

IEM: Development

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Internal Energy Market

IEM: trade area with common policies on product regulation and free movement of energy, where the maximum competition between suppliers and providers of different types of energy is essential. The barriers among the MS are, therefore, removed to maximum.

Prerequisites for IEM

- Liberalisation and competition – withdrawal of the state from the energy sector
- But also regulation – to limit the power of (natural) monopolies and to remove the legacy of pre-liberal paradigm – regulation to competition
- Interconnectors

Incentives

- European economic downturn in the 80s, free market atmosphere of the UK under Mrs Thatcher.
- Fall in energy prices of commodities in the mid-80s not followed by prices of energy (electricity) – local or national obligations. Questioning of the realisation of political goals via state-controlled industries
- Over-investments in production capacities due to the expected demand. High costs of new plants = the performance of the (state-runned) industry was suffering

Initial goals of the EC

- Since 1988, the Commission focused on:
 - Harmonization of indirect taxation
 - Price and investment transparency
 - Competition for public procurement
 - TPA
 - Integration of electricity and gas grids
 - Application of competition legislation to the upstream part of oil and gas exploration and production.

First legal acts

- 1988 Working Document on the Internal Energy Market
- First activities of the Commission date from 1989
 - Communication from the Commission: Transparency of consumer energy prices. COM (89)123, 1989
 - Towards completion of the internal market for natural gas. Communication from the Commission. Proposal for a Council Directive on the transit of natural gas through the major systems. COM (89) 334, 1989
 - Increased intra-Community electricity exchanges: a fundamental step towards completing the internal energy market. Proposal for a Council Directive on the transit of electricity through transmission grids. COM (89) 336, 1989
 - And the others ...

First liberalization package

- Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity
- Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 concerning common rules for the internal market in natural gas

	Unbundling of networks	Access to networks	Market opening	National regulation
First legislative package	Separate management and accounts	Negotiated or regulated terms of access	Power: 35% open by 2003 Gas: 33% open by 2018	Mechanism for regulation

EU regulatory framework: basic principles

- Differentiation between competitive parts of the industry (= supply) and non-competitive parts (= operation of the networks)
- Obligation on operators of the non-competitive parts of the industry to allow third parties to have access to the infrastructure
- Free up the supply side of the market – removing barriers preventing alternative suppliers from importing or producing energy
- Free choice of consumers to choose their supplier and removal of restrictions on customers from changing their supplier
- Creation of independent regulators to monitor the sector and enforce TPA

Increased role of the EC in the energy policy

- TPA implied that EC will supervise and define the conditions and tariffs for such access
- EC controls the financing of energy projects – TEN - E
- Application of the rules on competition by countering the existence monopoly companies
- More power regarding the interventions in the subsidizing of energy (coal) production

EC is perceived by lobbyists as one of the main energy policy-maker in the EU

Second liberalization package

- Unsatisfactory pace as well as targets, new legislation introduced in 2003.
- „European national gas markets are characterised by high prices and tariff differentials, a high degree of market concentration, insufficient unbundling, a lack of market based balancing regimes, and ex ante regulation to name just a few. The prices of gas and electricity are especially of concern. In some European countries, natural gas increases its share in electricity generation. During the 1990's the European industry was paying 40% more for its electricity than its American competitors“ (2001).

Second liberalization package

- Directive 2003/54/EC concerning common rules for the internal market in electricity
- Directive 2003/55/EC concerning common rules for the internal market in natural gas

	Unbundling of networks	Access to networks	Market opening	National regulation
First legislative package	Separate management and accounts	Negotiated or regulated terms of access	Power: 35% open by 2003 Gas: 33% open by 2018	Mechanism for regulation
Second legislative package	Separate subsidiary	Regulated terms of access (TOP in gas)	Power and gas markets 100% open by July 2007	Specific regulator for energy

Unbundling in the Second package

Accounting Unbundling: relevance for DSOs which are not legally unbundled (given the new requirement of legal unbundling); no derogation is possible from accounting unbundling for smaller DSOs.

Functional Unbundling: where the network operator is part of a vertically integrated undertaking, it shall be independent in terms of its organization (management separation) and decision making rights from the other activities not related to that network.

Unbundling in the Second package

Legal Unbundling: the transmission and distribution activities have to be done by a separate “network” company; the network company must not necessarily own the network assets but must have “effective decision making rights” in line with the requirements of functional unbundling (no change of ownership).

The following steps of the European Commission

- EC sector inquiry (2005 - 2007) highlighted some serious shortages:
 - The persistence of great market concentration (vertical foreclosure, just a few interconnection)
 - Too little integration between MS markets (e.g. limited common auctioning)
 - Absence of transparent market information
 - Unsatisfactory level of unbundling
- Solution = market transparency and caps on incumbents' market shares, closing the gaps between the responsibilities and competences of national regulators, structural (ownership) unbundling

Non-functioning market: Utilities' reactions

- Vertical foreclosure - the process where incumbent wittingly or unwittingly foreclose, or close in advance, the availability of crucial inputs or assets to potential rivals. Long-term upstream, capacity and downstream contracts.
- Market segmentation (LTC in gas, physical interconnectors in electricity)

EC enforcing new rules

- Just in 2006 EC court proceedings against 17 states for inadequate transposition of the 2003 directives
- In 2007 anti-trust investigations against Eni, RWE (underinvestments, capacity hoarding, high prices for access to network etc.)
- Unexpected inspections of 25 companies in Austria, Belgium, France, Germany, Hungary, Italy
- 2/2008 E.ON to sell-off its grid (€1bn/y) to settle EU antitrust inquiries
- 6/2008 RWE to sell off its gas grid to avoid anti-trust actions by Commission

Non-functioning market: Governments' reactions

- Championing national companies – preventing foreign companies to buy domestic ones
 - Hungary (Moll) vs OMV, Great Britain (Centrica) vs Gazprom...
- Regulating the regulators

Non-functioning market: Governments' reactions

- Retail market - regulated vs. free pricing in case of energy
 - EK objected in case of Slovakia, where PM Fico threatened to renationalize Slovenske Elektrarne, if they did not stop raising the prices
 - In 2006, EK went after Spain, France, Estonia and Latvia for regulating tariffs
 - Then EK went after Italy and Ireland for granting on discriminatory basis the right to an incumbent to supply power at regulated price
 - And again it went after Germany, Czech Republic, Poland, Slovakia, Lithuania and Italy for failing to provide sufficient information on regulator tariffs. The same situation repeated in 2007, in case of Commission against Spain and France
- When the regulation of prices is legitimate?

Ownership unbundling

Hours with congestion as a percentage of all hours	
Border	2005
SK to HU	100
FR to CH	100
DE to DK	100
NL to BE	100
FR to UK	94
DE to NL (x)	90,1
FR to ES	81,1
CZ to DE	68
NL to DE (x)	63,9
BE to NL	63,1
DE to FR (x)	41,3
CZ to AT	37
DE to CZ (x)	35,7
UK to FR	35

UK to FR	35
FR to DE	33,3
ES to FR (x)	32,8
PL to CZ	16,1
PR to ES	11,7
FR to BE	11
CZ to PL	10,1
SK to CZ	6,6
CZ to SK	1,1
DE to CH (x)	1
FR to IT	0,8
AT to CZ	0,3
CH to FR	0
IT to FR	0
BE to FR	0
DE to AT	0

Third liberalization package

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Third liberalisation package	Ownership unbundling, ISO, ITO.	Regulated terms of access	Already achieved	Upgraded and harmonized powers for national energy regulators

Unbundling

Ownership unbundling - OU means separating the ownership or the operation of gas and power networks from other parts of the energy business

ISO – energy supply companies may still formally own gas or electricity transmission networks but must leave the entire operation, maintenance, and investment in the grid to an independent company

ITO model – energy supply companies may still own and operate gas or electricity networks but must do so through a subsidiary. All important decisions must be taken independent of the parent company

Unbundling in electricity market

Member State	Transmission system operator	Public/private	Unbundling (ITO, ISO, OU)
Austria	Austrian Power Grid AG (APG)	Private	ITO
	Vorarlberger Übertragungsnetze GmbH (VÜN)	Public	OU
Belgium	Elia System Operator SA	Public	OU
Bulgaria	Electroenergien Sistemen Operator EAD (ESO)	Public	Certification pending
Czech Republic	ČEPS a.s.(electricity)	Public	OU
Croatia	Croatian Transmission System Operator Ltd (HOPS)	Public	ITO
Denmark	Energienet.dk (electricity)	Public	OU

Estonia	Elering	Public	OU
Finland	Fingrid Oyj	Public	OU
France	RTE	Public	ITO
Germany	50Hertz Transmission GmbH	Private	OU
	Amprion GmbH	Private	ITO
	TransnetBW GmbH	Private	ITO
	TenneT TSO GmbH	Public	OU
Greece	Independent Power Transmission Operator S.A. (ADMINE)	Private/Public	ITO
Hungary	MAVIR Magyar Villamosenergia-ipari Átviteli Rendszerirányító Zártkörűen Működő Részvénytársaság	Public	ITO
Ireland	EirGrid plc	Public	Article 9 (9) ITO+
Italy	Terna S.p.A. - Rete Elettrica Nazionale	Public	OU
Latvia	Augstsprieguma tīkls (AST)	Public	ISO
Lithuania	Litgrid AB	Public	OU
Netherlands	TenneT	Public	OU
Poland	Polskie Sieci Elektroenergetyczne (PSE SA)	Public	OU
Portugal	Rede Eléctrica Nacional (REN)	Public	Certification pending
Romania	Compania Națională de Transport a Energiei Electrice (Transelectrica)	Public	ISO
Slovenia	ELES, d.o.o.	Public	Certification pending
Slovakia	Slovenská elektrizačná prenosová sústava (SEPS)	Public	OU
Spain	Red Eléctrica de España: S.A.		OU
Sweden	Affärsverket svenska kraftnät	Public	OU
United Kingdom	National Grid Electricity Transmission	Private	OU
	System Operator for Northern Ireland Ltd		Article 9 (9) ITO+
	Scottish Power Transmission Limited		Article 9 (9) ITO+
	Scottish Hydro Electric Limited		Article 9 (9) ITO+

Note: This list is non-subjective as certification procedures are ongoing in a number of member states

Member State	Transmission system operator	Unbundling (ITO, ISO, OU)*
Austria	Baumgarten Oberkappel Gasleitungsgesellschaft (BOG) m.b.H.	ITO
	GAS CONNECT AUSTRIA GmbH	ITO
	Trans Austria Gasleitung GmbH (TAG)	ITO
Belgium	Fluxys Belgium NV SA	OU
Bulgaria	Bulgartransgaz	Certification pending
Czech Republic	NET4GAS	ITO
Croatia	Plinacro	Certification pending
Denmark	Energienet.dk (gas)	OU
Estonia	AS EG Võrguteenus	Derogation
Finland	Gasum Oy	Derogation
France	GRTgaz	ITO
	Transport et Infrastructures Gaz France (TIGF)	OU
Germany	Bayemets GmbH	ITO
	Fluxys Deutschland GmbH	OU
	Fluxys TENP GmbH	OU
	Gastransport Nord GmbH	ITO
	GASCADE Gastransport GmbH	ITO
	Gasunie Deutschland Transport Services GmbH	OU
	Gasunie Ostseeanbindungsleitung GmbH	OU
	Jordgas Transport GmbH	ITO
	GRTgaz Deutschland GmbH	ITO
	NEL Gastransport GmbH	ITO
	Nowega GmbH	ITO

	ONTRAS Gastransport GmbH	ITO
	Open Grid Europe GmbH	ITO
	Thyssengas GmbH	ITO
	terranets bw GmbH	ITO
Greece	DESFA Hellenic Gas Transmission System Operator S.A	ITO
Hungary	FGSZ	ITO
Ireland	Bord Gáis Éireann	OU
Italy	SNAM RETE GAS S.P.A.	OU
	Società Gasdotti Italia S.p.A.	OU
	Infrastrutture Trasporto Gas S.p.A.	ITO
Latvia	Latvijas Gaze	Derogation
Lithuania	AB Amber Grid	Certification pending
Luxembourg	Creos Luxembourg S.A.	Derogation
Netherlands	Gasunie Transport Services B.V.	OU
Poland	Gas Transmission Operator GAZ - SYSTEM S.A.	OU
Portugal	REN Gasodutos S.A.	OU
Romania	Transgaz	ISO
Slovenia	PLINOVODI d.o.o.	ITO
Slovakia	Eustream, a.s.	ITO
Spain	Enagas Transporte	OU
	Reganosa	OU
Sweden	Swedegas AB	OU
United Kingdom	National Grid Gas plc (NGG)	OU

Note: Cyprus and Malta do not have natural gas infrastructure and are not included in this table.

* The table includes the major TSOs in each country in 2014, but is not exhaustive. It lists the certification requests for the unbundling option concerned which is being reviewed by the national regulatory authority and the European Commission.

Source: European Commission, DG Energy, and IEA on the basis of the opinions issued to the notified certifications, 2014.

TPA

- Connection and access to national transition and distribution systems, access to LNG facilities. Access to balancing services and to cross-border infrastructure.
 - TPA may be refused where there is a lack of capacity
 - Small isolated systems/markets (Malta)
 - Emerging markets
 - TOP LTC crucials or exploiting gas fields and construction pipelines
 - Increasing of the capacity of existing infrastructure
 - Direct lines
 - Public service obligations
 - And others

Independent regulators

- Independent both from industry and govt interests. Own legal entities, have their own budget
- Can issue binding decisions to companies and impose penalties on those that do not comply with their legal obligation
- Generators, network operators and suppliers have to provide them with accurate data
- Are required to cooperate with each other (ACER, ENTSO-E, ENTSO-G)

ACER

- Drafting guidelines for the operation of cross-border gas pipelines and electricity networks
- Reviewing the implementation of EU-wide network development plans
- Deciding on cross-border issues if NRAs cannot agree or if they ask it to intervene
- Monitoring the functioning of the IEM including retail prices, network access for electricity produced from RES, and consumers rights

ENTSO-E + ENTSO-G

- Developing of standards and draft network codes to help harmonise the flow of electricity and gas across different transmission systems
- Coordinating of the planning of new network investments and monitor the development of new transmission capabilities. Europe-wide 10 year investment plan to help identify gas every two years

From liberalization to harmonization of the regulation

- Harmonisation of the rules on wholesale markets (detecting of market abuse, prohibiting of using of insider information or the spreading of incorrect information)
- Network codes that regulate who can use cross-border infrastructure and under what conditions.
- Access to infrastructure (exemptions from TPA to implement risky investments which cannot be made otherwise)
- Rules on government intervention (state aid for RES, backup capacity...)
- Consumer rights and protection

Sources

- IEA (2014): Energy Policies of IEA Countries – The European Union.