capacity in the short and medium term has an important effect on the market as it can fundamentally affect the balance between supply and demand in particular regions, and thus electricity and gas prices. Transparency is also central to the ability to manage short term supply shortages, as well as providing the signals and confidence required to identify and deliver new investment to meet longer term demand. TSOs have much (but not all) of this information and must therefore have a responsibility to make it available in a timely way. As market circumstances change over time (note the recent development of LNG and renewable generation) it is important that the detailed requirements on transparency can be changed and improved in response to changing needs.

3.4 Interaction between national TSOs and ETSO*plus*/GIE*plus*

25. The operation and development of the European grid (including in gas infrastructure such as LNG terminals and storage facilities) will depend on the activities of individual TSOs, but the European standards will need to be agreed between them. Hence the obligation to develop, maintain and operate the European grid will have both individual and collective aspects. Since the collective aspects (such as the development and maintenance of European standards) cannot be fulfilled individually and can only be fulfilled by national TSOs coming together as a group, there is a need for a European networks body (in gas and electricity) to enable these collective responsibilities to be fulfilled and for TSOs to be properly accountable for them. These bodies should be developed by placing new obligations to the EU members of the existing organisations ETSO and GIE to form "ETSO*plus*" and "GIE*plus"*. This shared activity does not, however, detract from the individual responsibility of national TSOs to build and operate their networks to the agreed and approved standards.

3.5 Obligations on TSOs and ETSO*plus*/GIE*plus*

26. **In summary, in a new EU legal and regulatory framework TSOs will have obligations:**

Individually:

- to develop, operate and maintain the European grid in addition to the ones they already hold in respect of national networks
- to comply with new European standards, including operating and security standards, as well as existing national ones
- to co-operate with other TSOs as necessary to comply with the European standards, including in undertaking system and investment planning in respect of the European grids
- to publish relevant information to ensure adequate transparency

Collectively:

- to develop and maintain the new European standards approved by ERGEG*plus* (see below)
- to develop and maintain approved methodologies for charging and allocating the cost of the European grid
- to report on the performance of the European grid
- to enable co-operation between national TSOs necessary for the fulfilment of their European obligations (or where it is efficient for them to do so)

ETSO*plus* and GIE*plus* would separately undertake the collective activities outlined above, whilst each national TSO would fulfil its individual obligations directly. All these activities will need to be subject to regulatory oversight (discussed in Section 4). It would, of course, be possibly for TSOs to assign tasks to ETSO*plus* or GIE*plus* if it is more efficient and effective for the work to be done there, but the responsibility and accountability for its achievement will continue to rest with the individual TSOs.

3.6 Organisational Arrangements for ETSO*plus* and GIE*plus*

27. The underlying reality that legal obligations rest with TSOs individually even when the fulfilment of some aspects must be undertaken collectively must be reflected in the institutional arrangements. TSOs must have an institution tasked with the fulfilment of their collective responsibilities, with the consequences of failure to comply to be met collectively on TSOs through this institution. The TSOs must themselves decide an appropriate allocation of costs between the individual TSOs concerned (as the responsibility is fundamentally theirs).

28. EU legislation will therefore be required to ensure ETSO*plus* and GIE*plus* are established in an appropriate form, with the necessary obligations and responsibilities, and requiring each national TSO participate in their establishment, be a member and share the costs of the appropriate body. Voting arrangements must be in place to allow decisions to be reached and a methodology agreed to allocate costs between TSOs. The TSOs must decide themselves, subject to oversight by the EU regulatory body (ie. ERGEG*plus*): the voting arrangements, financial contributions and cost methodologies (the Qualified Voting arrangements of the Council and the financial contributions of the Member States to the EU budget might be one basis). Any failure by ETSO*plus* or GIE*plus* to reach a decision having followed a set procedure could be referred to the regulators in ERGEG*plus* for resolution, and in turn to the Commission if agreement there cannot be reached. Further, if any decision reached by ETSO*plus* or GIE*plus* appeared to ERGEG*plus* not in the best interests of EU energy customers as required in European law, ERGEG*plus* should have the power of veto with possible referral back to the organisation.

29. Any breach in the collective responsibilities of TSOs undertaken by ETSO*plus* or GIE*plus* should result in a penalty applied by the relevant enforcement body (i.e. ERGEG*plus* or the Commission, depending on the case). Arrangements would be required to allocate the penalty fairly and procedures would need to be developed by ETSO*plus* and GIE*plus* to this end. Again, such procedures would need to be subject to regulatory approval and no penalties could be passed through to customers.

Key elements

The **essential elements** of the European legal and regulatory framework for developing a European grid are:

- To require that ETSO*plus* and GIE*plus* exist
- Obligations on TSOs:

Individually:

- to develop, operate and maintain the European grid in addition to the ones they already hold in respect of national networks
- to co-operate with other TSOs as necessary to comply with the European standards, including undertaking investment and system planning
- to comply with new European standards, including operating and security standards, as well as existing national ones
- to publish relevant information and to ensure transparency
- to participate in the establishment of ETSO*plus*/GIE*plus*, to be a member, and to finance the relevant one of these bodies

Collectively:

- to develop and maintain the new European standards approved by ERGEG*plus* (see below)
- to develop and maintain approved methodologies for charging and allocating the costs of the European grid
- to report on the performance of the European grid
- to enable the co-operation between national TSOs necessary for the fulfilment of their European obligations
- To pay penalties for any failure to comply with the collective obligations outlined above.

Table 2

4 Regulating the European grids and the European market

4.1 Investment and the need for independent regulation

30. Investment on a huge scale will be required in the coming decade to upgrade and reinforce networks (including infrastructure such as LNG terminals and gas storage facilities); to respond to new sources of energy; to meet increasing demand; and to maintain high levels of security of supply. Although Europe's TSOs currently exist in both the public and the private sectors, all call on the private capital markets for the investment funding essential for the development of the infrastructure of their networks. The presence of independent regulators delivering predictable and consistent regulation will be of central importance to such investment. More specifically, to deliver a robust European grid the shareholders (private or public) and the capital markets will require a basis of regulatory certainty before they are willing to finance the necessary investments. In theory, in a fully developed competitive market this could be facilitated by a market (or contract based) approach, through which users of the network commit to pay for the right to enter, or exit from, the network through long term contracts. Such contracts would be for capacity and not directly linked to gas and electricity flows. Secondary markets would enable the efficient allocation of capacity and prevent hoarding. Such a commercial, or "merchant", approach in a fully competitive market with appropriate regulation is not the present reality of the existing, anti-competitive long term contracts, which can act to foreclose the market, as identified by the Commission in the Sector Inquiry.

31. Although such a market-based model is desirable in the long term the prospect of its development and implementation across all European markets in the short to medium term is probably low. As an alternative, therefore, a regulatory approach to determining the investments necessary to facilitate cross-border trade is needed. Operating and security standards – developed by TSOs and approved by regulators – will substitute for the market signals of long term contracts for capacity. A given investment (if efficient) is included in the regulated asset base of the network operator who earns a fair return on the investment over the life of the asset. The costs and risks of such investments are passed through to the users of the networks. This was the principal approach recommended in the EU energy regulators' response to the Commission's Green Paper in order to build an integrated European grid. It applies equally to gas and electricity infrastructure, although the emphasis may change in the specific circumstances of each.

32. Arrangements for allocating costs and risks work well nationally where the beneficiaries of the investment are the network users themselves – they become more complicated in the context of integrated European grids, where usually the benefits of investment in one Member State may be accrued in another. Thus a cross-border regulatory function is required over and above the co-operation amongst national regulators that ERGEG currently provides. Given the critical need for substantial private investment both in the European grid, and in national grids, to ensure Europe's security of energy supplies, regulators – both national and European – must be independent of political and commercial interests to ensure the delivery of predictable and certain regulation which is essential to the delivery of the necessary private investments.

33. The obstacles to the establishment of European grids go beyond attracting adequate investment and the correct incentivisation of TSOs. An important obstacle recognised by the Commission to the development of new infrastructure (in electricity in particular) is the delays and uncertainty associated with the land use permit systems in place in many member states. This aspect requires urgent attention.

4.2 The need for the enhancement of ERGEG's duties and responsibilities

34. The Commission have put forward three options for establishing an EU regulatory function: gradually evolving the current approach by reinforcing collaboration between national regulators, but with ERGEG remaining essentially an advisory body to the Commission; ERGEG taking on greater independent decision-making and co-ordinating powers (ERGEG+); and the creation of an independent single European regulator. The emerging (primarily national) nature of EU energy markets and networks, and the EU energy regulators' vision of building an integrated European grid by retaining, but linking, national grids, leads us to support the development of ERGEG as the most appropriate policy framework for this situation. It would link national regulation with European regulation in a co-operative and coordinated way. The speedy introduction of ERGEG*plus* arrangements is essential. Whether those arrangements will remain appropriate or need further development to reflect a more integrated EU energy market will, we presume, be reviewed in the years ahead. In this paper we go on to describe in more detail what enhancements we believe are necessary to ERGEG, and we have called the enhanced body 'ERGEG*plus'*.

4.3 National and European regulatory roles

35. National regulators will remain responsible for the oversight of the operations of individual TSO(s) within their jurisdiction. As each TSO will be responsible for the operation and development of its network both in its function as a domestic network and as part of the European grid, so national regulators will be responsible for ensuring individual TSOs meet all of the regulatory requirements in this respect, both national and European.

36. It is anticipated that ERGEG*plus* will be responsible for the oversight of those new collective European responsibilities of TSOs. This will include the approval of European security and operating standards and oversight of their development, the production of reports on the oversight of the European grid, and the co-ordination of the activities of national regulators. ERGEG*plus* will also have responsibility for the approval of the methodology for the cost recovery arrangements for the infrastructure of the European grid, and for monitoring compliance with the European grid operating and security standards. It will also advise the European Commission on regulatory issues including those associated with investment in the European grid, together with any guidelines that the Commission may want to propose to the comitology process.

37. The infrastructure that makes up the national grids and the European grid will, in some cases, have a dual or multiple function. As a result there will be overlaps in the functions of national regulators and of ERGEG*plus* (for example, in collecting data). It is, of course, essential that there is clarity about where responsibilities lie so that decisions and enforcement actions are clearly placed when regulators are working at their national level and when at an EU level within ERGEG*plus*. To ensure a practical division of activities, as well as consistency between national and European regulatory decisions, national regulators and ERGEG*plus* must work in a co-operative way with the ability to share information and reach pragmatic solutions for undertaking work (for example, again, on the collection of information).

4.4 Market oversight

38. National energy regulators will also need to have oversight of the operation of the electricity and gas markets as a whole in their national jurisdiction. However, as markets become more integrated it will become more common that problems – such as price distortions – in one national market will be caused by underlying problems in another market. ERGEG*plus* will contribute to this market oversight by providing reports on the operation of the European market as a whole, based on information collected and provided by national regulators, and by facilitating co-operation between the national regulators. However, national regulators will also need to be able to require mutual support to co-operate in undertaking market monitoring, market investigation and enforcement in other Member States in much the same way that national competition authorities are already able to do. Consequently, national regulators will, for instance, need appropriate, equivalent powers for gathering and sharing information. It is essential that effective market monitoring and enforcement of competition law exists within each member state. It remains a question whether the correct solution is for national energy regulators to be granted competition powers to combine market monitoring with the application of both ex-ante and ex-post powers. Experience in other sectors, such as financial services, may be relevant.

4.5 Organisational arrangements for ERGEG*plus*

The duties, powers and activities of ERGEG*plus* are summarised in Annex B, and explained in detail below:

(a) Duties

39. As TSOs will be obliged to develop and operate their national networks so that together they act as a European grid, ERGEG*plus* will need to have a duty imposed by EU legislation to oversee those collective activities of the TSOs in respect of the development and operation of the European grid. An European public interest duty to EU energy consumers placed on ERGEG*plus* would work to ensure that the European grid operates to foster the development of the EU's internal electricity and gas market and, as explained above, close legal definition will be required to ensure that the duty is well targeted. Implicit within the duty will be a requirement to ensure that investment is efficient, that acceptable levels of security of supply are maintained and that the costs of

the European grid are shared fairly between the grid users across relevant Member States.

(b) Functions

40. The scope of the activities of ERGEG*plus* will be defined by the functions it is required in legislation to undertake. From the model described above ERGEG*plus* must, on the basis of ex-ante legislative powers, be able to:
    - Monitor the compliance of the European operating and security standards with the EU public interest obligations on TSOs to develop a secure and efficient EU grid, as established in legislation;
    - Approve the operating and security standards which the European grid must meet, although these should be developed and maintained by the TSOs;
    - Approve the methodology for appropriately allocating the costs and risks of investments in the European grid;
    - Enforce transparency rules applying to ETSO*plus*/GIE*plus*;
    - Consider decisions of GIE*plus* and ETSO*plus* and veto those which did not appear to be the best available means of fulfilling the public interest requirements on the networks, as specified in European legislation;
    - Co-ordinate the activities of national regulators to provide collective oversight of the operation of the European grid;
    - Publish reports.

41. National regulators within their own jurisdiction will, in addition to national duties, have European powers to:
    - Ensure any TSO under their supervision meets legal responsibilities defined by European law and European regulation as a result of the functions of ERGEG*plus*;
    - Ensure compliance of any TSO under their supervision with European network operating and security standards;
    - Apply incentive mechanisms to TSOs to encourage them to fulfil their European responsibilities efficiently in the interests of energy customers;
    - Approve national cost and risk allocation methodologies whilst taking account of any such European methodologies;

- Take necessary enforcement actions in respect of any TSO under their supervision in respect of any breach of European requirements;
- Monitor the output measures of any TSO under their supervision, including the reliability performance of the national grids against relevant criteria;
- Obtain and share information with other regulators, including ERGEG*plus* (and the European Commission), for example on the reliability performance of the national grids and the European grid, as necessary, in the fulfilment of their functions;
- Investigate any problems in the operation of the market even if the effect is felt in the jurisdiction of another regulator (i.e. in another member state).

42. ERGEG*plus* and national regulators will need to share information and work pragmatically to resolve shared issues.

c) Enforcement

43. Compliance with European and national laws is essential if a competitive single market is to be achieved. Current concerns centre around the lack of compliance with the existing requirements. Consequently, enforcement is a highly important consideration. In respect of the European grid and the European market the following enforcement capabilities must be ensured:
    - Where ERGEG*plus* will take action, when an issue is primarily related to the European grid, through the EU bodies of ETSO*plus*/GIE*plus*.
    - Where a national regulator will have powers to require an investigation by another regulator where there is a reasonable case to do so and, if necessary, to require enforcement action from the other national regulator when an issue is a market one.
    - Where a national regulator takes action to enforce the compliance of a TSO under its jurisdiction with European requirements.

d) Decision-making

44. Under Commission Decision (2003/796/EC) ERGEG prepares advice to the Commission on regulatory matters, including on implementing measures and guidelines relating to the current Directives and Regulations. In its new ERGEG*plus* responsibility, there would be similar involvement in the development of regulatory policy. In addition, ERGEG*plus*

would be responsible for monitoring the operation and development of the European grid. Decisions taken by ERGEG*plus* need to be both transparent and consistent with its public duty to foster the development of the internal electricity and gas market and to ensure the secure and efficient operation of the EU grid. The decision-making powers of ERGEG*plus* will include the ability to:

- receive for approval recommendations for operating and security standards from ETSO*plus*/GIE*plus*, together with any methodology proposals for recovering the cost of investments in the European grid;
- obtain the necessary data and undertake analysis to ensure compliance with European operating and security standards, and to ensure the proper allocation of costs for the associated investments;
- decide on enforcement action if the approved European planning and security standards are not in place or do not reflect the best available way of achieving the public interest obligations defined in legislation;
- take decisions on, and pass formal advice to the European Commission where necessary for formal adoption through Comitology, as now.

45. In the interests of achieving regulatory certainty, it is important that ERGEG*plus* reaches decisions on issues which come before it in a reasonable timescale. Essentially ERGEG*plus* will remain organised like ERGEG in its composition and rules. National regulators will meet in plenary session under an elected Chair in the presence of the Commission. It will act, where necessary, by a Qualified Majority, in line with procedures and voting rules/weights adopted as for the Council of Ministers (as ERGEG do now). Furthermore, to improve existing arrangements:

- Once a recommendation had been made by ETSO*plus*/GIE*plus* to ERGEG*plus* it would have a specified timeframe to take a decision – that is to accept, amend or refuse the recommendation. If ERGEG*plus* could not reach a decision within this time, then the recommendation would be referred to the Commission for resolution.

- In the case of decisions relating to advice to the Commission on guidelines for introduction to the Comitology process, the Commission Decision establishing ERGEG could be amended to require the ERGEG chairperson (or his/her nominated representative) to attend the Committee as an observer, as happens in financial services (this does not require new legislation, but simply amendments to the Commission Decision establishing ERGEG).

- It could also be envisaged that for some issues there could be possible exemptions from the standards and requirements laid down in Directives and Guidelines for transitional or other reasons, such as small island systems. ERGEG*plus* would present advice to the Commission who would make the final decision (as in Article 16 of the Gas Regulation or Article 7 of the Electricity Regulation and the subsequent ERGEG guidelines. Article 7 of the Telecoms Regulation has a similar provision).

46. Appeals procedures against ERGEG*plus* regulatory (as opposed to advisory) decisions and enforcement actions will need to be established.

e) Resources

47. ERGEG*plus* will be the most cost-effective arrangement for establishing an appropriate EU regulatory function. This function will require an enhanced but moderate secretariat, including the necessary data management, analytical and legal capability in Brussels to enable it to undertake its new function of oversight of the European grid, and sufficient resources to undertake any enforcement activities and the high level reporting requirements. It would also, however, continue to follow the existing practice of ERGEG of relying on national regulators and the Council of European Energy Regulators (CEER) to provide expertise and resources to meet its needs. It will therefore be important that national regulators are adequately resourced to undertake their new European activities, as specified in legislation, if ERGEG*plus* is to be capable of undertaking its own responsibilities effectively.

4.6 Levelling up the powers of NRAs

48. Although this paper focuses on the creation of a European market, it is also essential that national markets develop in a competitive way. Consequently the powers of national regulators need to be expanded so they are at a common high level. It is also a prerequisite that national regulators are independent of both commercial and political influence. Strong and independent (including of government) regulators are essential to creating the regulatory certainty needed to facilitate a climate for investment and competition and accountability. The necessary basic powers and competences of national regulators are set out at Annex A.

Key elements

The **essential elements** of the European legal and regulatory framework for regulating a European grid and a European market are:

- To ensure harmonised minimum powers and independence from political (including governmental) and commercial interests for national regulators
- To require national regulators to oversee the development of their national networks and TSOs in line with approved European operating and security standards
- To require that national regulators co-operate in cross-border market oversight, including monitoring and information sharing, and investigations and enforcement
- To require that ERGEG has expertise and powers (ERGEG*plus*) to:
  - Oversee and approve the European operating and security standards as developed by ETSO*plus*/GIE*plus*
  - Take enforcement action, including financial penalties, against ETSO*plus*/GIE*plus* for failure to comply with its EU obligations as defined above
  - Provide advice to the European Commission where binding guidelines are necessary to be approved via comitology
  - Gather information and public reports to provide for EU-level network and market monitoring
  - Enable co-operation between national regulators for the fulfilment of the European obligations

Table 3

5 Accountability

49. The framework outlined above is based on two important premises: that TSOs must be responsible individually and collectively for the development, maintenance and operation of the networks; and that independent regulators must have oversight of the TSOs to ensure the secure development of the grid within a stable and predictable climate for investment. The third essential element is the involvement of the EU institutions. A comparison might be drawn here with the "Level 1" framework principles in the "Lamfalussy process" in financial services. It is the EU Institutions who will, as part of the established Community processes, set (and, as necessary, amend) the public interest objectives of energy customers that the European grid must meet, including the appropriate level of security of supply. The new EU-level organisation of ERGEG*plus*, outlined above, will need to be extended and developed by the EU institutions. Part of this policy development will be the definition of accountability at EU level of the ERGEG*plus* arrangements. This could be met by requiring ERGEG*plus* to provide reports to the EU Institutions on its activities and the steps taken to meet the high level objectives of a secure and efficient network. ETSO*plus* and GIE*plus* will also need to have public accountability requirements placed upon them, in the first instance for compliance with European requirements to ERGEG*plus*, but also potentially directly to the EU Institutions. For instance:

- ETSO*plus*/GIE*plus* would provide public annual reports to ERGEG*plus* on the performance of the network, and forward looking annual reports such as 7/10 year statements on the European grid, and winter outlook reports
- ERGEG*plus* will provide, for example, annual reports to the European Parliament. The Chair and Board of *ERGEGplus* might also appear before the European Parliament Committee on an annual basis or on request.

Key elements

The **essential elements** to ensure accountability in the European legal and regulatory framework are:

- To require that ERGEG*plus* is accountable to the EU Institutions for the fulfilment of its EU duties
- To require that ETSO*plus*/GIE*plus* publish annual reports on the performance of the EU grid (in addition to being subject to ongoing regulatory oversight)

Table 4

6 Effective unbundling

6.1 The importance of effective unbundling of transmission networks

50. We do not make specific proposals in this paper for the unbundling of distribution networks. As a matter of principle, the level of unbundling required should be proportionate to the scope the network operator has for discrimination. TSOs have a central role in competitive wholesale gas and electricity markets because of the operational and investment decisions they take. Market participants, as network users, are the customers of TSOs. Achieving effective competition therefore requires a TSO which acts – and is perceived to act – independently of commercial interests in the market in a strictly non-discriminatory manner. Affiliations between the TSO and participants in the market (where the TSO may share a significant common shareholding with generators, gas producers, shippers, suppliers or even large consumers) is likely to raise concerns that the TSO will be biased in favour of its own affiliated interests. At the least, in such a case, it will be far more difficult to ensure that the TSO behaves in such a way as to promote effective competition and maintain a secure network, for example through implementing strictly non-discriminatory third-party access; and that it invests to expand capacity where there is a need, as the incentives on a bundled TSO are much less clear than those on an unbundled one. **For this reason, establishing in law effective unbundling arrangements across the Union is crucial both to the development of a competitive single European market and to the security of our energy supply. The ineffectiveness of existing unbundling arrangements is one major reason for the slow pace of market integration and the slow growth in cross border trade observed in EU electricity and gas markets.**

51. The presence of affiliations between TSOs and network customers, even when no abuse takes place, could also damage market confidence and limit the extent to which effective competition develops in both wholesale and retail markets. Key areas where such concerns might arise include:
    - arrangements for access to the network (including capacity, availability, connection arrangements and charging);
    - real time operation of the system (including balancing rules, imbalance arrangements, tolerance, line pack and interruption);

- the management and use of market sensitive information provided by network users to the TSO for system purposes and, in particular, how quickly (or whether) the information is provided by the TSO to market participants;
- the maintenance of the system by the TSO, such as the timing and location of maintenance activities which may reduce the availability of network capacity to users of the network and the time taken to restore the network to full capacity;
- longer term system planning and investment.

6.2 Justification for ownership unbundling of TSOs

52. There are numerous examples globally of attempts to unbundle transmission activities from affiliate interests in the competitive areas of the market. However, it is widely acknowledged that the most effective and "clean" approach is to unbundle entirely the activities of the TSO from competitive interests. In effect this means that the ownership, maintenance and operation of the transmission network is placed into separate ownership, and that the ownership of the TSO consists of either a public body with no interests in the competitive part of the market, or that the TSO has a private shareholding provided no individual shareholder is able to have undue influence on the activities of the TSO. **Such "ownership unbundling" of transmission should, in principle, be the model required in new EU legislation.** Ownership unbundling could be achieved in a progressive way in order to ensure a smooth transition towards effective competition.

53. In some countries unbundling has taken a different form, short of full ownership unbundling, in the case of electricity networks. The outcome of these less rigorous approaches to unbundling is to allow the ownership of the network infrastructure to remain with an affiliated group whilst removing some or all of the remaining TSO activities (known as "system operation" activities) where there is significant scope for discrimination, to another non-affiliated body. Such approaches to establish an **"independent system operator"** take different forms. One of the underlying drivers for the establishment of independent system operators short of full ownership unbundling is to address concerns about intrusive interference with the existing property rights of bundled companies. In effect, by leaving the ownership of the assets with the bundled company almost all of the companies' financial interests remain intact as the infrastructure of the network accounts for most of the financial value of the TSO. The system operator functions, by contrast account for only a tiny part of the financial value.

This stark difference in asset value brings its own problems in establishing an efficient system operator function. Moreover, to avoid the problems of discrimination, and the perception of discrimination as described above, independent system operator models require heavy and complex regulation. The extent of regulatory oversight and the resulting regulatory burden is in inverse proportion to the degree of unbundling.

54. The issues surrounding unbundling, criteria for judging the scope for discrimination, and in particular the different regulatory requirements for "deep" and "shallow" independent system operator models are set out in Annex C.

55. One option could be the establishment of an independent system operator (ISO) to operate the networks in an entire cross border region (or, in principle, across the EU). Such a model would not be free of the shortcomings of the ISO arrangement described in Annex C. However, it could be an effective means of co-ordinating the operation of a number of networks if it were also coupled with ownership unbundling of the network assets.

Key elements

The **essential elements** of the European legal and regulatory framework to ensure effective unbundling are:

To achieve "ownership unbundling", which is our preferred option:

- To prohibit the ownership, development, maintenance and operation of the transmission network by any company that has interests in the competitive businesses of generation, shipping, gas storage and supply.

An "independent system operator" is identified in the European Commission's Paper 'An Energy Strategy for Europe' as another option. In this case, the essential elements for the preferred 'deep' option are:

- To prohibit the development, maintenance and operation of the transmission network by any company that has interests in the competitive businesses of generation, shipping, gas storage and supply (but not the ownership of transmission network assets);
- To require legal, management and information separation of the business of transmission asset owner from any associated company with interests in the competitive parts of the market;
- To require such companies to publish compliance reports;
- To empower regulators to monitor compliance with these requirements.

Table 5

7 Short term actions

56. The requirement to establish a comprehensive regulatory framework in new EU legislation cannot mean delay in the process of reform. The overwhelming evidence of the Commission's "Sector Inquiry" and the recent blackouts across western Europe show that improvements cannot wait until the necessary legislative changes have been agreed or implemented, which could take four or more years.

57. Thus urgency is critical for the interim period whilst the comprehensive legal and regulatory framework is implemented. The European regulators also therefore believe that, in addition to the full implementation of current single market legislation, urgent action in the short term is necessary on a number of fronts:

- **Supporting the work of ERGEG** – as part of our recently published Work Programme the European regulators will produce a series of reports and, where necessary, recommended guidelines to deal with recognised problems and priorities in the operation of the EU single market. These guidelines will be drawn up with the full consultation of stakeholders. The European Commission should give effect to these guidelines as soon as possible via comitology, and Member States should give the necessary backing to national regulators to implement them. Priority areas include: transparency in both gas and electricity, gas storage, treatment of new gas infrastructure including LNG, cross-border tarification and inter-TSO co-operation and the development of safety and reliability standards in electricity.
- **Supporting co-operation between national regulators –** such as on improved data-sharing. In many cases, in the absence of European law, changes to national laws is required to permit this. This could be achieved, however, through direct action by Member States.
- **Raising the powers and independence from government of national regulators** – Member States could again take unilateral action to achieve this.
- **Supporting the Regional Initiatives –** the regulators' Regional Initiatives in gas and electricity bring together all stakeholders, including the Commission and Member State governments, to identify practical problems and solutions at a regional level. These initiatives will begin to show results in 2007. The political and practical support of the EU institutions is vital, in particular to ensure that Member States deliver the necessary

reforms. This provides a concrete opportunity to demonstrate that the will for reform is real and not simply rhetoric. ERGEG will produce a report on progress made by the Initiatives in March 2007. We encourage the European Parliament and Council to consider these within the Community framework.

- **Robust application of competition law by DG Competition and by national competition authorities –** in particular, any specific abuses of competition uncovered by the Commission's Sector Inquiry must be followed vigorously.
- **Fast-tracking the legislative framework –** finally, of course, it is the responsibility of the EU Institutions to put in place the legislative and regulatory framework described here. Public debate and the democratic processes are essential. Again, however, past commitments to reform need now to be matched by real change. We call upon the European Council, Energy Council, European Parliament and in particular the European Commission to bring forward and agree legislative proposals as soon as possible.

Annex A - Necessary basic powers and competences of national energy regulators

Competence	Monopoly Networks Activities	Competitive Market Activities
Regulate monopoly activities	Approve compliance with basic rules for access to (and ongoing use of) the system, plus oversight of the more detailed rules	
	Set or approve tariffs or tariff methodologies for use of the system and connection. Set overall revenue limits, with the ability to incentivise network operators to improve service levels/identify additional capacity	
	Determine disputes between network operators and market participants/customers on key issues such as terms for network access and charges	Determine disputes between network operators and market participants/customers on key issues such as terms for network access and charges
Oversee and enforce market rules	Set or approve the provisions of balancing regimes and monitor compliance with balancing rules	Set or approve compliance with the basic market rules for wholesale market trading (and oversee changes to the more detailed rules), including rules relating to the operation of balancing markets, settlement rules, imbalance arrangements and credit requirements. Monitoring of behaviour. Provide information to and co-operate with national and European competition authorities.
Oversee and enforce transparency and information management	Oversee that transparency and information management – e.g. that data held by network operators is effectively ringfenced (through effective unbundling) or released to the market on a non-discriminatory manner	Oversee market transparency and appropriate provision of data to market
Information gathering powers	Retain ability to require information and data from network companies in order to be able to monitor orderly market functioning	Retain ability to require information and data from all market participants in order to be able to monitor orderly market functioning

Competence	Monopoly Networks Activities	Competitive Market Activities
General market oversight and efficient market functioning	Impose sufficient controls on market players to: o ensure compliance with market rules in order to protect the interests of customers and promote effective competition o ensure non-discriminatory treatment o promote security of supply and safety	Impose sufficient controls on market players to: o ensure compliance with market rules in order to protect the interests of customers and promote effective competition o ensure non-discriminatory treatment o promote security of supply and safety
Cross border powers / co-operation	Ability for regulators to act jointly to oversee TSO investment in and operation of cross border transmission capacity, including system planning and emergency planning.	Ability for regulators to exchange information, pursue or request investigations of activities that occur in one territory that affect markets in another

Annex B - Creation of a European Regulatory function – ERGEG*plus*

Requirements for framework legislation:

- To require that ERGEG*plus* exists and has an appropriate public interest duty towards European energy consumers to facilitate the development of the internal market

- That *ERGEGplus* has appropriate powers to:
  - Approve the European operating and security standards as developed by ETSO*plus*/GTE*plus*
  - Monitor continued compliance of European operating and security standards with public interest obligations defined in European legislation
  - Take enforcement action, including financial penalties, against ETSO*plus*/GTE*plus* for failure to have in place operating and security standards which are the best available means of complying with the EU obligations defined in legislation
  - Provide advice to the Commission where binding guidelines are necessary to be approved via comitology
  - Gather information and publish reports to provide for EU-level network and market monitoring
  - Facilitate co-operation between national regulators for the fulfilment of the European obligations

- That ERGEG*plus* should publish reports on the fulfilment of its duties and provide evidence, as required, to enable appropriate accountability to the European institutions of the European parliament and European Council

- That ERGEG*plus* has adequate resources to fulfil its functions efficiently

Annex C - Unbundling of transmission system operators

The importance of effective unbundling

1. Transmission System Operators (TSOs) have a central role in competitive wholesale gas and electricity markets because both operational and investment decisions by TSOs have a significant commercial impact on market participants. Market participants, as network users, are the customers of TSOs. Achieving effective competition therefore requires a TSO which acts, and is perceived to act, independently of commercial interests in the market in a strictly non-discriminatory manner. Affiliations between the TSO and participants in the market (where the TSO may share a significant common shareholding with generators, gas producers, shippers, suppliers or even large consumers) are likely to raise concerns that the TSO will be biased in favour of its own affiliated interests. At the least, in such a case, it will be far more difficult to ensure that the TSO behaves in such a way as to promote effective competition and maintaining a secure network, for example through implementing strictly non-discriminatory third-party access, and investing to expand capacity where there is a need as the incentives on a bundled TSO are much less clear than those on an unbundled one. For this reason, unbundling arrangements are crucial both to the development of a competitive single European market and to the security of Union.

2. The ineffectiveness of existing unbundling arrangements is one important reason for the slow pace of market integration and the slow growth in cross border trade observed in EU electricity and gas markets. In the absence of ownership links with market participants, TSOs have a reduced incentive to discriminate between market participants, for example in relation to access to the networks. Market participants can be confident that confidential information will be handled properly by TSOs. TSOs can be directly incentivised to maximize the availability of network capacity. Incentivising bundled TSOs is very difficult because any incentives to develop a robust and efficient network may be outweighed by perverse incentives to operate in the interests of affiliate companies. For example, an individual generator or gas supplier may benefit from the higher prices in a region that result from congested transport routes. In these circumstances an investment by the TSO to relieve the congestion would be damaging to the interests of any affiliated generation or supply business benefiting from the congestion.

3. The presence of affiliation between TSOs and network customers, even when no abuse takes place, could damage market confidence and limit the extent to which effective competition develops in both wholesale and retail markets. Key areas where such concerns might arise include:

   - arrangements for access to the network (including capacity, availability, connection arrangements and charging);
   - real time operation of the system including balancing rules, imbalance arrangements, tolerance, line pack and interruption;
   - the management and use of market sensitive information provided by network users to the TSO for system purposes and, in particular, how quickly (or whether) the information in provided by the TSO to market participants;
   - the maintenance of the system by the TSO, such as the timing and location of maintenance activities which may reduce the availability of network capacity to users of the network and the time taken to restore the network to full capacity;
   - longer term system planning and investment.

4. When considering the options for unbundling, the scope for discrimination by the TSO, or the perception that the TSO might discriminate, in each of these areas must be taken into account.

Possible models for effective unbundling of TSOs

5. There are numerous examples globally of attempts to unbundle transmission activities from affiliate interests in the competitive areas of the market.

6. It is widely acknowledged that the most effective and "clean" approach is to unbundle entirely the activities of the TSO from competitive interests. In effect this means that the ownership, maintenance, and operation of the transmission network is placed into separate ownership. Different models exist: the ownership of the TSO consists of either a public body with no interests in the competitive part of the market, or that the TSO has a private shareholding provided no individual shareholder is able to have undue influence on the activities of the TSO.

7. In some countries unbundling has taken a different form, short of full ownership unbundling. The outcome of these less rigorous approaches to unbundling is to allow the ownership of the network infrastructure to remain with an affiliated group whilst removing some or all of the remaining TSO activities (known as "system operation" activities) where there is significant scope for discrimination, to another non-affiliated body. Such approaches to establish an "independent system operator" take different forms. One of the underlying drivers for the establishment of independent system operators short of full ownership unbundling is to address concerns about intrusive interference with the existing property rights of bundled companies. In effect, by leaving the ownership of the assets with the bundled company almost all of the companies' financial interests remain intact as the infrastructure of the network accounts for most of the financial value of the TSO. The system operator functions, by contrast account for only a tiny part. This stark difference in asset value brings its own problems in establishing an efficient system operator function, and this is discussed below.

Possible models of unbundling

8. The two fundamental models of unbundling – full ownership unbundling and independent system operator – are discussed in more detail in this section.

Ownership unbundling

9. Ownership unbundling is described in paragraph 6 above.

Independent system operator

10. The independent system operator (ISO) approach is not a single model and in practice there are many different models of ISO that are in place globally. The differences between them are discussed in this paper by describing two models at the extreme ends of the possible ISO models. They are called here the "deep ISO" and "shallow ISO" models.

11. The intention behind establishing an ISO is to leave the capital invested in the network with the bundled company whilst removing the various other functions of a TSO into a different, unaffiliated organisation. These functions all contain scope, to varying degrees,

for discrimination against network users and the extent to which these functions are removed from the affiliated company will affect directly the residual scope that the affiliated company has for discrimination. In effect the "deeper" the ISO model the less scope remains for discrimination. On the other hand the deeper the model, the more intrusive the reform will be in relation to the property rights of the bundled company.

Deep ISO

12. The deepest version of the ISO model is one where all of the functions of the system operator are removed from the bundled company, leaving the bundled company only with the ownership of the assets. In effect, the bundled company is no more than the financer of the infrastructure (rather like a bank). In this model the ISO will undertake live network operation, arrange for network access, undertake network planning and make investment decisions, arrange for network connections, undertake emergency planning, and levy charges for use of the network.

13. The advantage of such a model is that the scope for discrimination by the bundled company is reduced to almost (but not quite) zero. However, the model has drawbacks. The separation into differently owned companies of the operation and maintenance of the assets from the ownership of those assets creates risks for the network owner. As the network owner is a different entity from the operator, provision must be made to protect, reasonably, the network owner from the risk posed to the assets as a result of their operation and over which the network owner has little control. Logically, the ISO would be fully liable for such risks. However, this is not possible in the deep ISO model as the ISO, by the nature of its business, will have very few assets (probably only the control room infrastructure) and so will be unable to bear any significant risk. Similarly, as the ISO is asset-light it is very difficult to place incentives on the ISO to operate the network efficiently as, again, the ISO can bear very little risk. Therefore, whilst the model addresses the problem of discrimination, it creates another problem – that in the absence of incentives it is difficult to ensure that the network is run efficiently. A further problem is that the divorce of the decision to invest from the investment itself can create disputes and leaves with the bundled company the scope to influence the timing of investments which can leave some residual scope for discrimination.

Shallow ISO

14. The shallowest model for an ISO is one where all of the transmission functions remain with the bundled company apart from that of the live operation of the transmission network close to and during real time. This model has been applied in some countries, notably in the US. The advantage of this model is that it minimizes the impact of the reform on the property rights of the affiliated company. However, the model has many disadvantages, some of them serious. The shallow ISO model allows the ISO to undertake the real time balancing of the network and the management of constraints in short time scales. The bundled company would remain responsible for investment decisions, the scheduling and undertaking of network maintenance, connections, making capacity available to network users, and for charging network users for use of the network. These areas contain substantial scope for discrimination.

15. Further, there is scope in this model for the ISO itself to be discriminated against. For example, the fact that the ISO would be responsible for managing congestion in short timescales must be traded off against the alternative method of dealing with chronic congestion which is investment in new capacity. The interests of the ISO would be in minimizing short-term congestion whilst the interests of the bundled company (which would remain responsible for investment decisions) would be in deferring investment for as long as possible within price control period. This does not lead to efficient network decisions. In addition, the bundled company would have access to information relating to the condition of the network, new connections, etc. which would give it a privileged position in relation to other market participants. Clearly, such a model would not lead to effective unbundling.

Unbundling within vertically integrated groups

16. Current European legislation contains provisions which do not require ownership unbundling or the establishment of an ISO. Current provisions simply require separation of activities within corporate groups (called here the 'separation model') and include management separation, accounts separation and legal separation. These provisions seek to ensure that network companies take decisions without reference to affiliated businesses and that that cross subsidies between businesses are prevented. The provisions do not explicitly require information unbundling and as a result the

establishment of Chinese walls within vertically integrated groups is the exception rather then the rule. Further, as a general rule, the less complete the separation of businesses, the greater the level of regulation is required to ensure compliance. Current legislation does not ensure that regulators in each Member State have sufficient powers to monitor and enforce compliance of effective unbundling.

How to determine an effective unbundling model

17. As this paper describes, a range of unbundling solutions are possible which have the potential to ensure that networks are operated in an efficient and non-discriminatory way.

18. In principle, ownership unbundling is the most effective means of achieving the independent operation of networks and in some areas may be the only way of ensuring that a competitive and secure European market is achieved. However, ownership unbundling is a significant intervention. Between the two extreme ISO models described above a wide range of ISO models are possible with different TSO activities transferred to the separated ISO. These models have the possibility of being less intrusive than ownership unbundling, but are also less effective. The least intrusive is the 'separation model', which is also the least effective.

19. The appropriateness of any unbundling model must be judged against the particular circumstances in which it is to be applied. For example, the BETTA model used in Great Britain removes the system operation functions from two Scottish companies whilst leaving network ownership with them - although they have interests in electricity generation and supply. In that case all transmission functions were removed from the Scottish companies other than the ownership, maintenance, and investment decisions in the networks. All functions where there is an interface with network users (including line system operation, connections, and integrated system planning) were given to the ISO. In that case the ISO was itself large and an owner of network assets in a different region and had a considerable asset base. It could therefore bear the risks associated with the application of incentives for the efficient operation of the network. However, issues remain about the differential incentives between the ISO and the transmission asset owners, in this case over the management of congestion and new investment, and the regulatory framework requires that there is transparent regulated arrangements between

the system operator and the transmission asset owners. Further, the network owners have control over the timing of new investment and therefore some influence over new connections to the network. These problems are recognised and are addressed through regulation. The regulator, Ofgem, has extensive independent powers to impose conditions on the network owners and the system operator and to ensure that their activities are undertaken in a transparent way in order to minimise the possibility of abuse. Despite this, the arrangements do not appear to be as affective as the ownership unbundling arrangements in place in England and Wales.

20. Whilst, perhaps, in the circumstances of Scotland and the regulatory arrangements in place in Britain, these arrangements may (arguably) be adequate, they are clearly not appropriate for all other cases. Any arrangements must be capable of ensuring that the scope for discrimination is eliminated or is *de minimis*, and that there is scope for incentivising the independent system operator as well as the transmission asset owner in a way which ensures the efficient and secure operation of the transmission network.

21. A further factor in determining the degree of unbundling is the inherent scope for discrimination enjoyed by a network company. The mechanisms that can be employed for discrimination by a network company relate to access to the network through connections and the allocation of the capacity necessary to use the network. In some cases a network company may have little control over capacity allocation. For example, many (but not all) distribution network companies have passive networks – there is no or very limited need active management of the capacity on the distribution network for balancing or congestion management. In such cases the application of the 'separation model' currently applied, together with effective regulatory oversight appears to provide an adequate level of unbundling.

Role of regulation

22. The underlying reason for the effectiveness of ownership unbundling is that the interests of the company and its shareholders are clearly focussed on the efficient operation of the network. By comparison the fact that within any ISO model some functions are left with a vertically integrated company means that the incentive on that company is to maximise its profit by utilising its residual control over the network to its advantage including that of its subsidiaries in the competitive part of the market. The scope it has to do this will depend

on the depth of the ISO model, but as described above, all ISO models contain some scope for discrimination. The 'separation model' is the weakest form of unbundling and therefore inherently contains the most scope for a vertically integrated company to maximise its profits through residual discrimination.

23. Because of the strong drive on companies to maximise their profits in the interests of their shareholders, any rules on unbundling short of full ownership separation must be strictly enforced if they are to be effective. Strong independent regulation is therefore an essential element of a successful unbundling regime. Although the extent of regulatory oversight and the resulting regulatory burden is in inverse proportion to the degree of unbundling – the greater the degree of unbundling, and the less intrusive the regulatory oversight needs to be, effective regulatory oversight over non-discriminatory behaviour must be ensure.

Criteria for unbundling

24. In order to determine whether any particular model of unbundling is likely to be effective it is necessary to develop criteria against which an assessment can be made. A first attempt has been made below, but further work is required to develop a robust set.

Possible criteria for application of unbundling arrangements

1. The TSO has significant scope to discriminate against network users: • Active control over network • Network is large • Company has more than a very small interest in competitive parts of market • Network is at transmission level • Arrangements in place for network operation activity not transparent (Application of unbundling models subject to further tests below)	Suggests ownership unbundling required. If some but all indicators are not fulfilled then ISO model may be considered. If no indicators are fulfilled then separation model may be considered.
2. Presence of independent strong regulator	ISO or separation model may be considered in these circumstances
3. Incentivisation of the ISO possible, or altruistic company is the ISO	ISO model possible.