



Brussels, 2.7.2014
SWD(2014) 330 final/3

PART 5/5

This document corrects document SWD(2014)330 final/2 of 16.06.2014. Concerns technical and typographical corrections.

COMMISSION STAFF WORKING DOCUMENT

In-depth study of European Energy Security

Accompanying the document

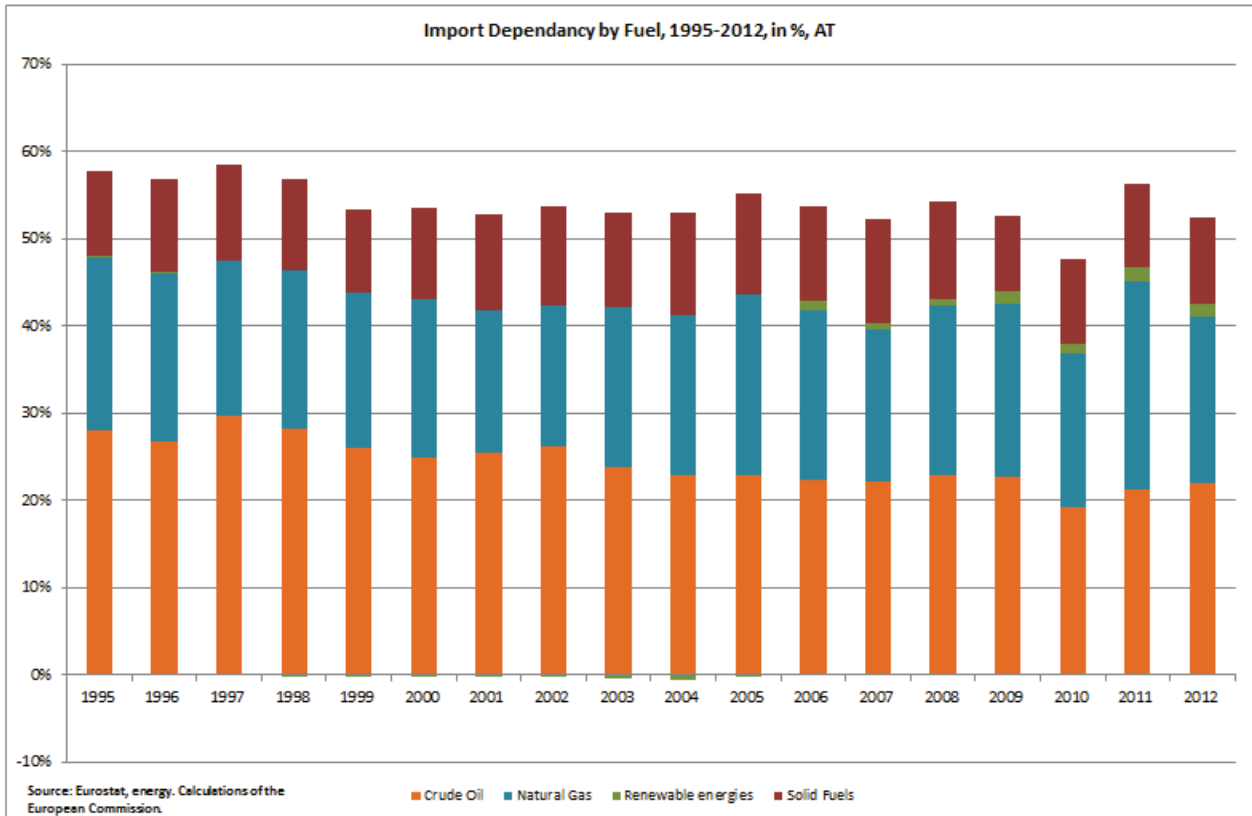
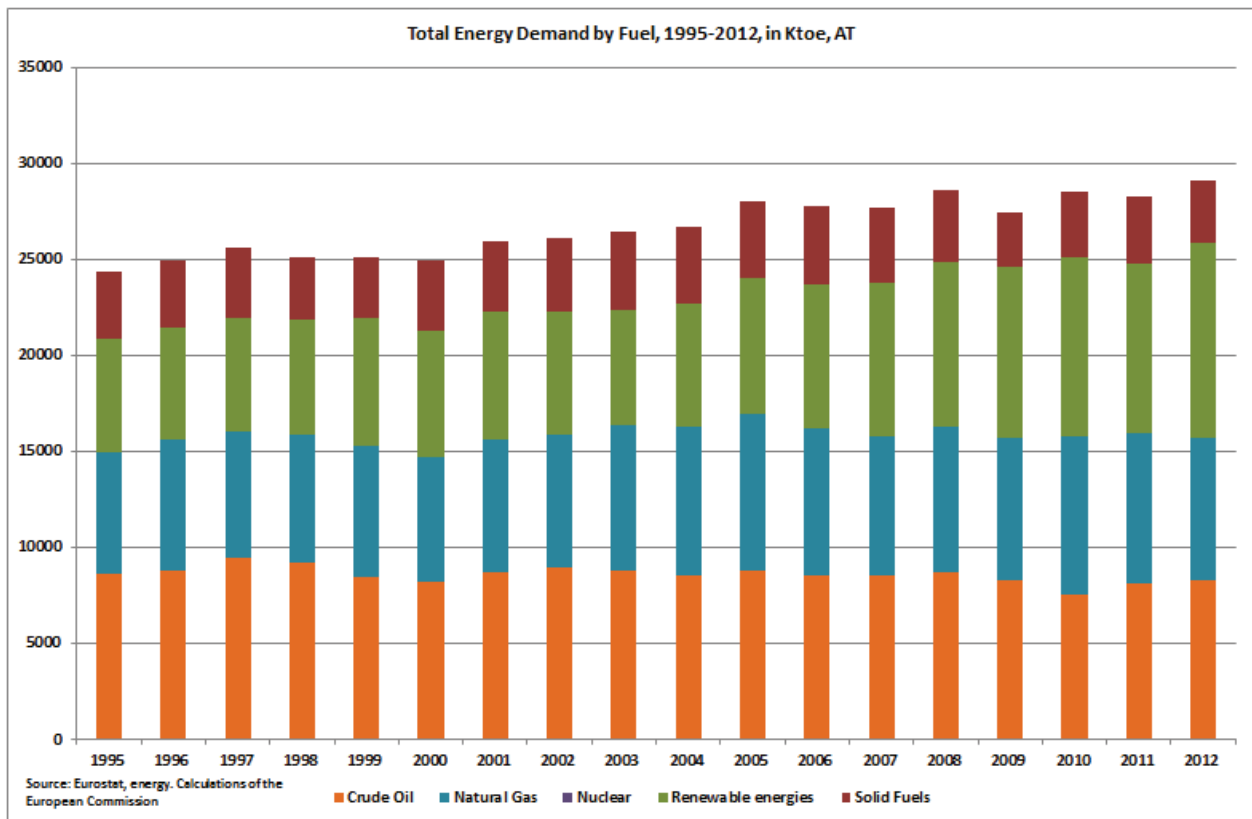
Communication from the Commission to the Council and the European Parliament:

European energy security strategy

{COM(2014) 330 final}

Annex I: Country annexes

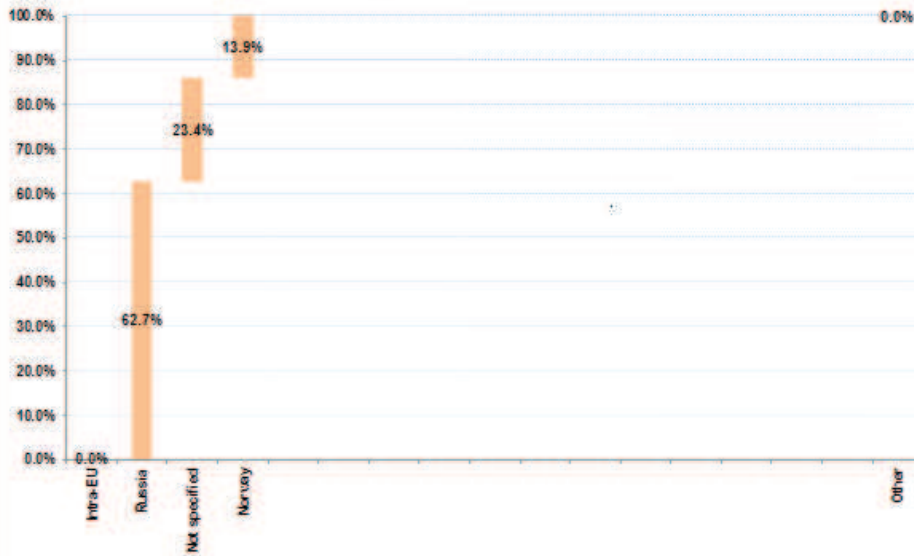
Country Fiche: Austria



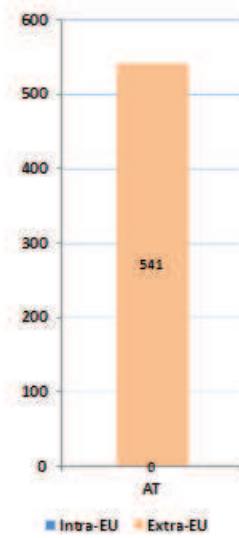
AT IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



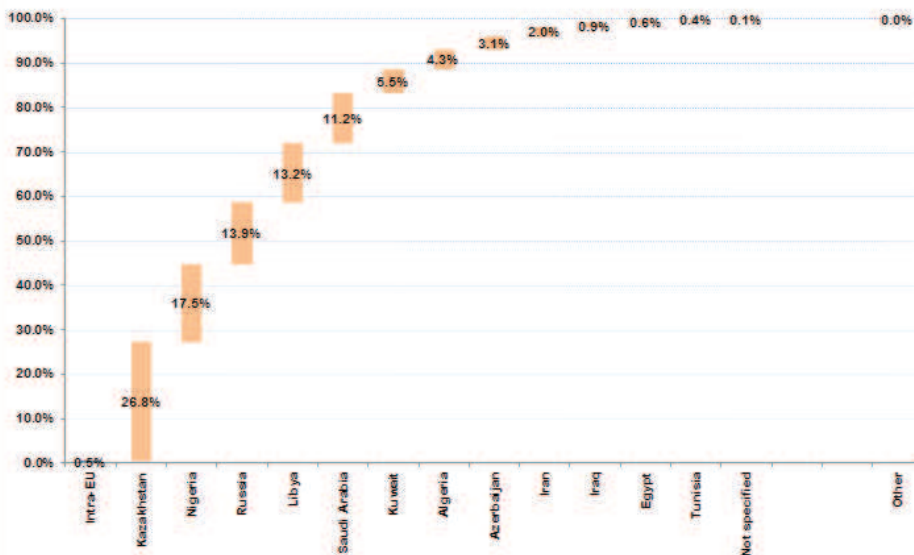
Source: Eurostat, energy. Calculations of the European Commission

AT

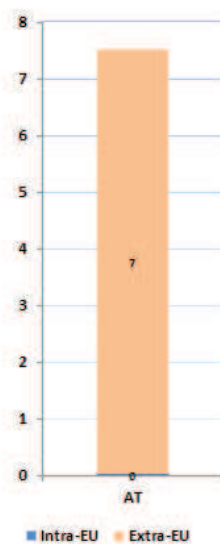
AT IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



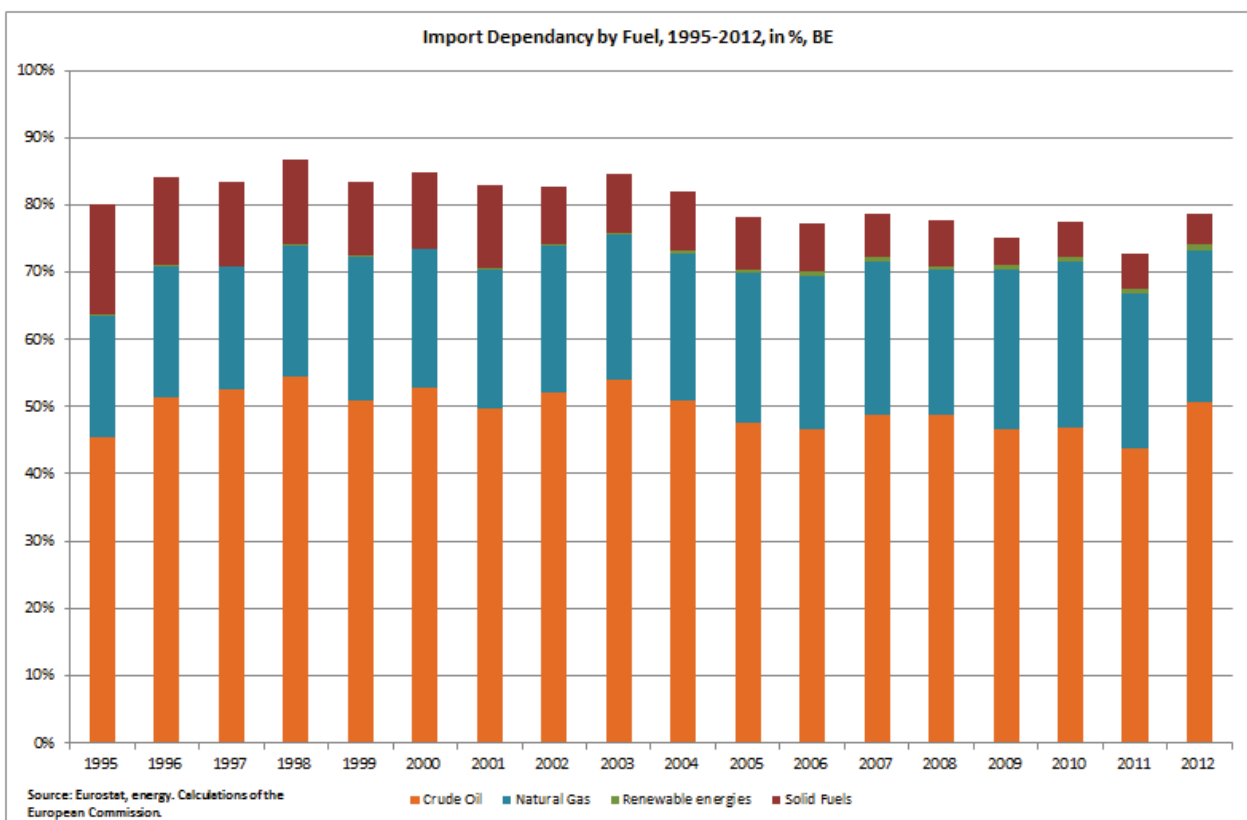
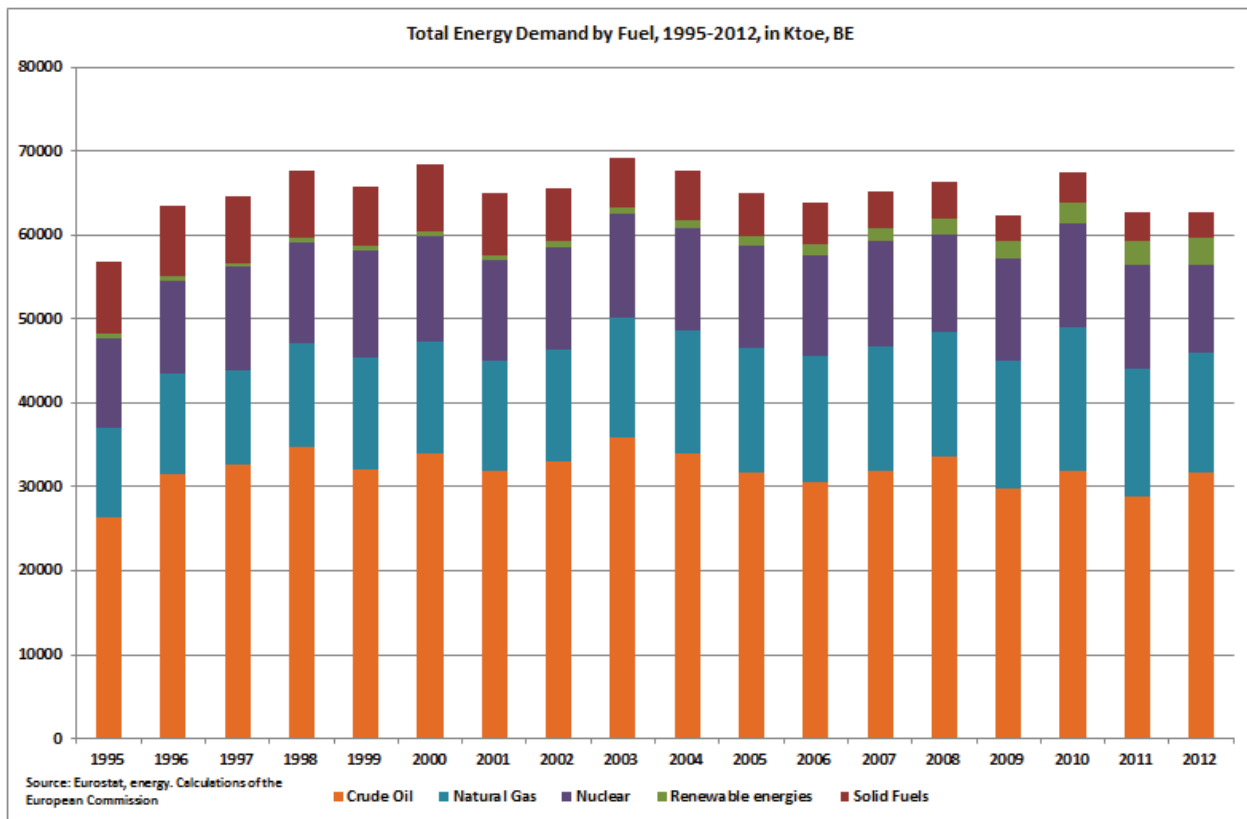
1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

AT

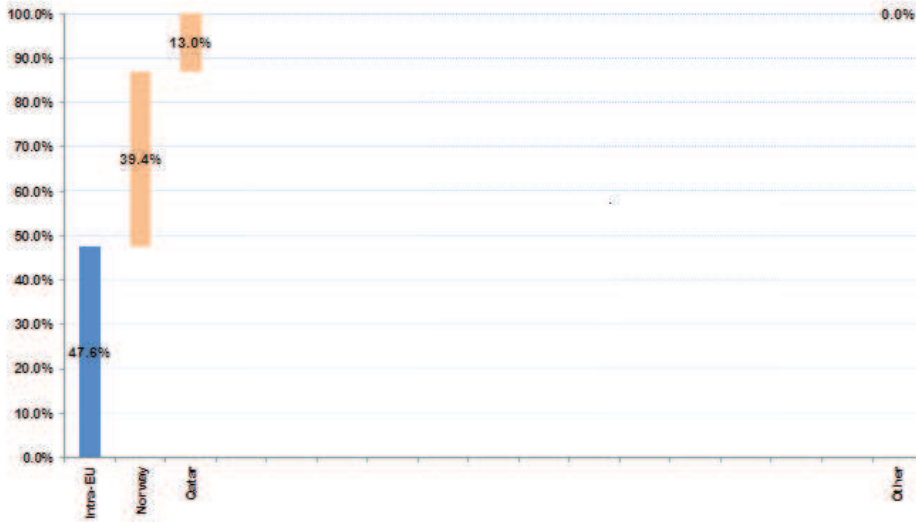
Country Fiche: Belgium



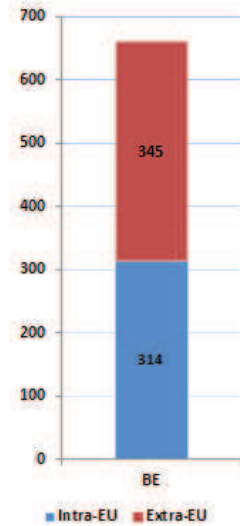
BE IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



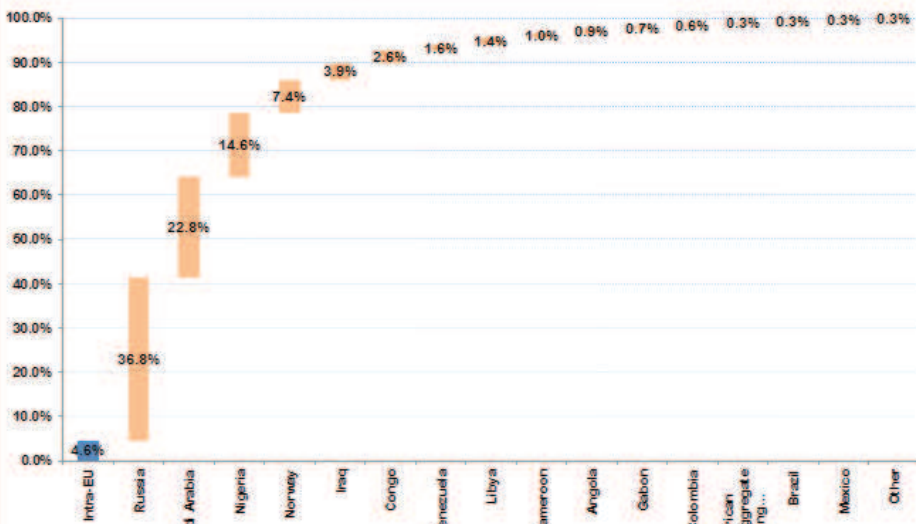
Source: Eurostat, energy, Calculations of the European Commission

BE

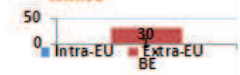
BE IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



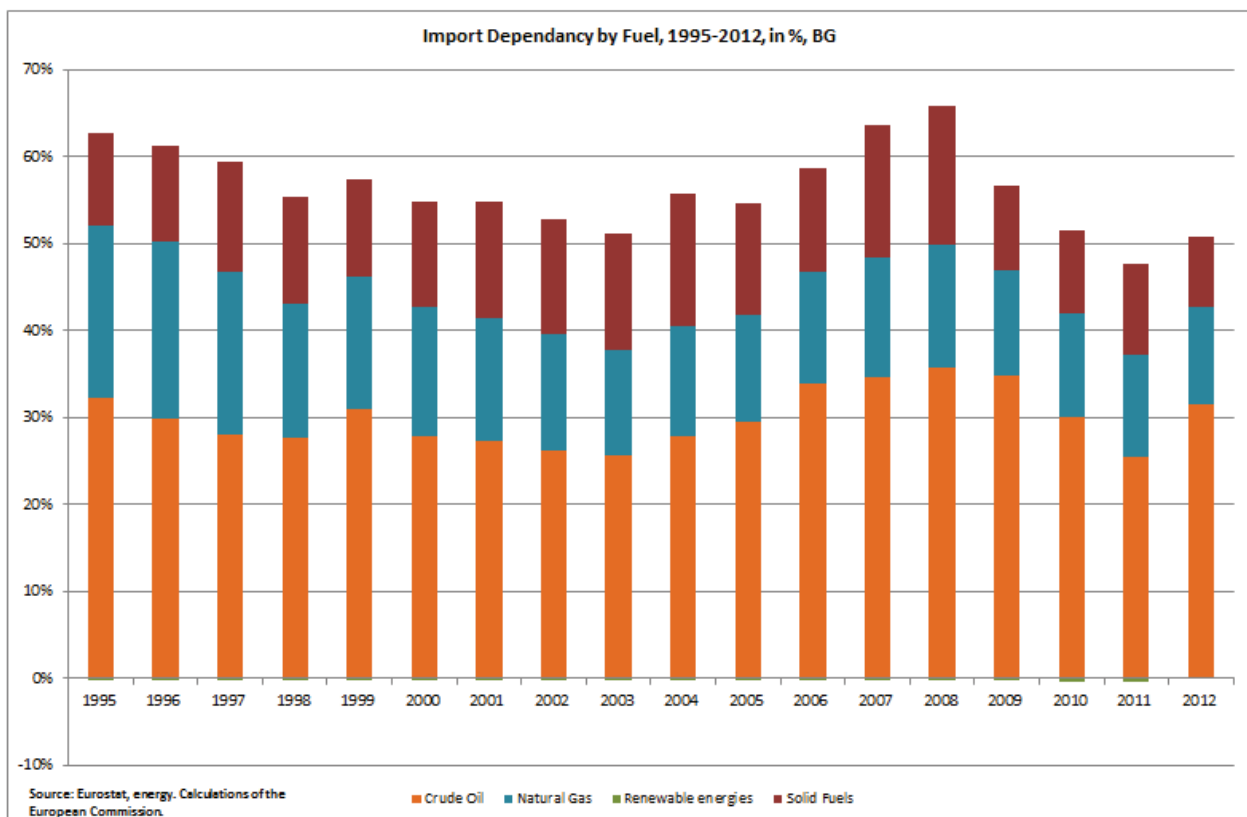
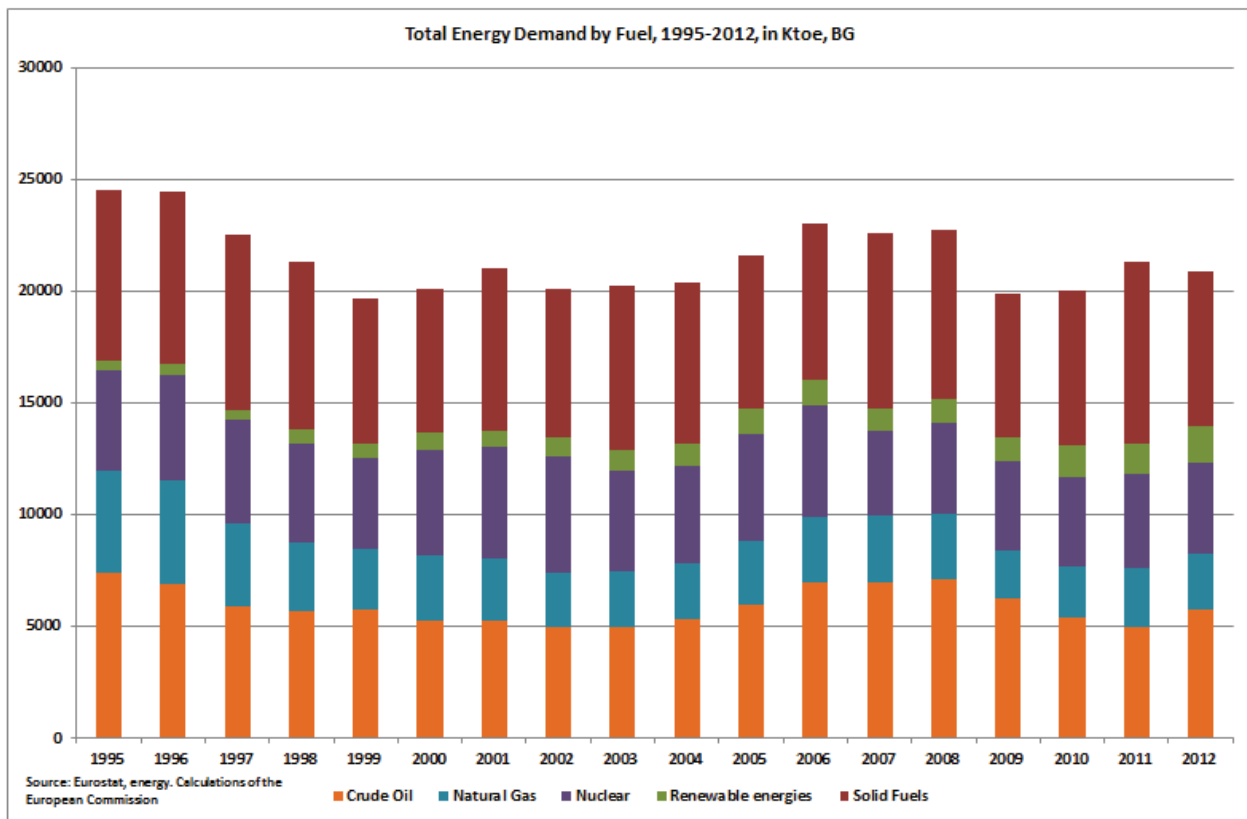
1000 Thousands of tonnes



Source: Eurostat, energy, Calculations of the European Commission

BE

Country Fiche: Bulgaria



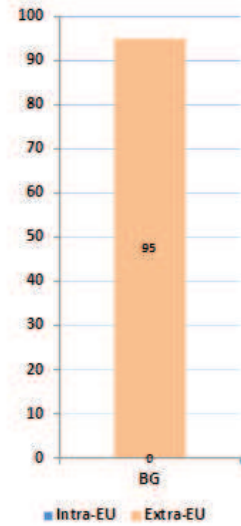
BG IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



Source: Eurostat, energy. Calculations of the European Commission

BG

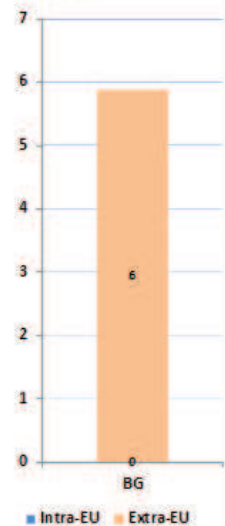
BG IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



1000 Thousands of tonnes



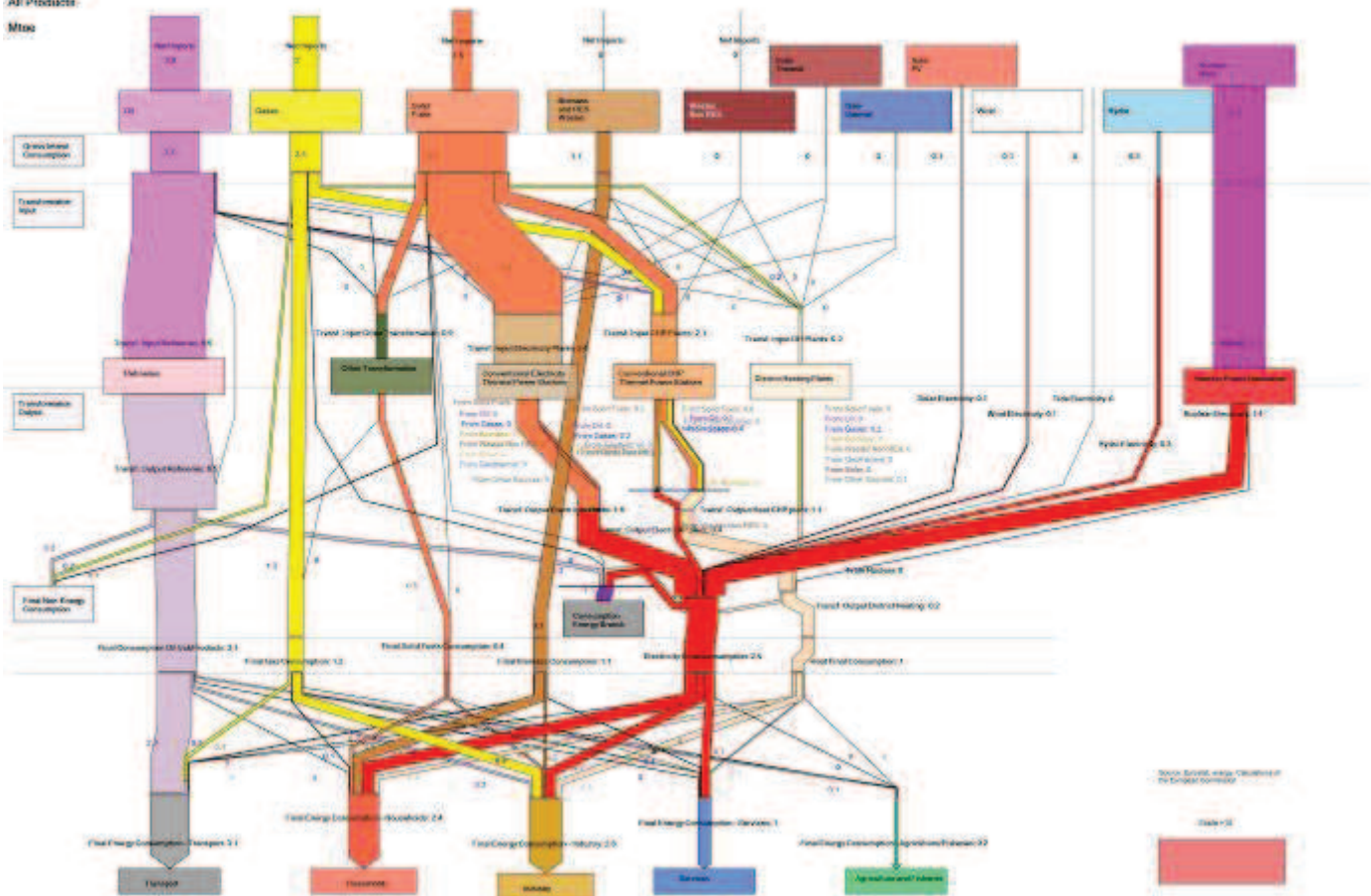
Source: Eurostat, energy. Calculations of the European Commission

BG

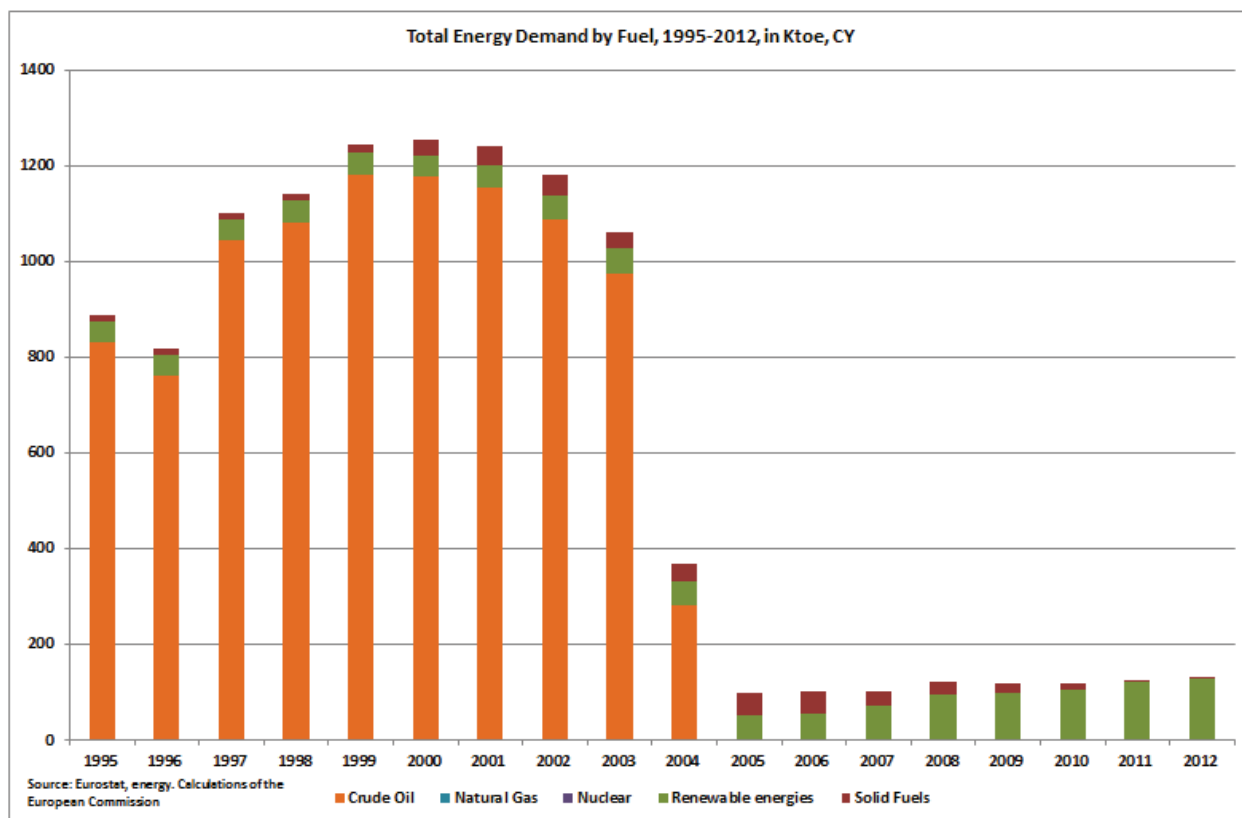
Bulgaria

<i>Total gas consumption / Russian imports</i>	Total: 2.6 Bcm/y // RU: 2.6 Bcm/y
<i>Gas storage capacity and current level:</i>	Total: 0.5 Bcm // Current: 0.2 Bcm
<i>Connections to other MSs and capacity:</i>	BG→GR: 3.5 Bcm/y RO→BG (NV1): 4.9 Bcm/y RO→BG (NV2): 19.6 Bcm/y (incl. cap. to TR)
<i>Alternative supply options:</i>	<p>The interconnection with Romania is expected to come online in June 2014 with a capacity of 0.5 Bcm/y (max capacity of 1.5 Bcm will be reached by 2016).</p> <p>Implementation of the interconnector BG-GR ongoing.</p> <p>Installing reverse flows between GR-BG is ongoing with a planned firm capacity of 0.36 Bcm/y.</p>
<i>Assessment:</i> The new interconnection with Romania and the reverse flows from Greece would still not be enough to cover missing Russian gas.	

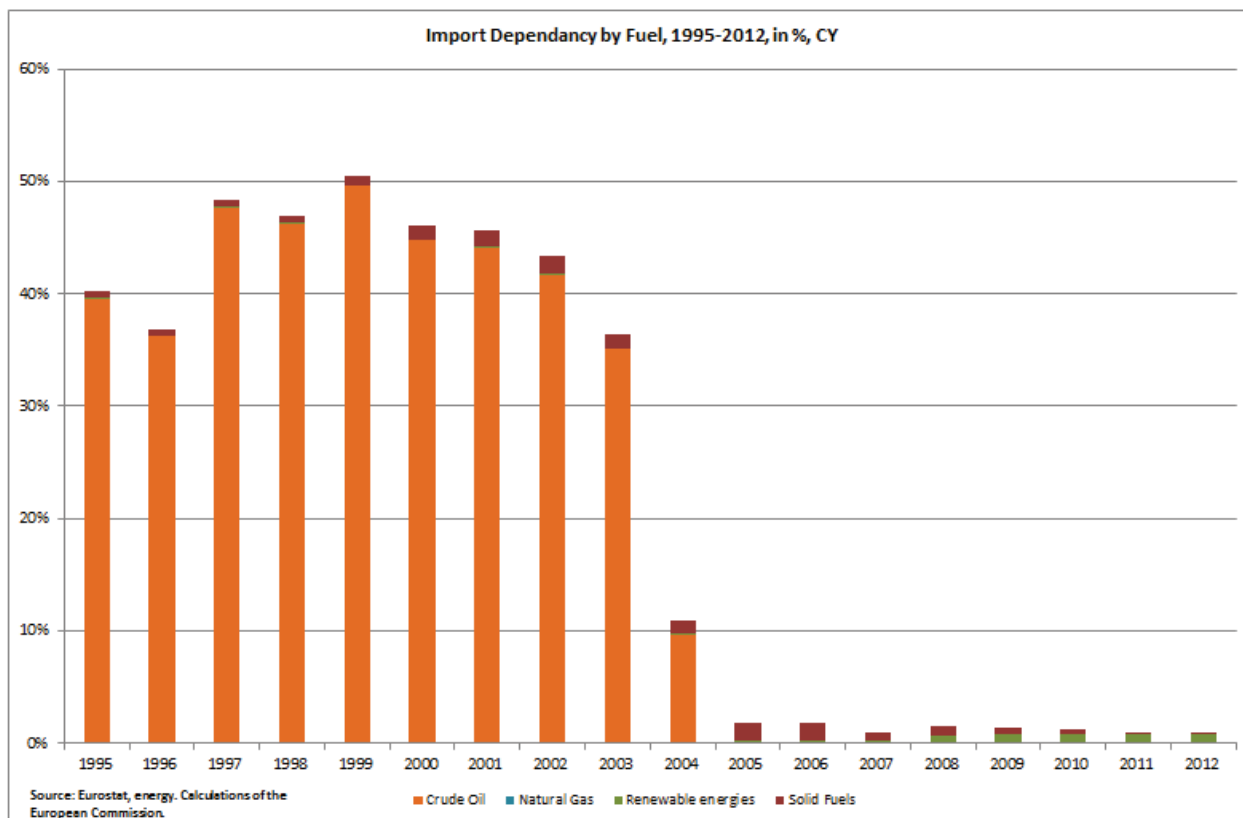
ENERGY FLOW
 BG 2012
 All Products
 Mtoe



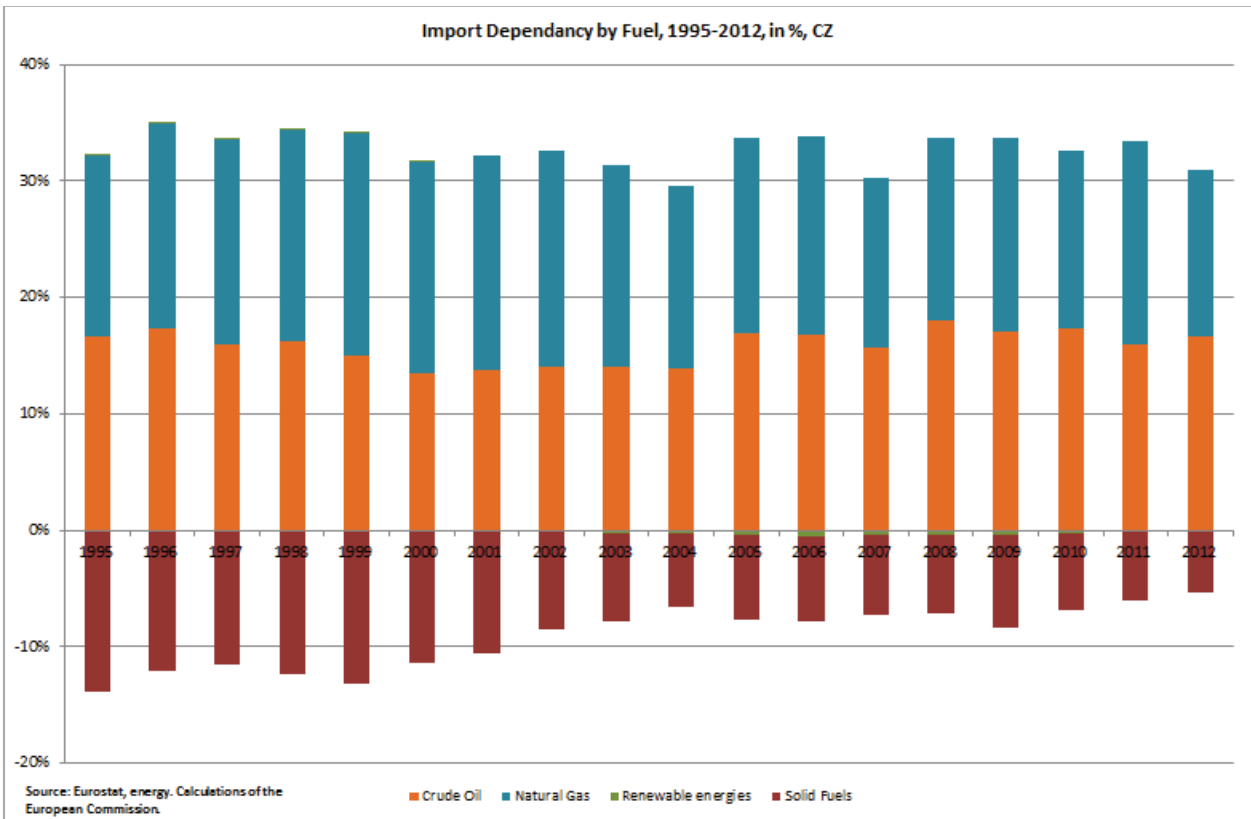
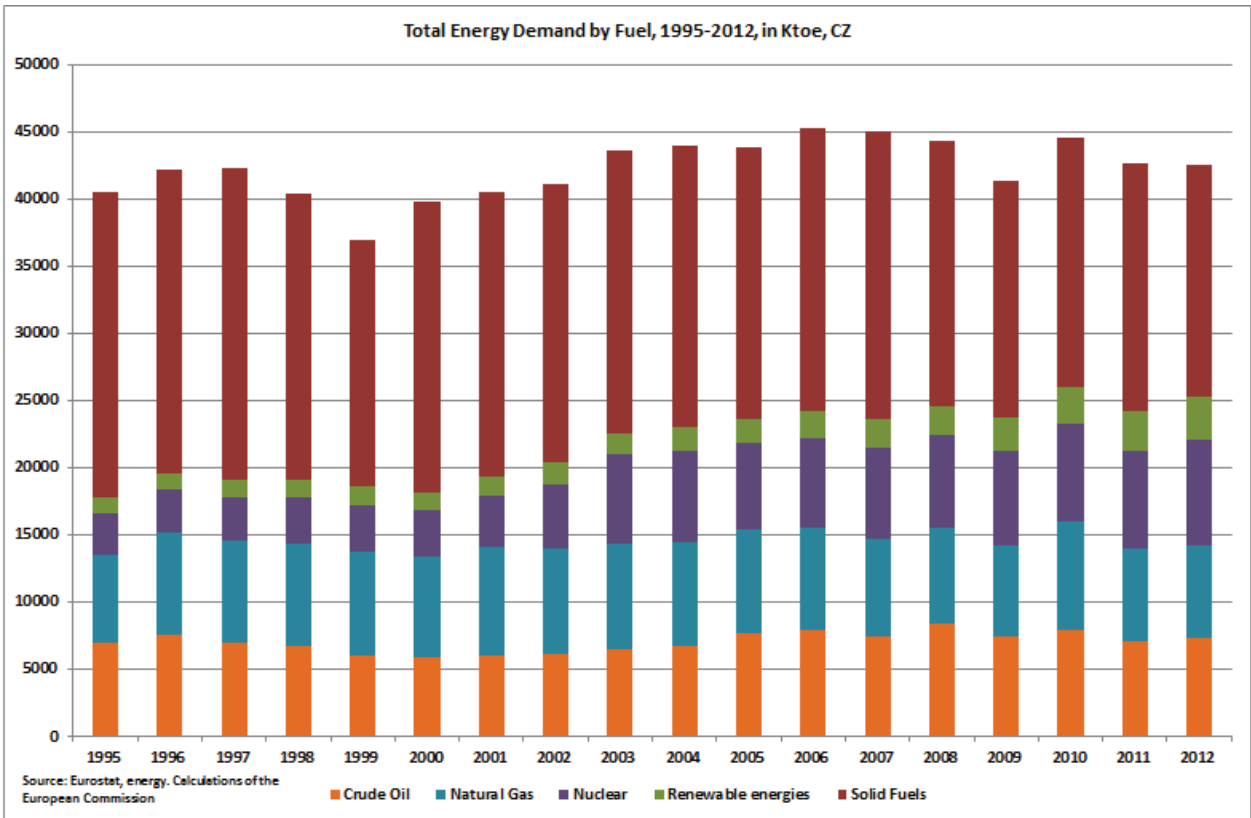
Country Fiche: Cyprus

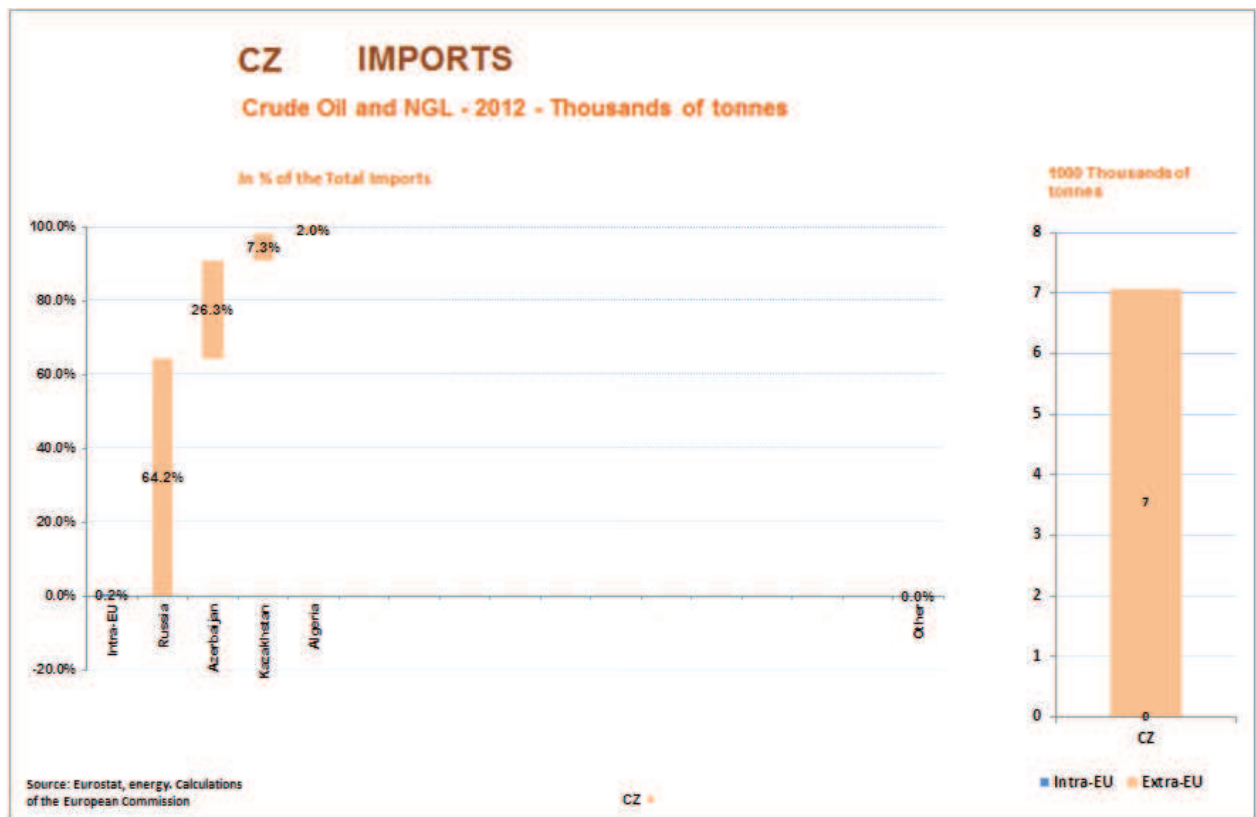
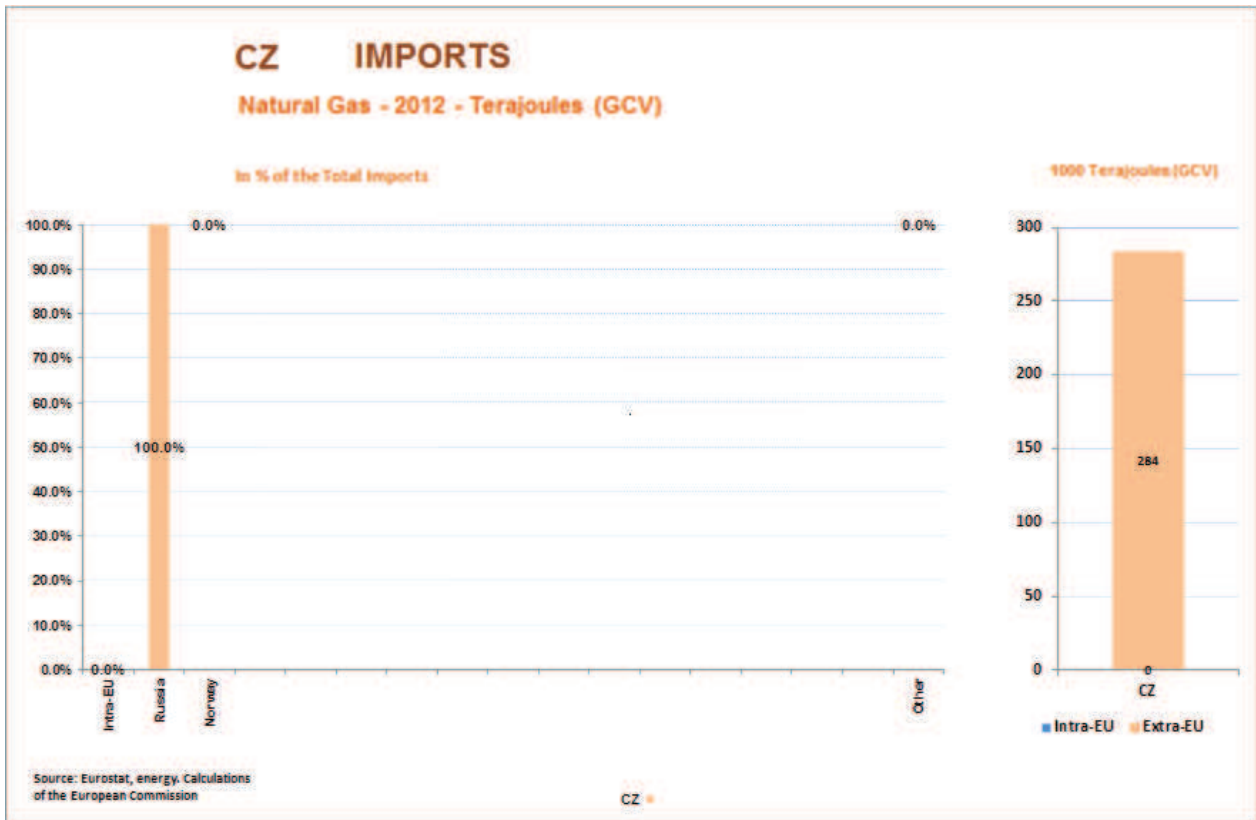


Note: Since 2005 Cyprus does not report crude oil data under energy transformation in the SIRENE database.

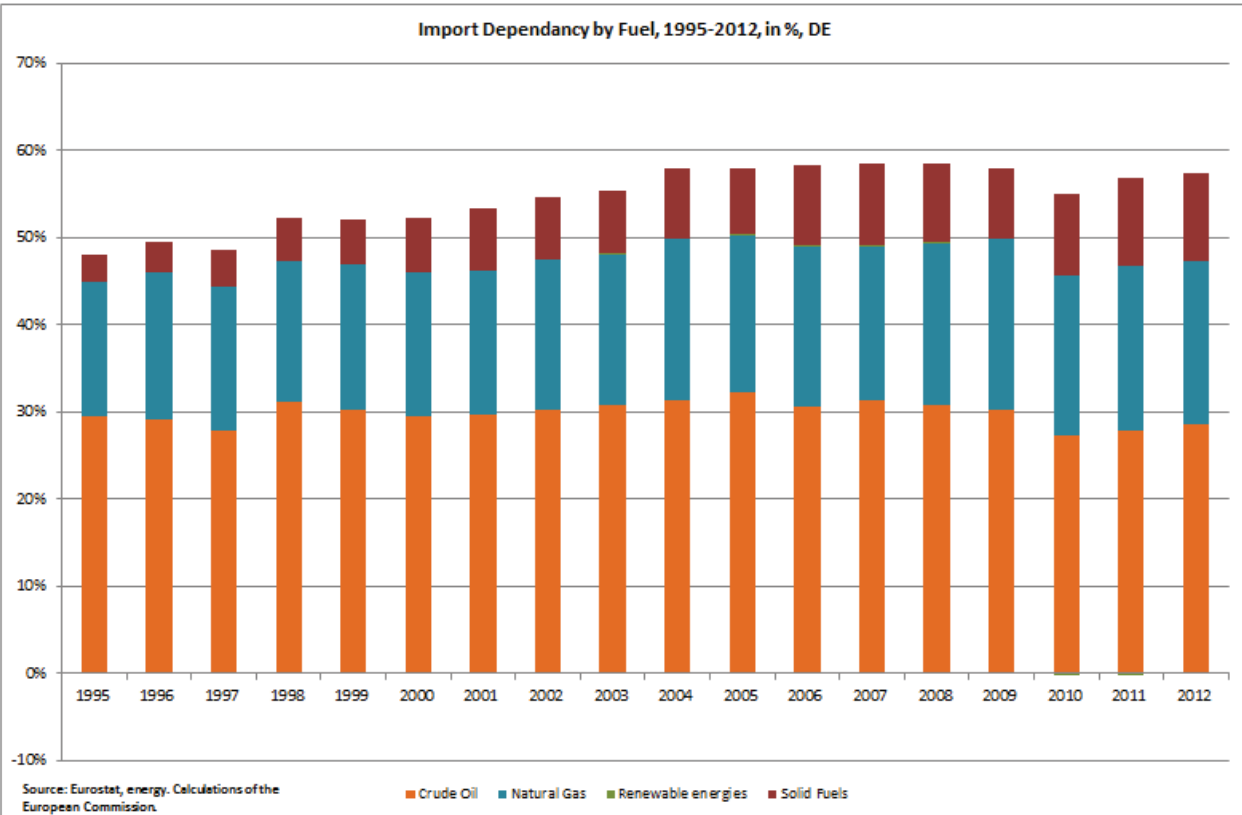
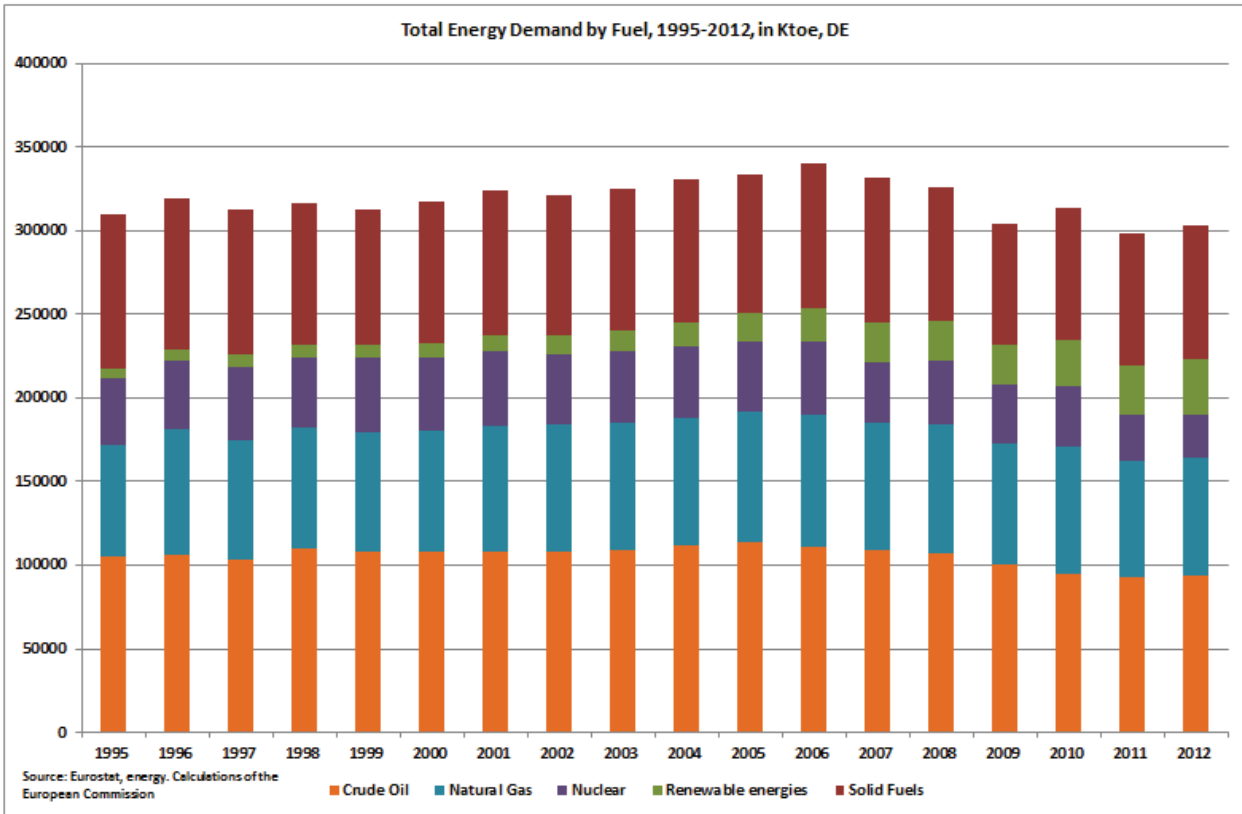


Country Fiche: Czech Republic





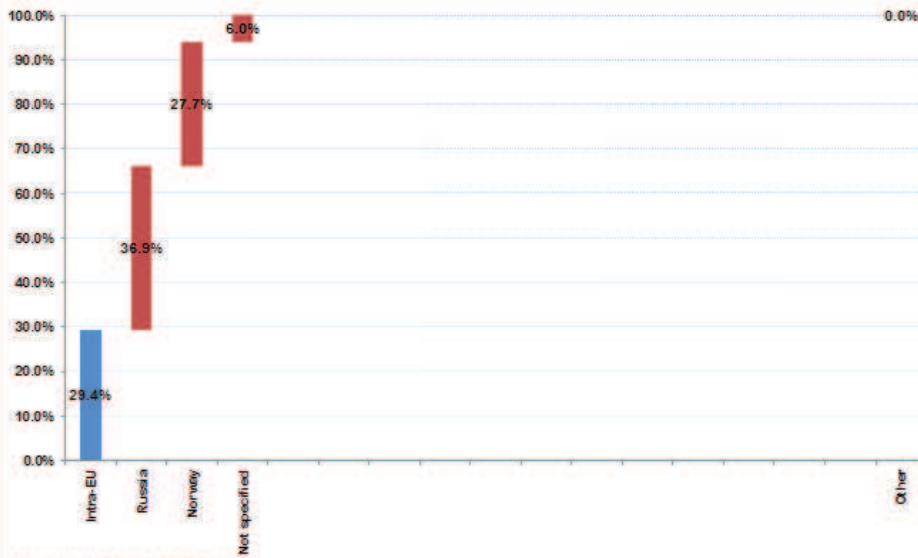
Country Fiche: Germany



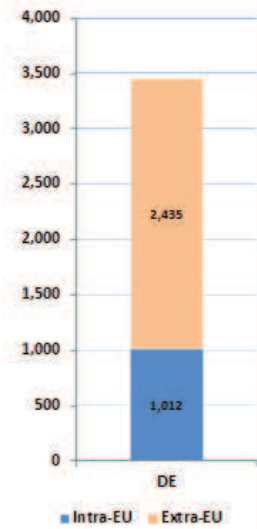
DE IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules(GCV)



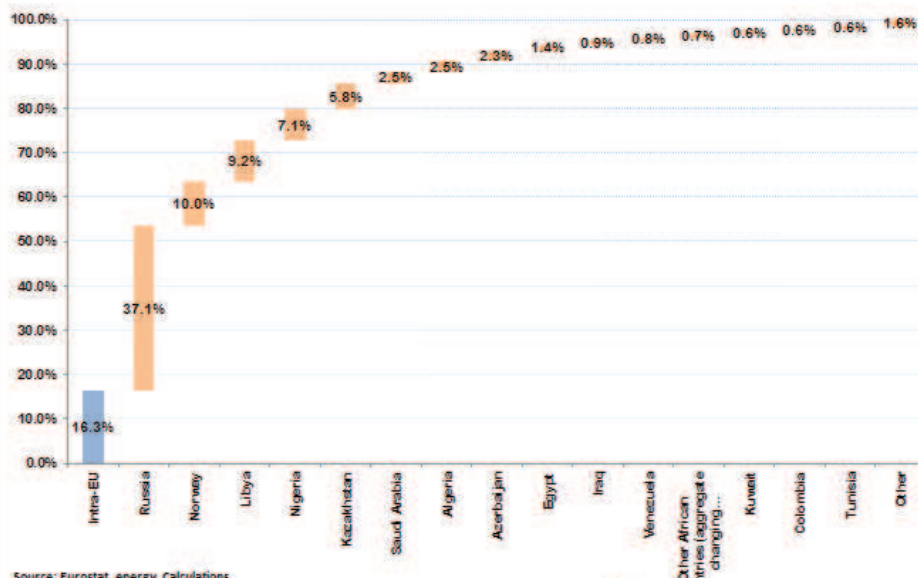
Source: Eurostat, energy. Calculations of the European Commission

DE

DE IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



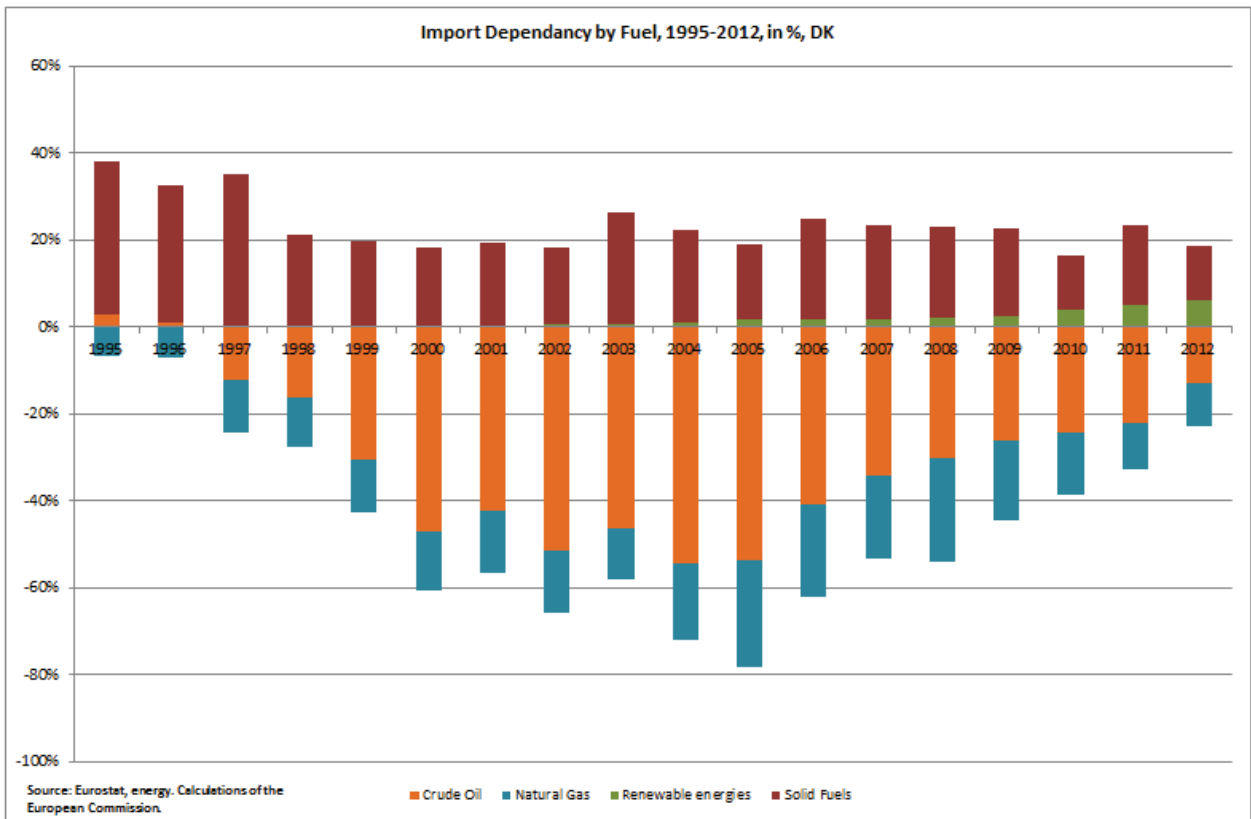
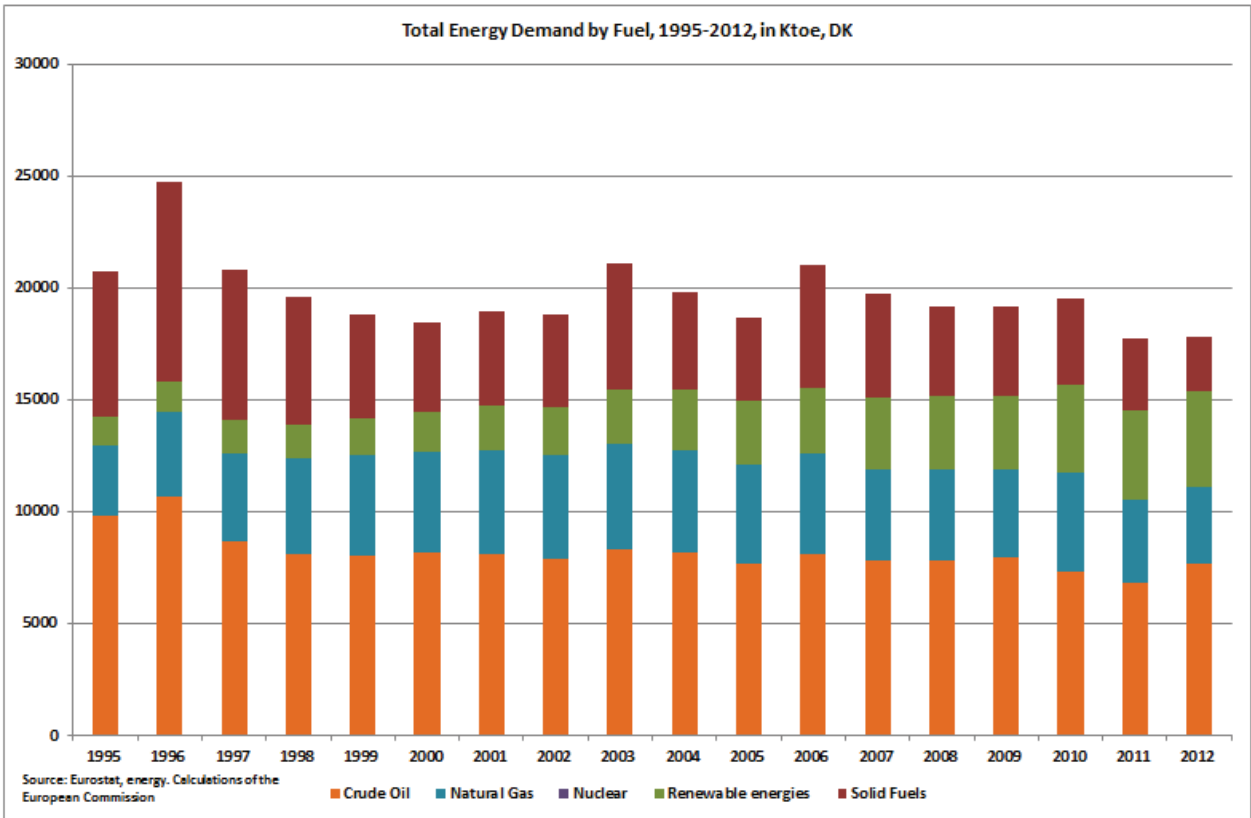
1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

DE

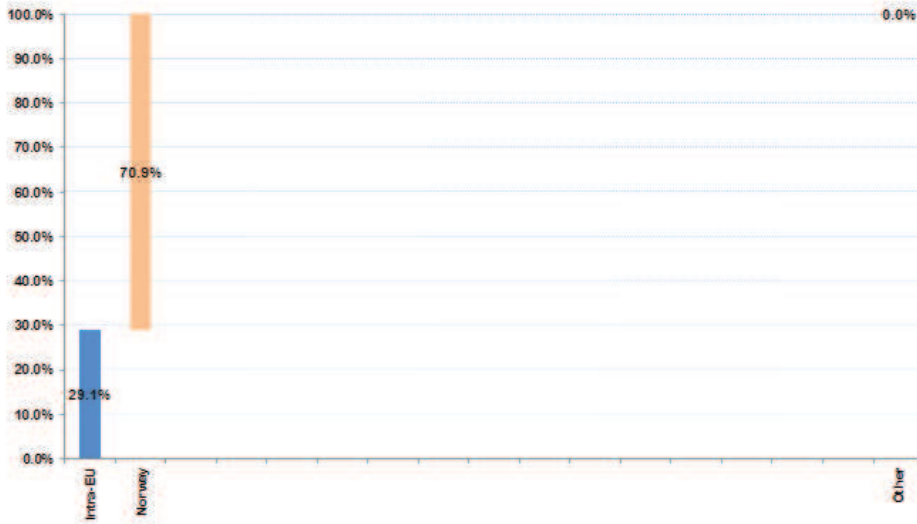
Country Fiche: Denmark



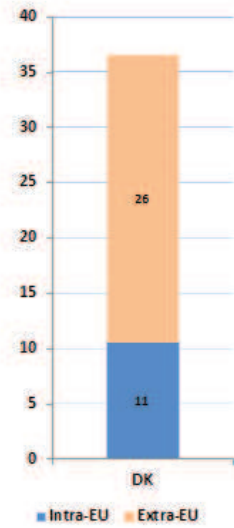
DK IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



Source: Eurostat, energy. Calculations of the European Commission

DK

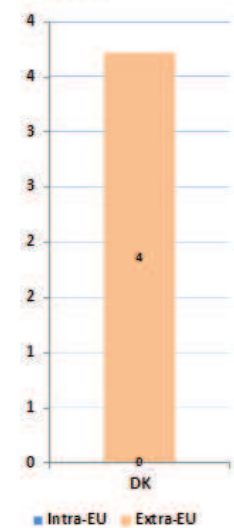
DK IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



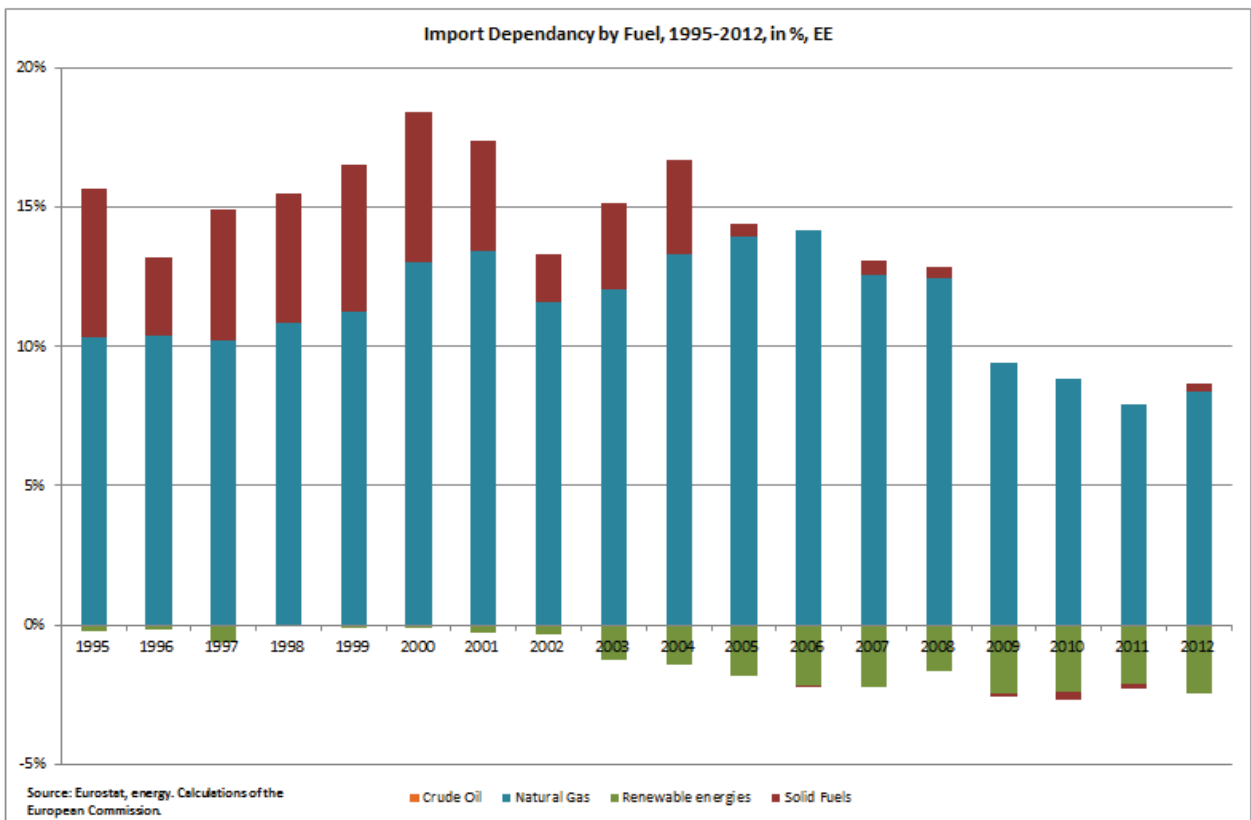
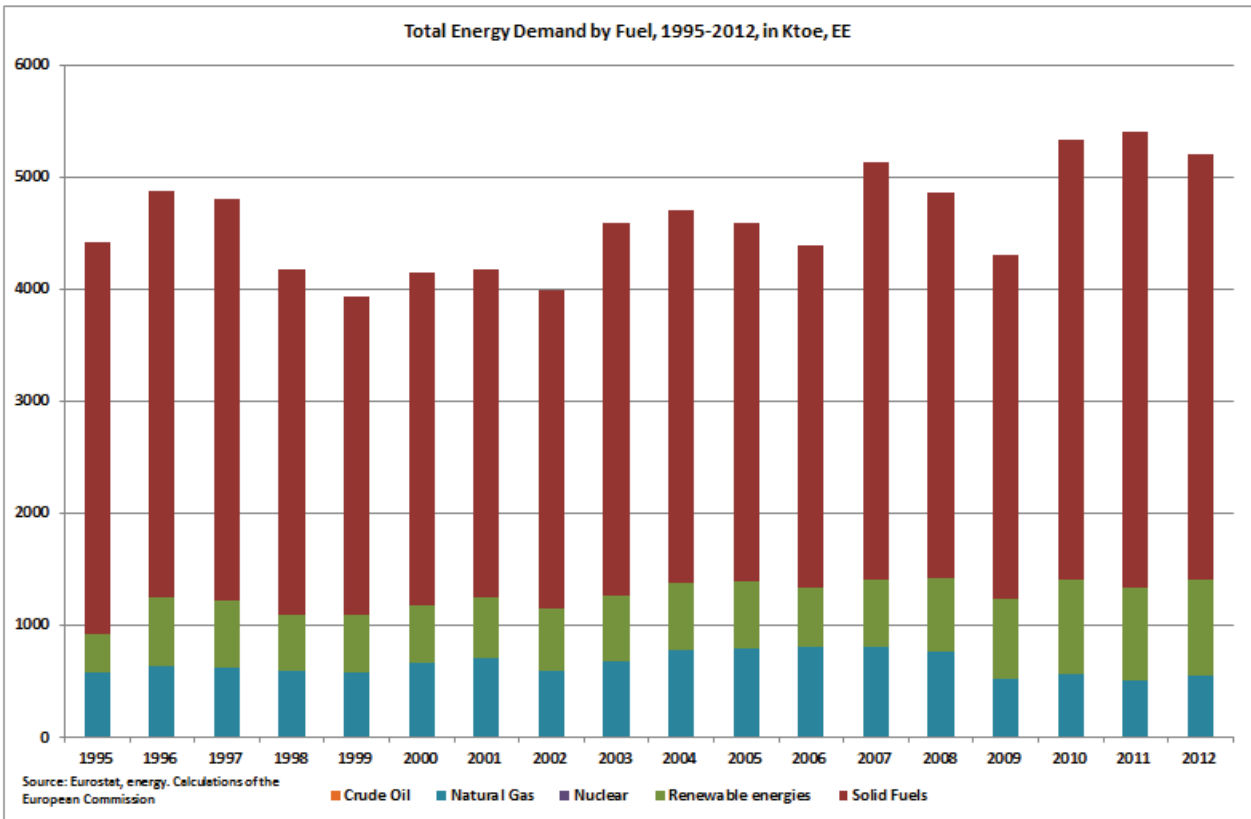
1000 Thousands of tonnes

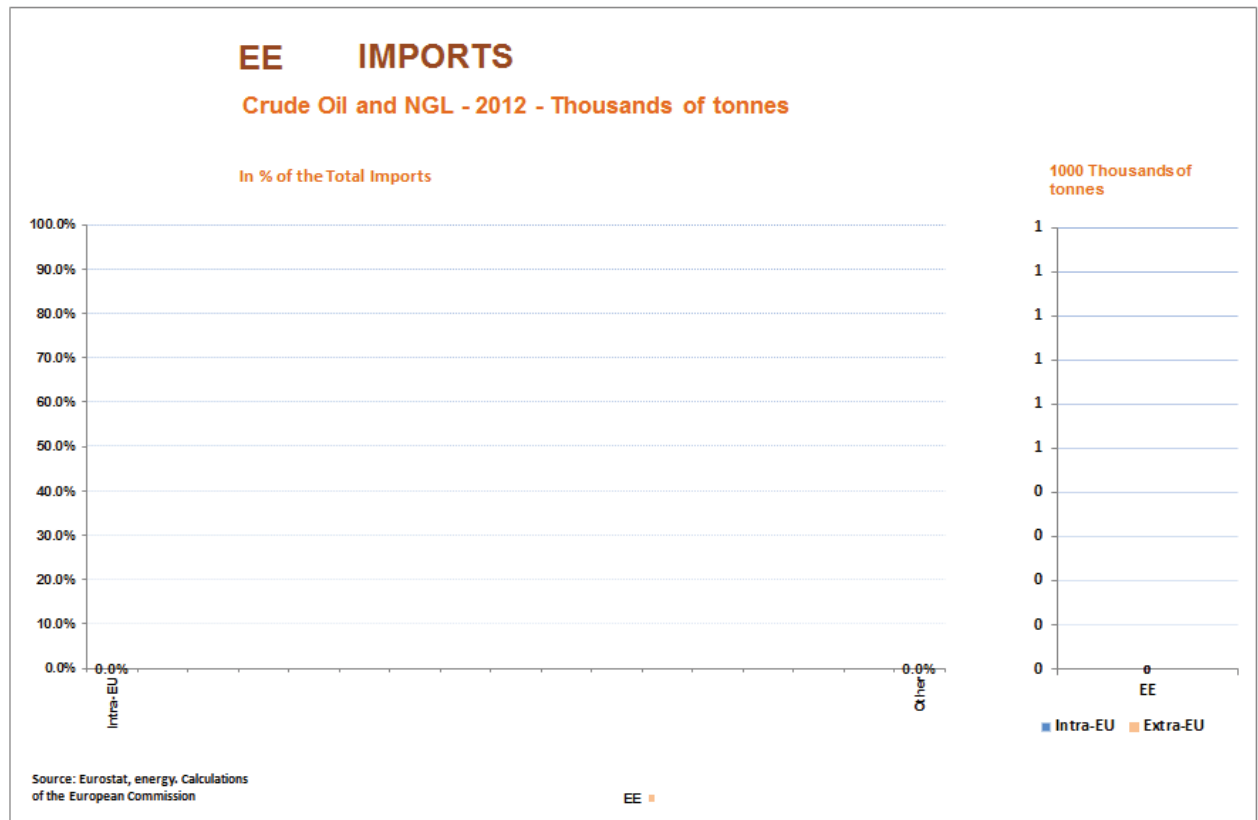
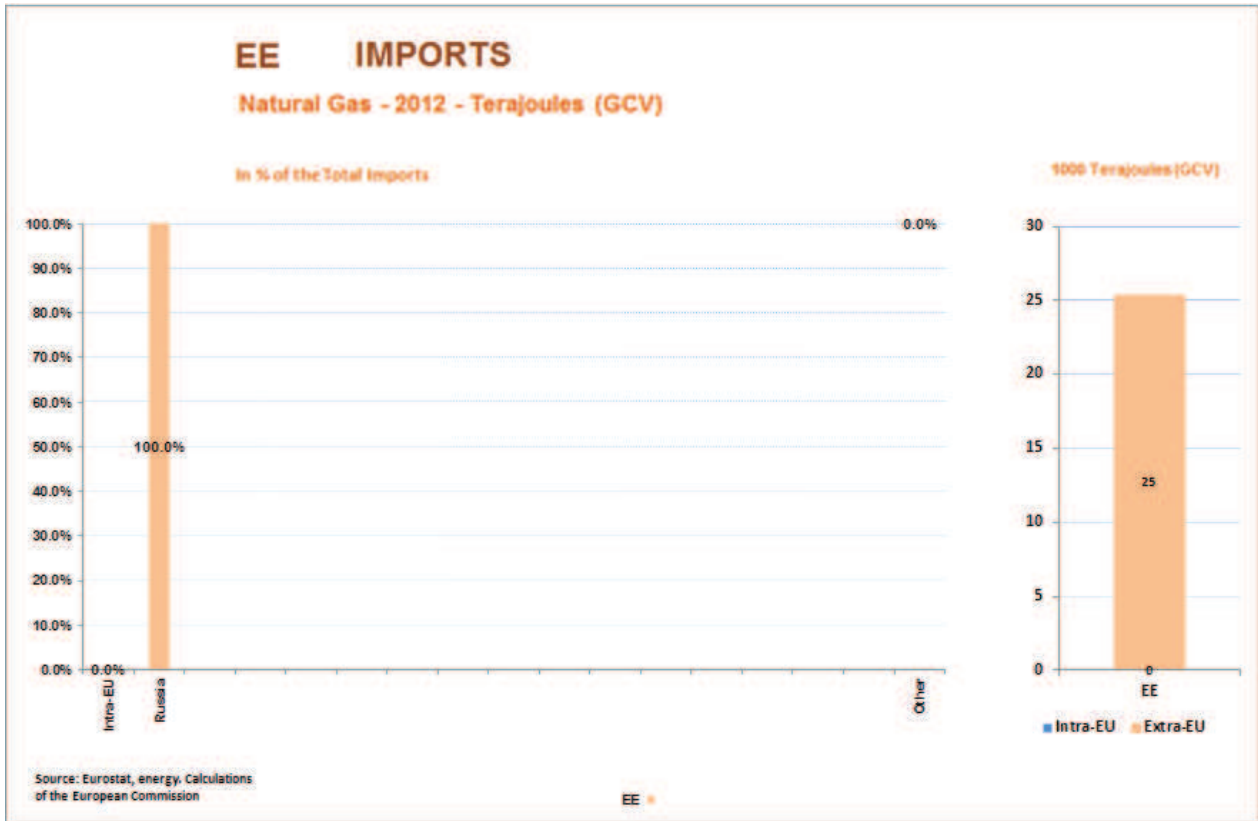


Source: Eurostat, energy. Calculations of the European Commission

DK

Country Fiche: Estonia





Estonia

Total gas consumption	Total: 0.67 Bcm/y // RU: 0.67 Bcm/y
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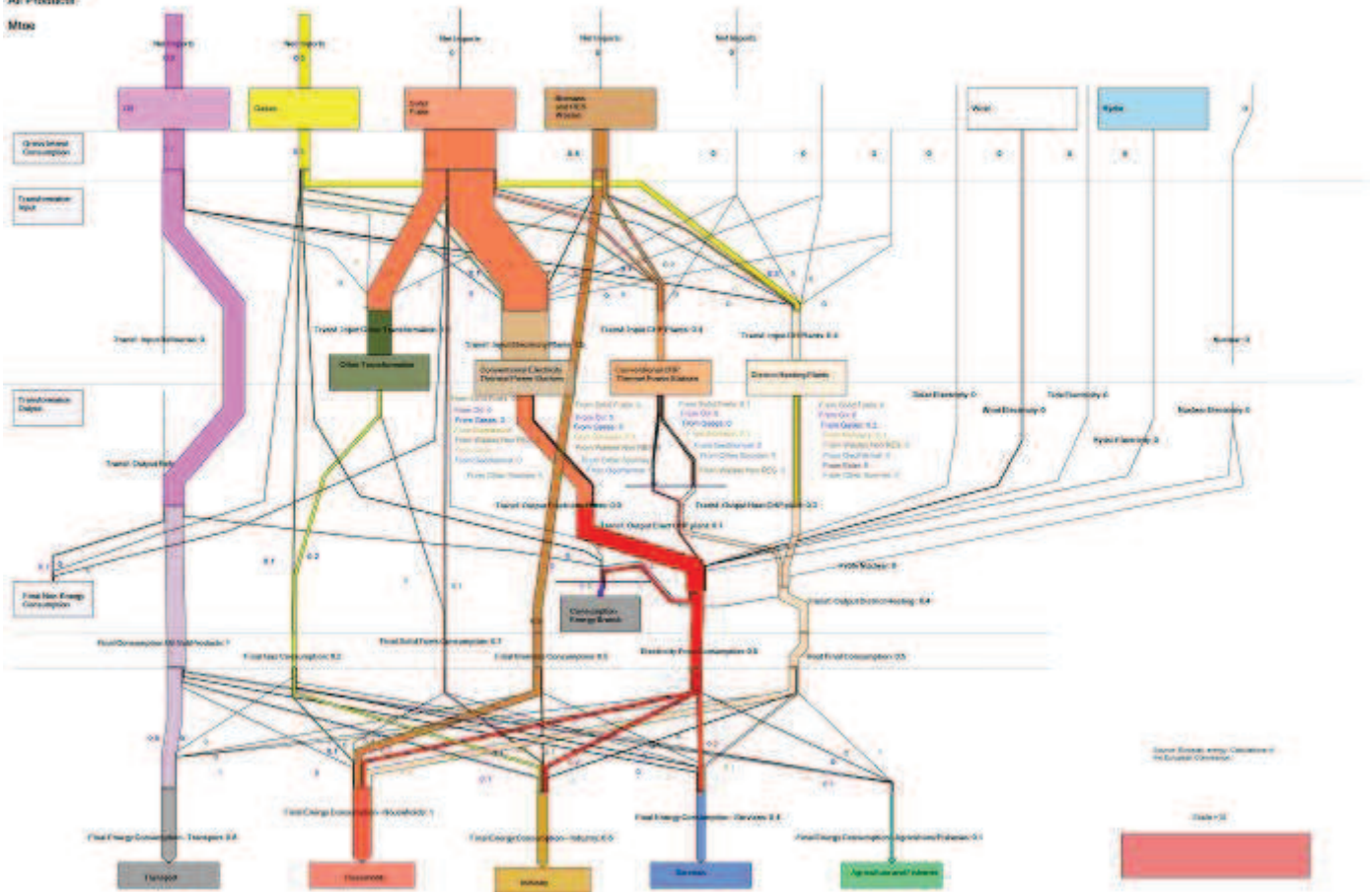
<i>/ Russian imports</i>	
<i>Gas storage capacity and current level:</i>	n.a.
<i>Connections to other MSs and capacity:</i>	LV→EE: 2.5 Bcm/y
<i>Alternative supply options:</i>	Additional supplies to Lithuania via the regasification terminal could in theory allow for swaps and thus additional sources from the end of 2014. Physical impact on the Estonian market would though be limited. Baltic connector or the LNG terminal could provide diversification in the mid-term.
<i>Assessment:</i> Estonia is fully and exclusively dependent on Russian gas imports. Because of the specific operating regime in Russia, Estonia receives gas in the summer directly from Russia, while in winter it receives gas from the Latvian storage facility Incukalns. As long as gas is stored in Incukalns, Estonia is safe. In the event of a disruption, Estonia must apply fuel switching.	

ENERGY FLOW

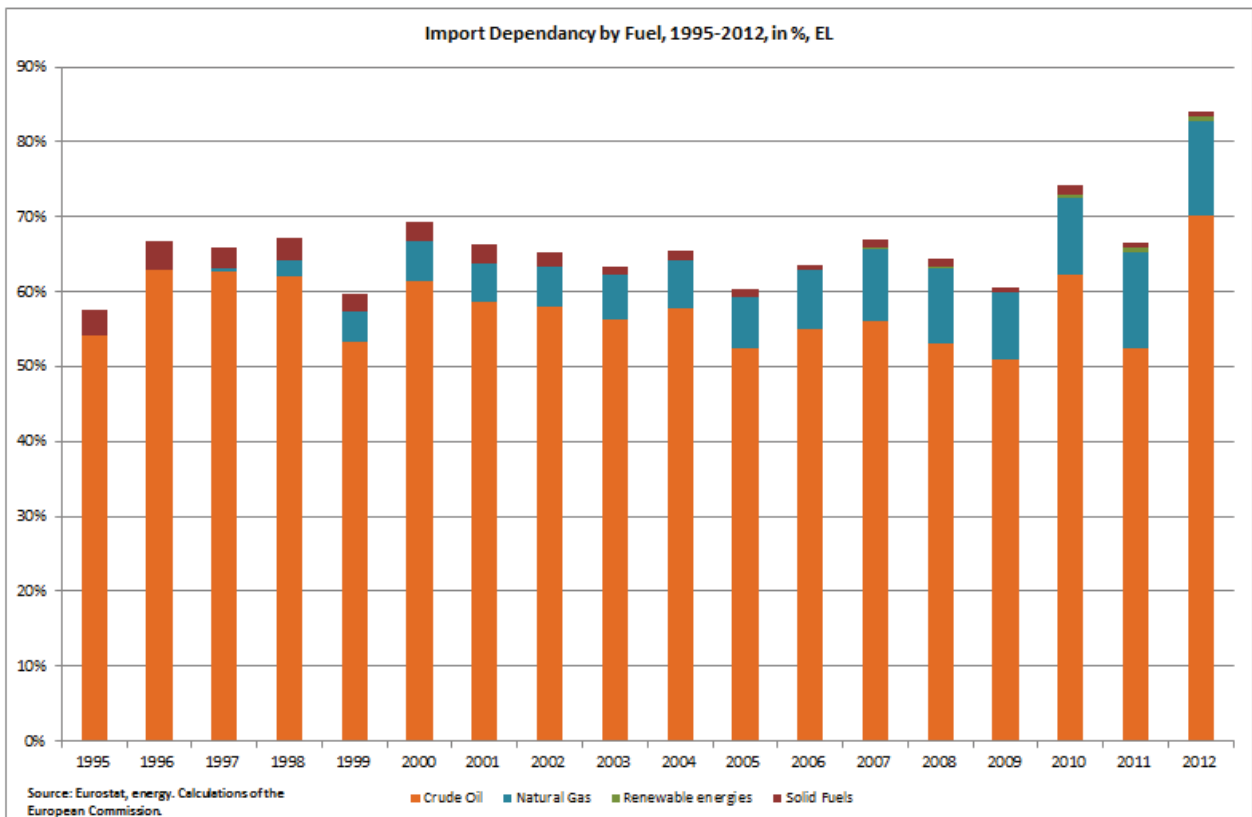
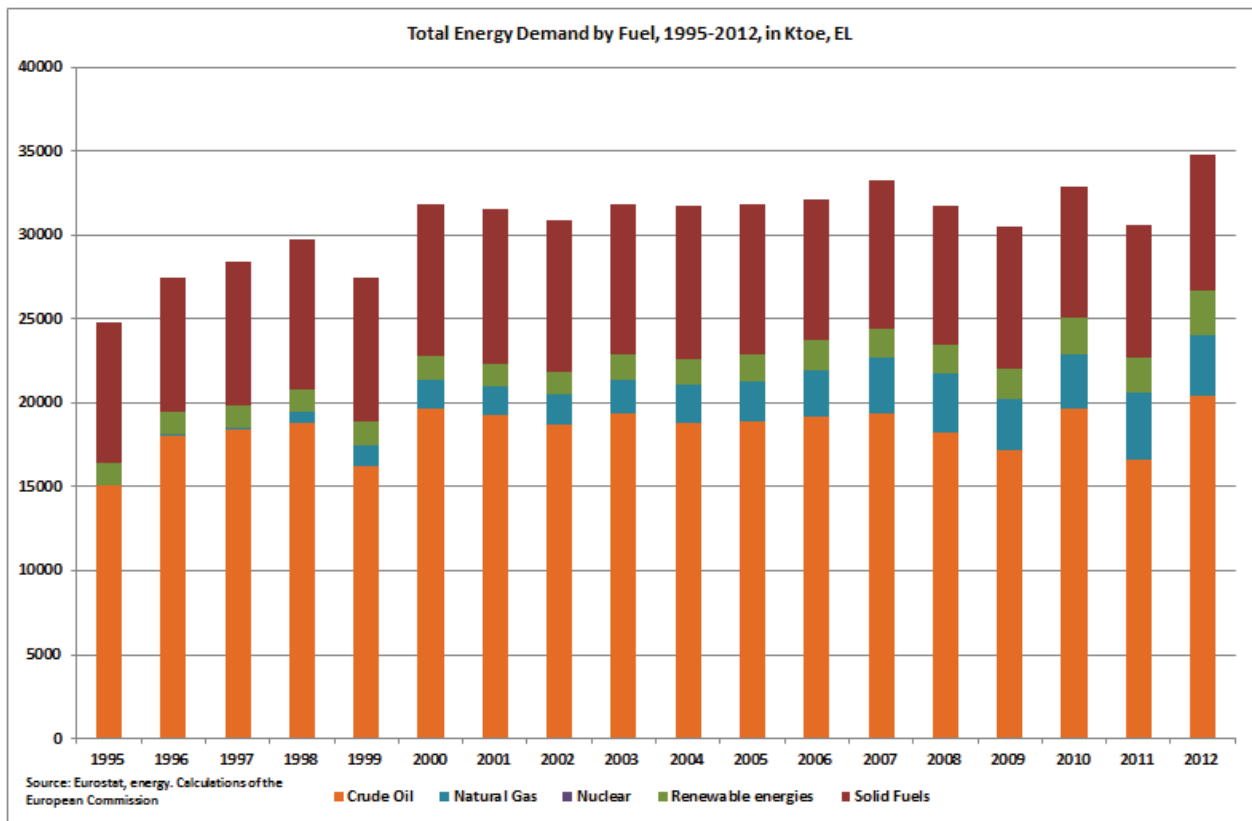
EE 2012

All Products

Mtoe



Country Fiche: Greece



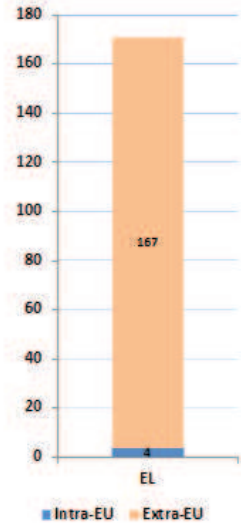
EL IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



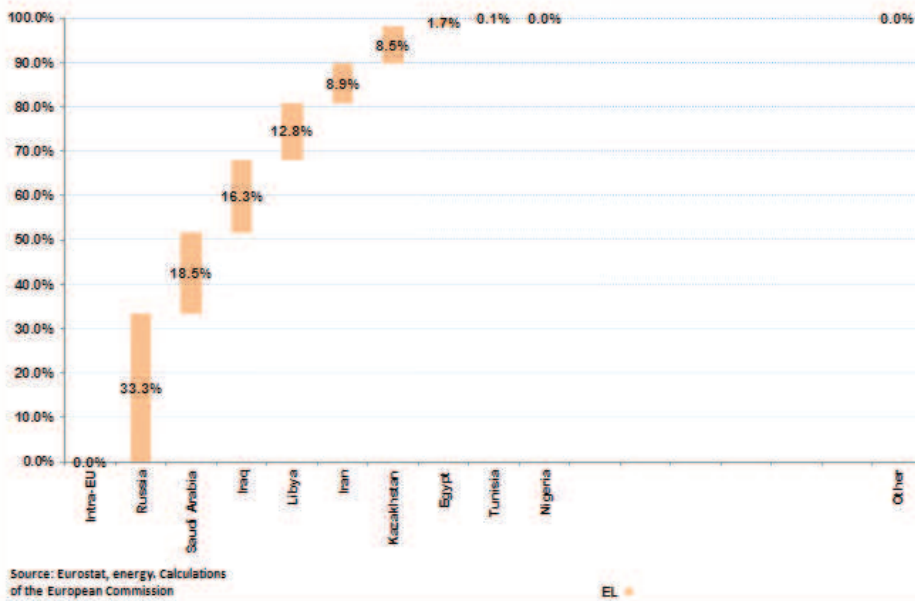
Source: Eurostat, energy. Calculations of the European Commission

EL

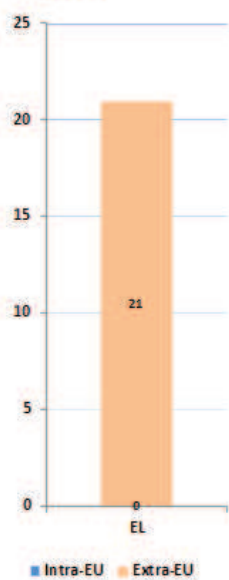
EL IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

EL

Greece

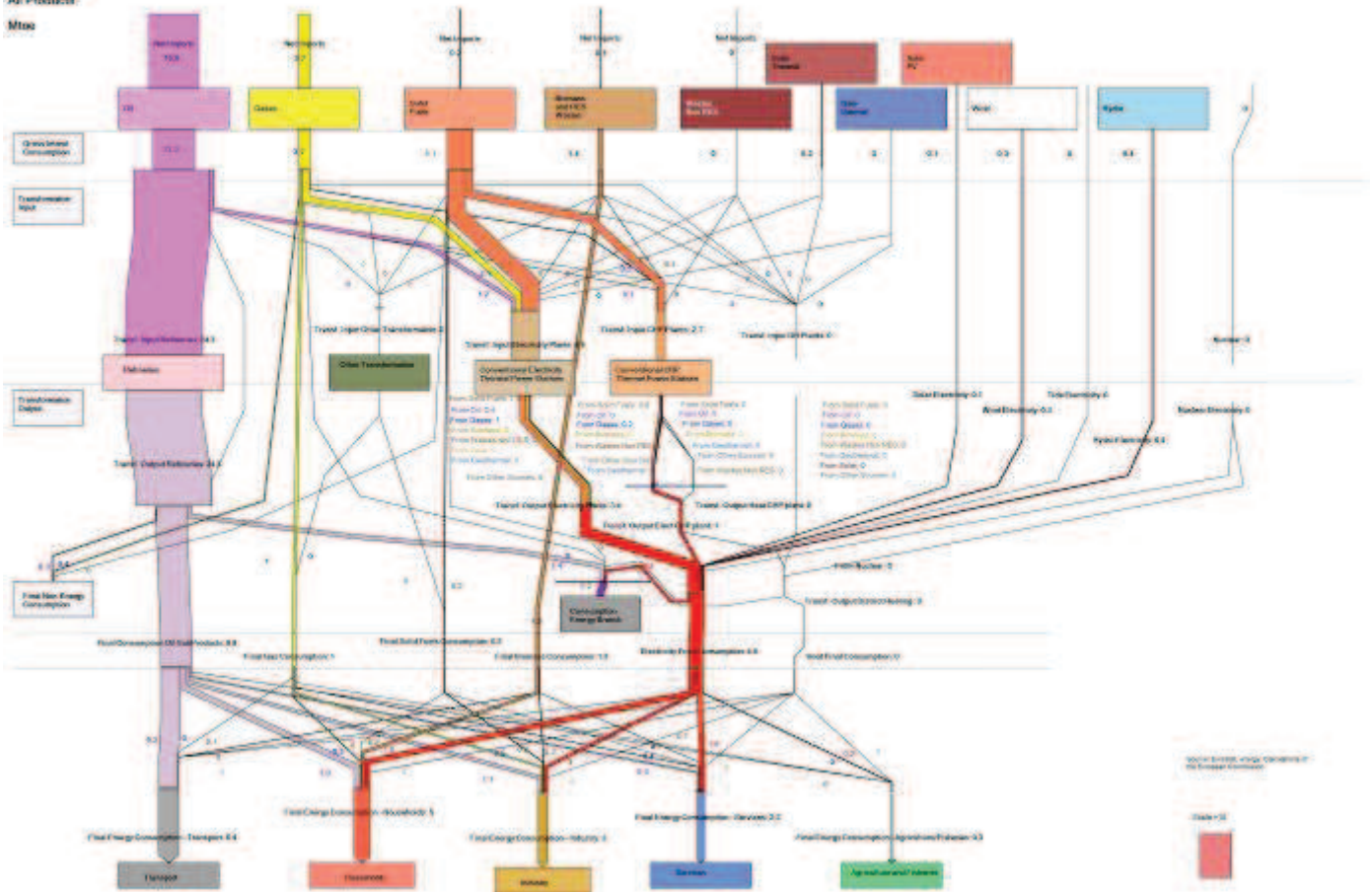
<i>Total gas consumption / Russian imports</i>	Total: 3.8 Bcm/y // RU: 2.6 Bcm/y
<i>Gas storage capacity and current level:</i>	n.a. – LNG tanks can store 130.000 cubic meters of LNG
<i>Connections to other MSs and capacity:</i>	BG→GR: 3.5 Bcm/y
<i>Alternative supply options:</i>	Implementation of the interconnector BG-GR ongoing. Installing reverse flows between GR-BG is ongoing with a planned firm capacity of 036 Bcm/y.
<i>Assessment:</i> Although the nominal capacity of the Revythousa LNG terminal is 5.3 Bcm/y, it is unlikely that Greece would financially be able cover its full gas demand from LNG.	

ENERGY FLOW

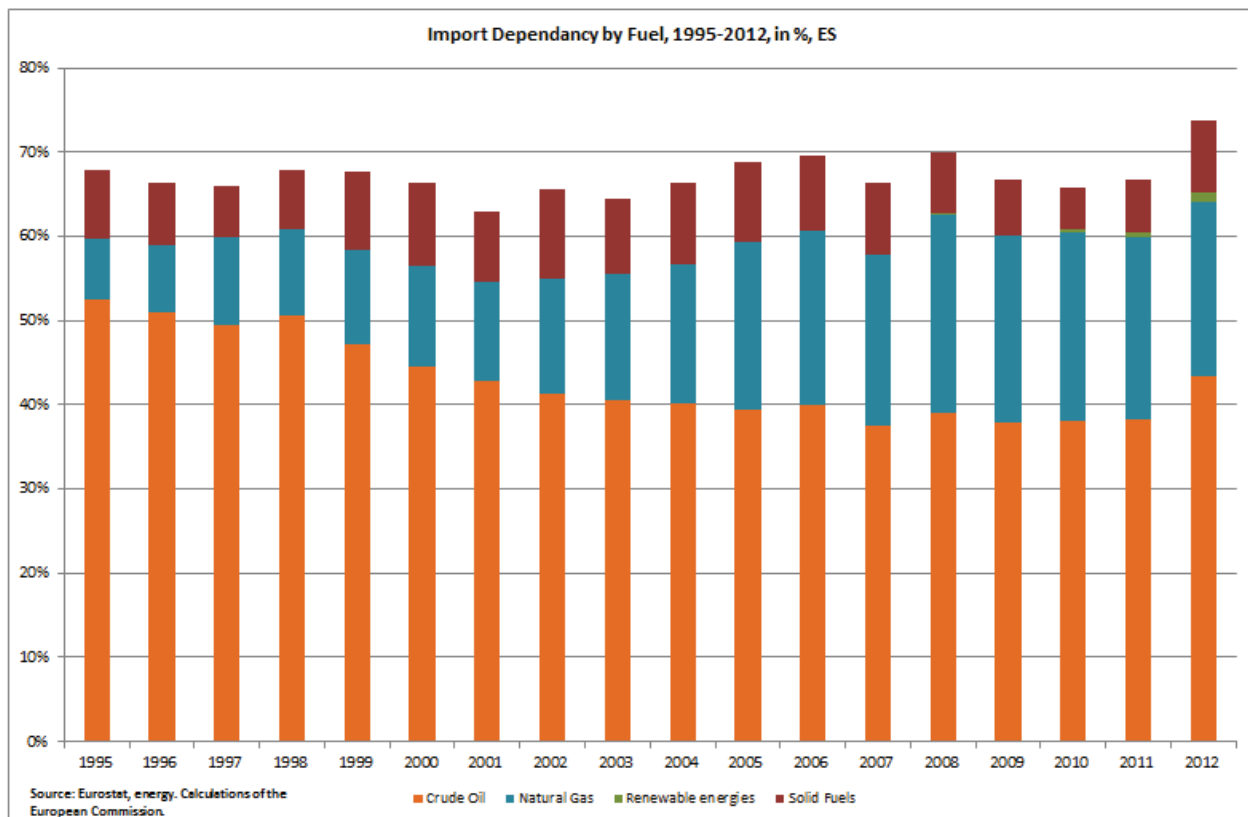
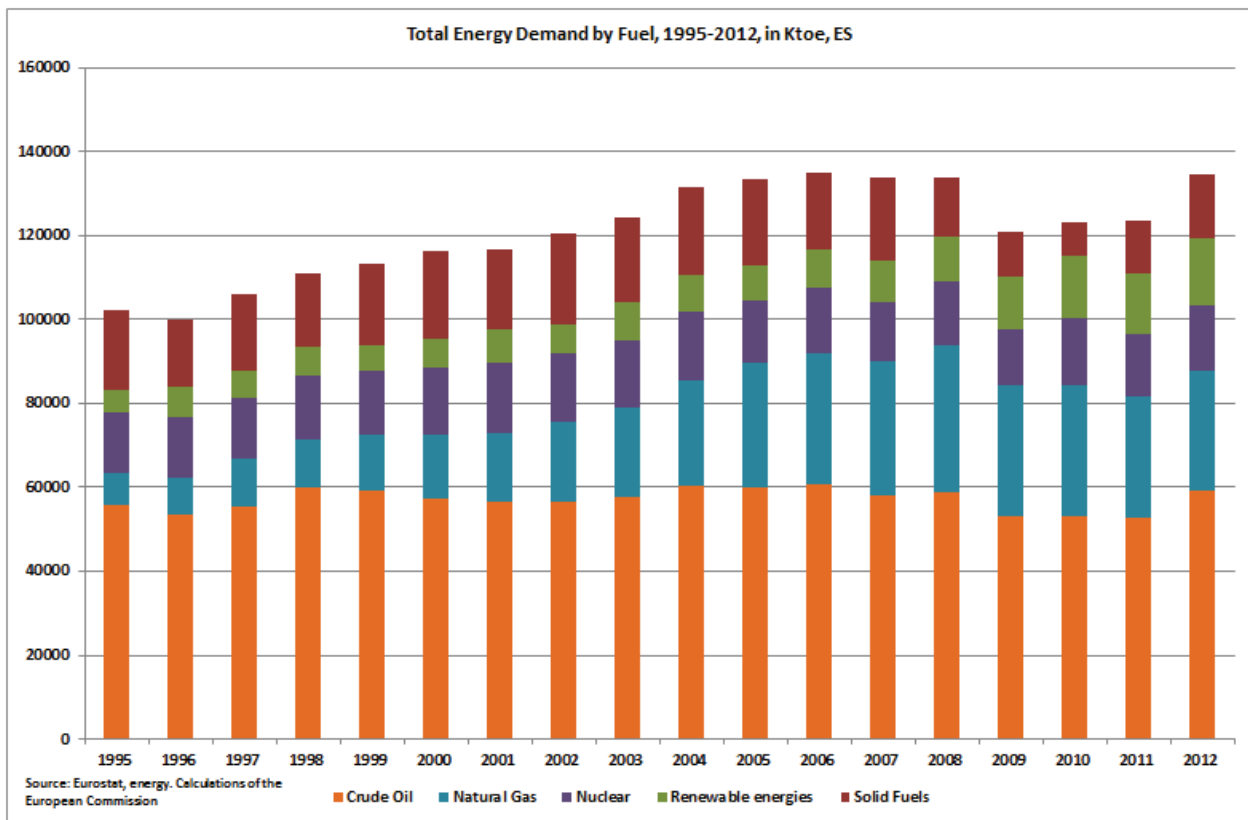
EL 2012

All Products

Mtoe



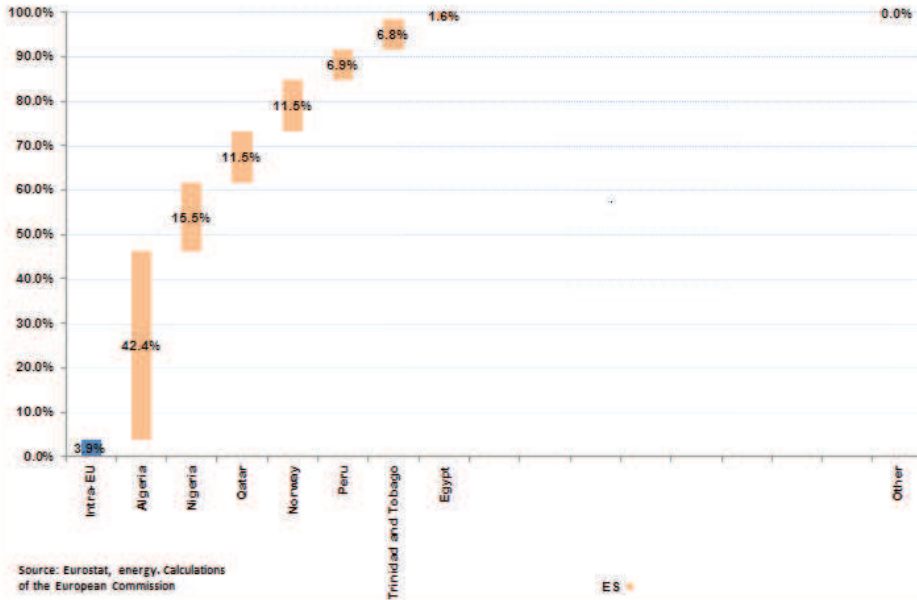
Country Fiche: Spain



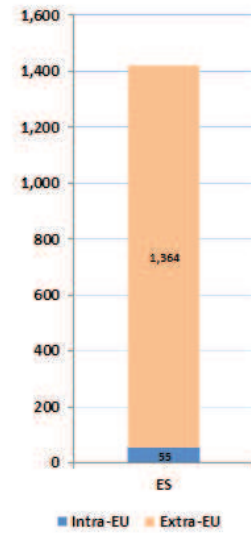
ES IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total imports



1000 Terajoules (GCV)



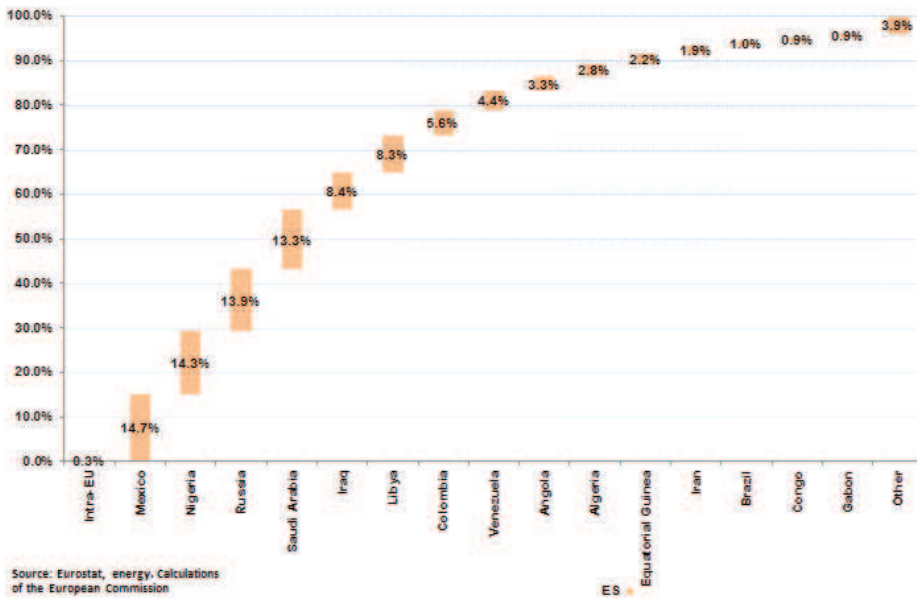
Source: Eurostat, energy, Calculations of the European Commission

ES

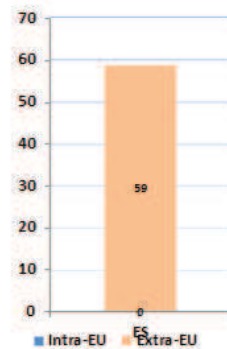
ES IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total imports

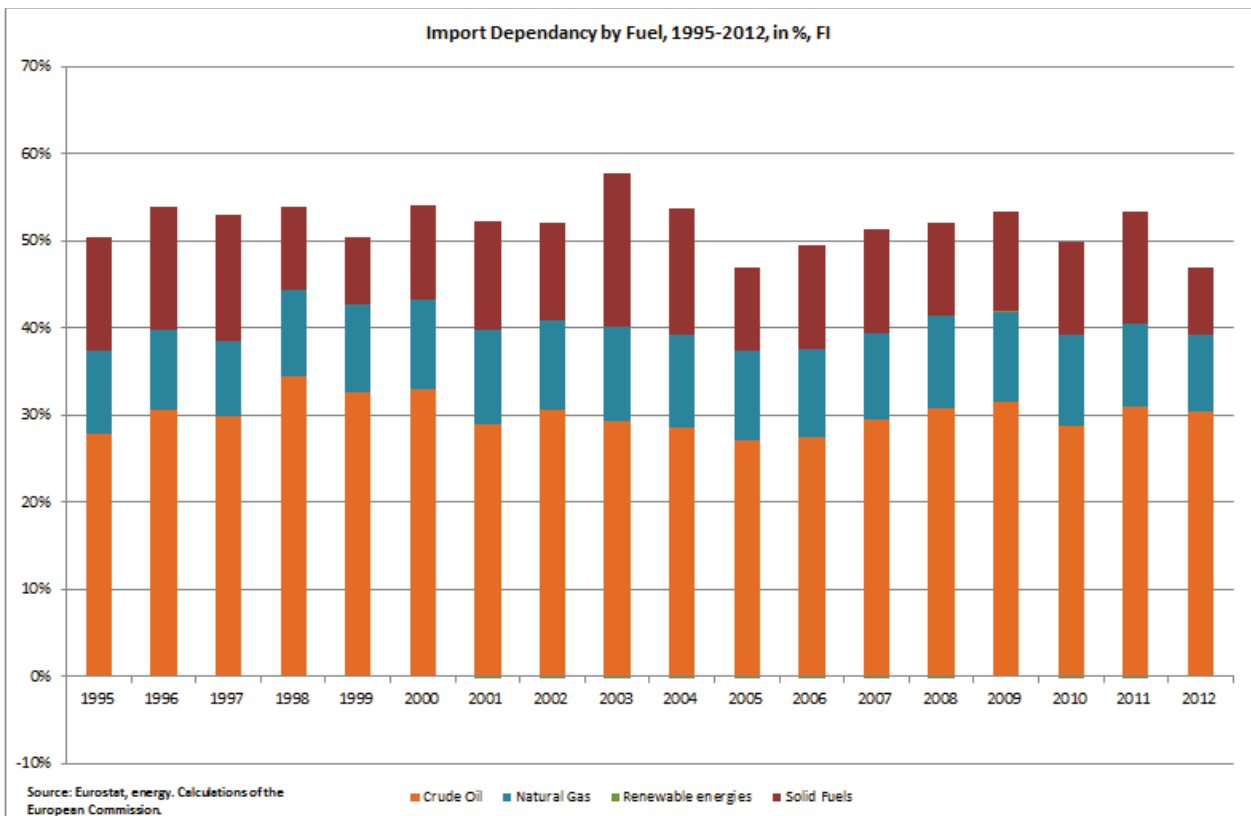
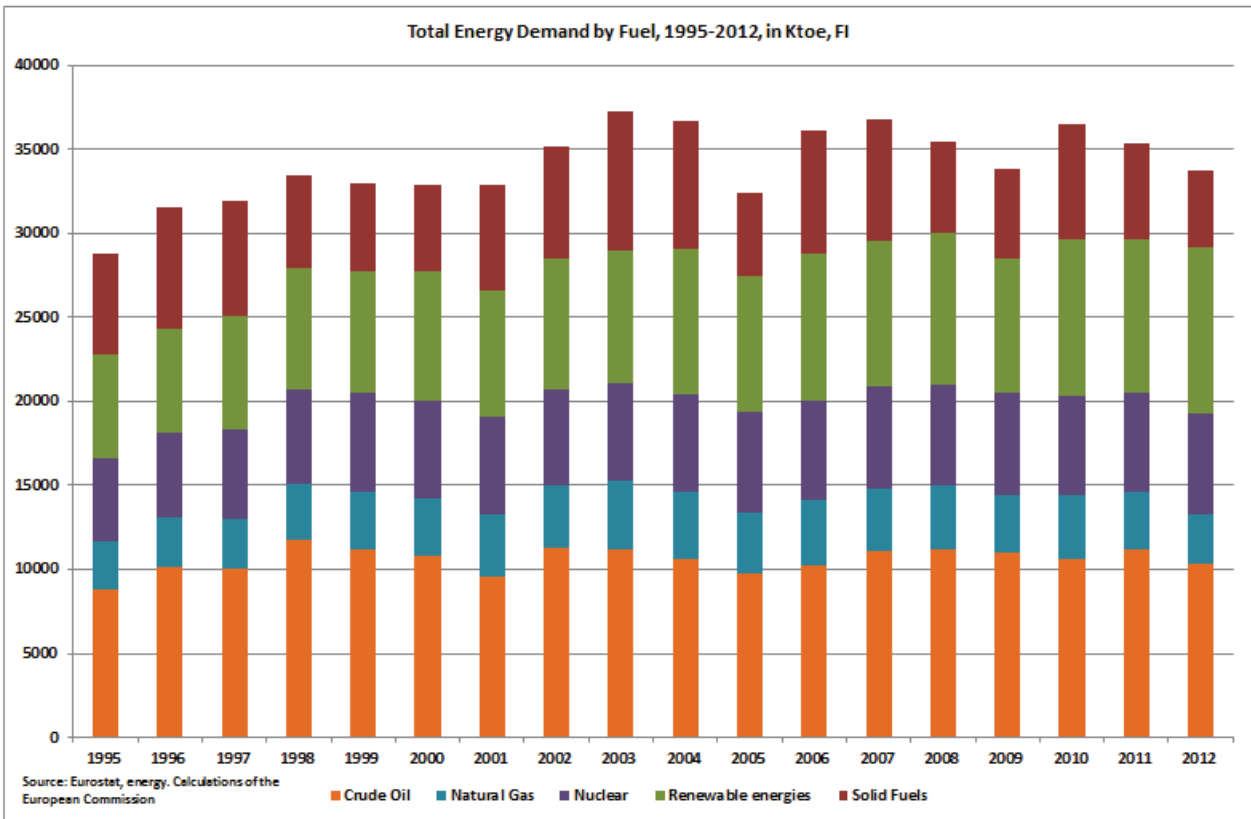


1000 Thousands of tonnes



Source: Eurostat, energy, Calculations of the European Commission

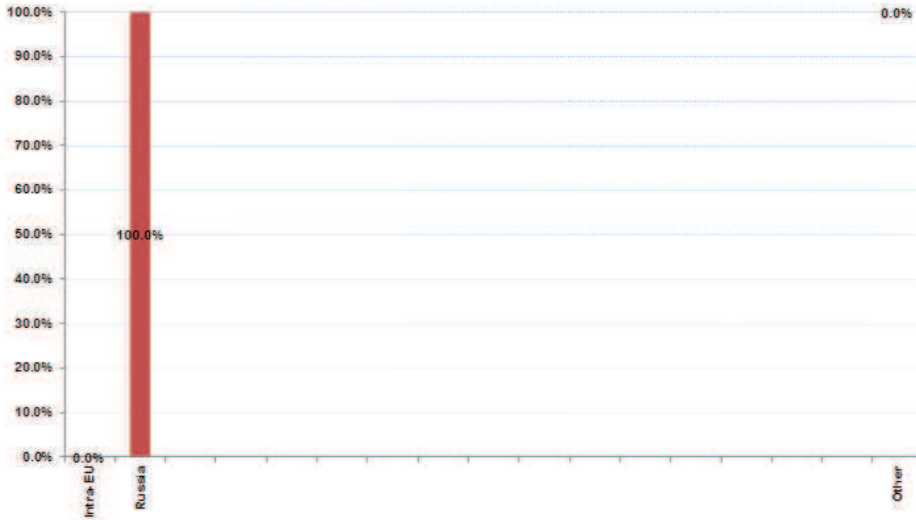
ES



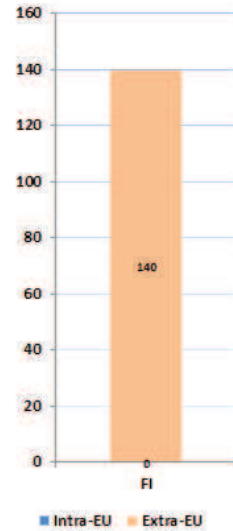
FI IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



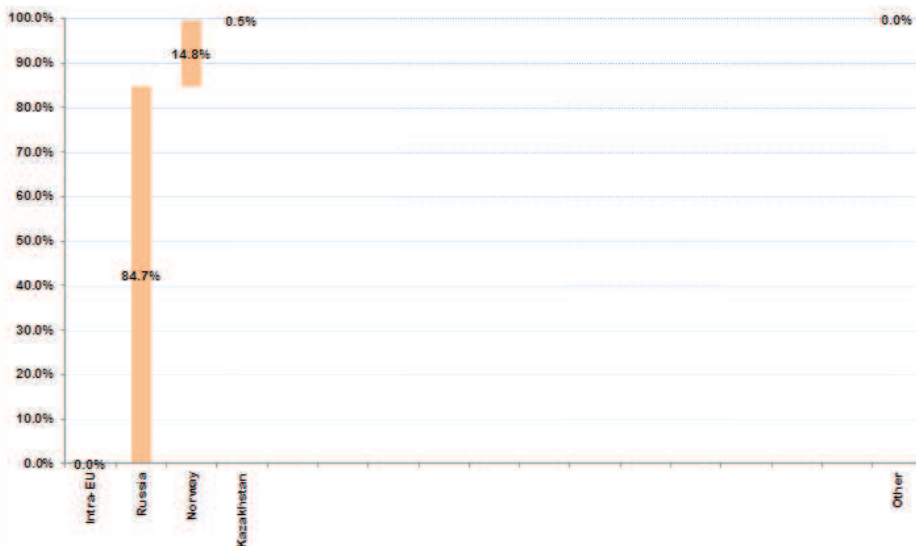
Source: Eurostat, energy. Calculations of the European Commission

FI

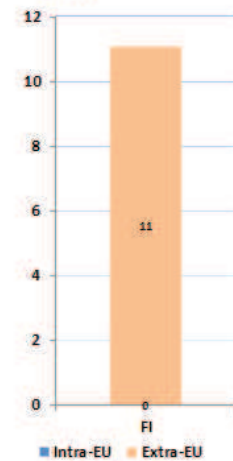
FI IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

FI

Finland

Total gas consumption / Russian imports

Total: 3.6 Bcm/y // RU: 3.6 Bcm/y

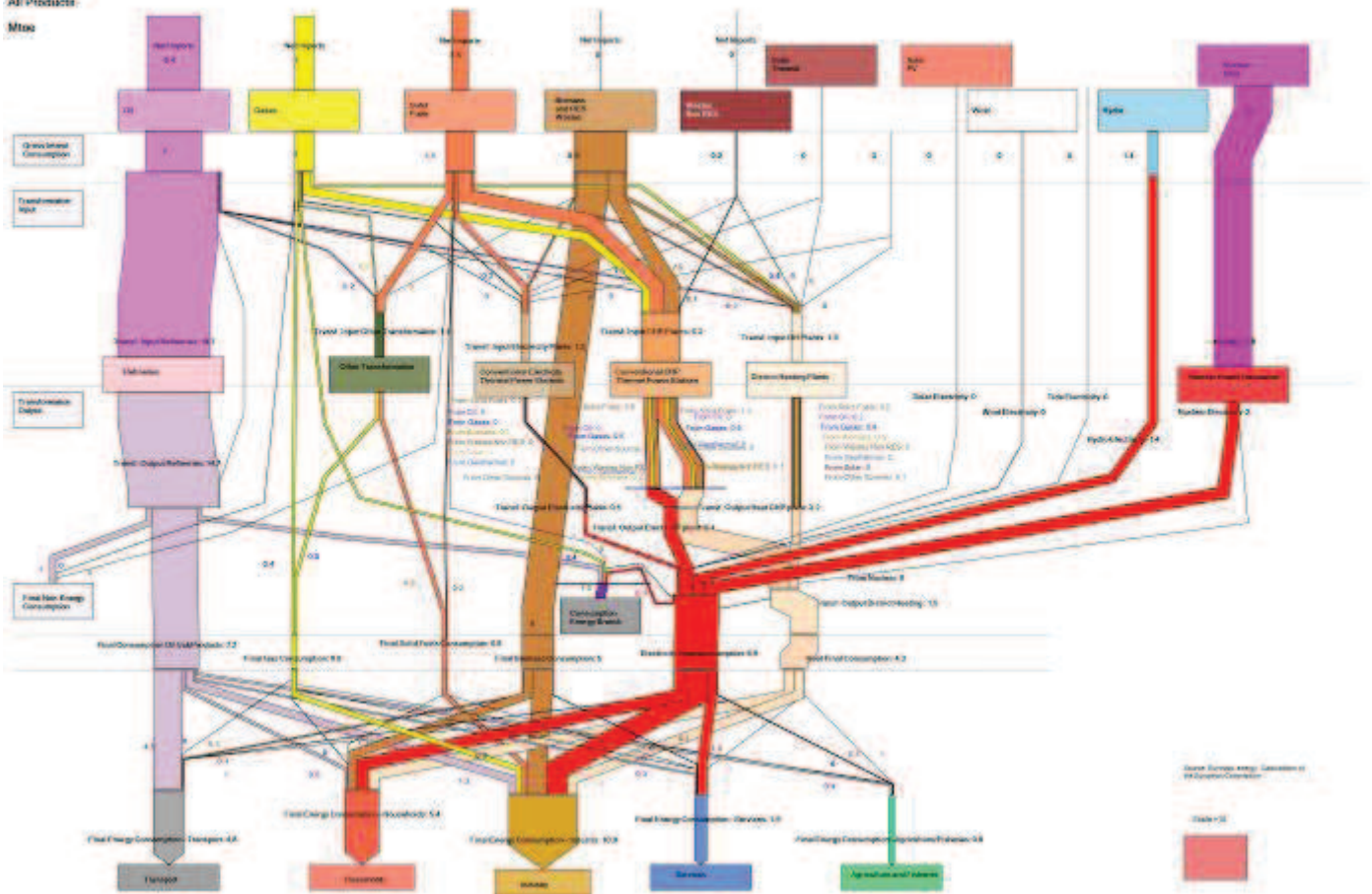
<i>Gas storage capacity and current level:</i>	n.a.
<i>Connections to other MSs and capacity:</i>	n.a.
<i>Alternative supply options:</i>	No short-term alternative supply options. Baltic connector or the LNG terminal could provide diversification in the mid-term.
<i>Assessment:</i> Finland is fully and exclusively dependent on Russian gas imports. In the event of a disruption, Finland can use the line pack in the pipes for 4 days and 9 hours. After that, all major gas users must switch fuel and the air-propane stocks are activated, which can provide gas to protected customers to satisfy the 30 day obligation of the supply standard.	

ENERGY FLOW

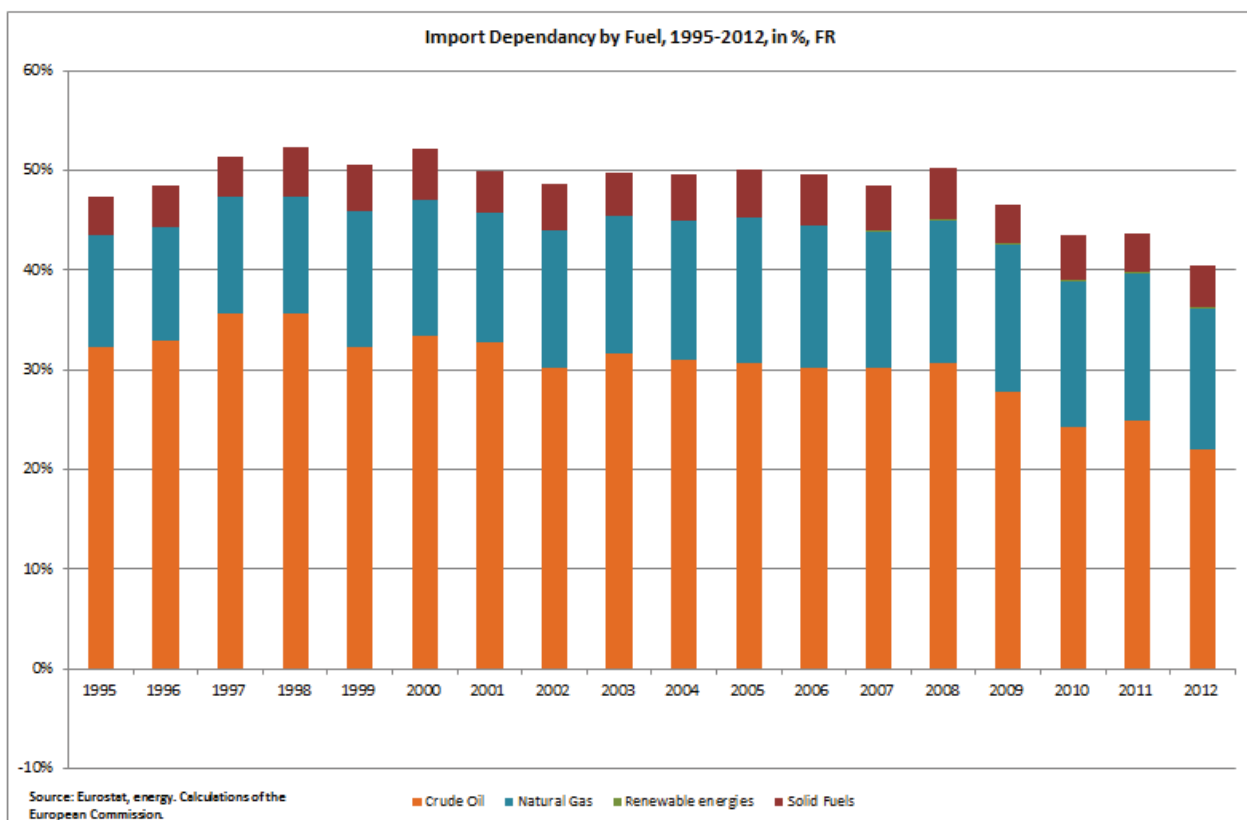
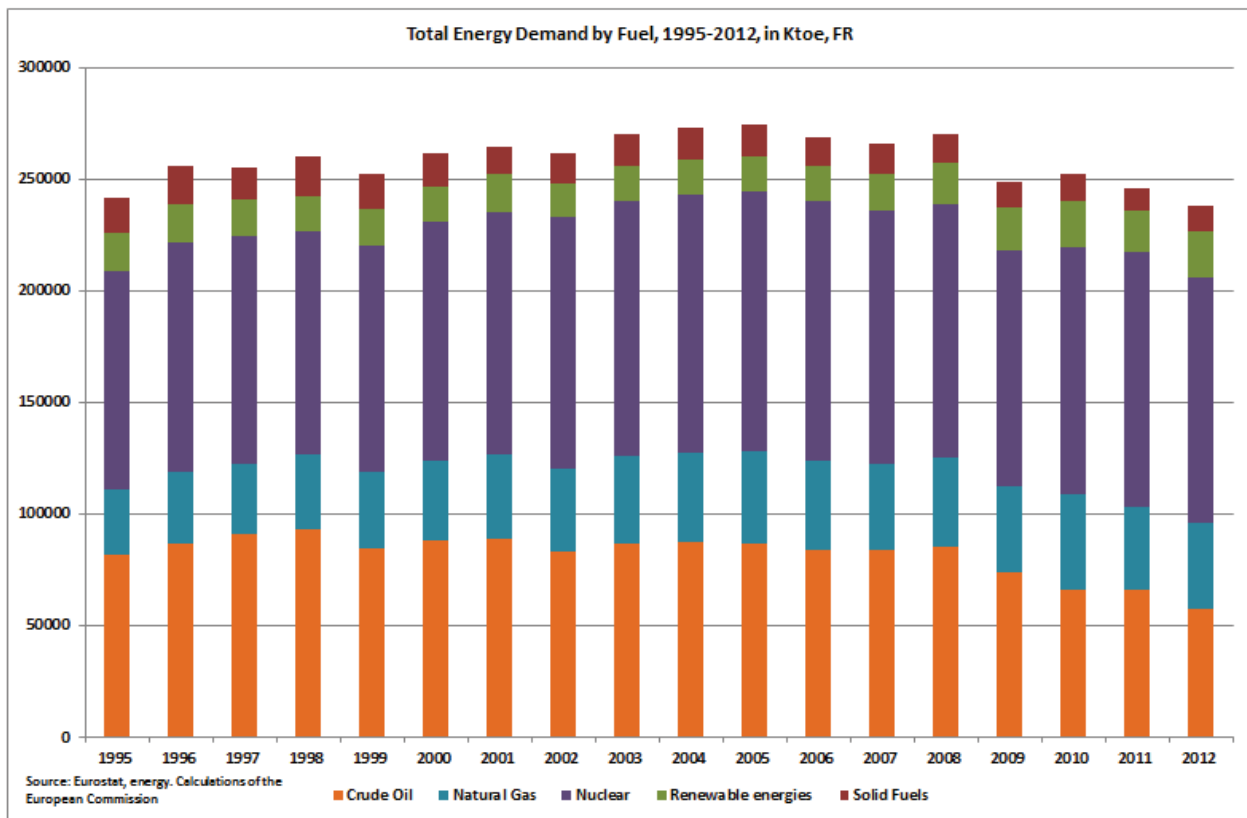
F1 2012

All Products

Mtoe

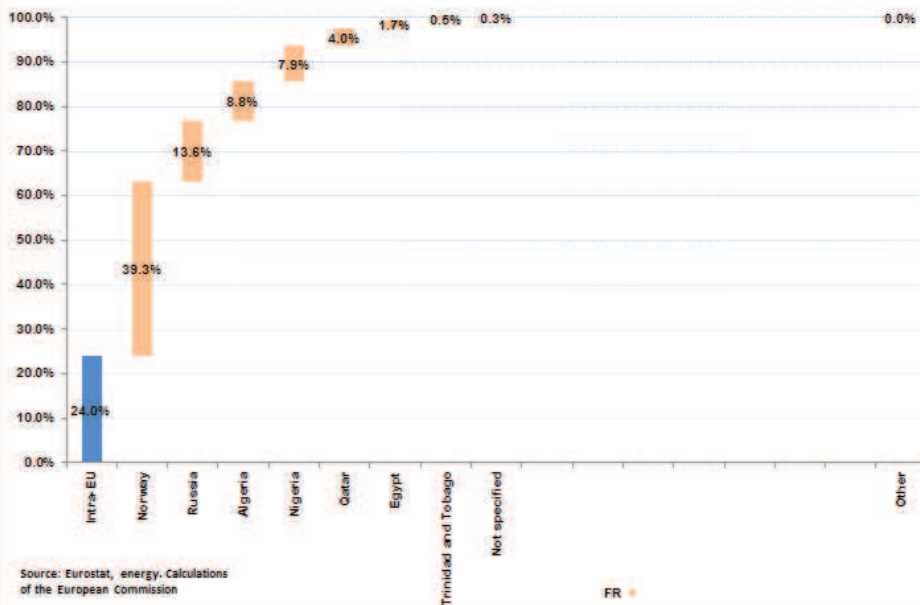


Country Fiche: France

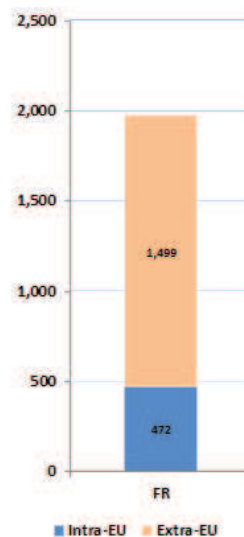


FR IMPORTS Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)

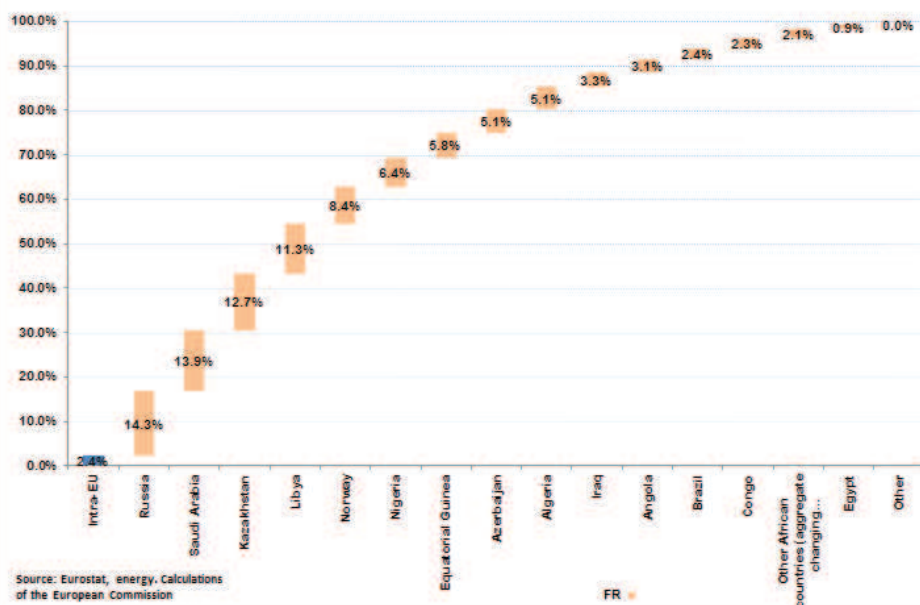


Source: Eurostat, energy. Calculations of the European Commission

FR

FR IMPORTS Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



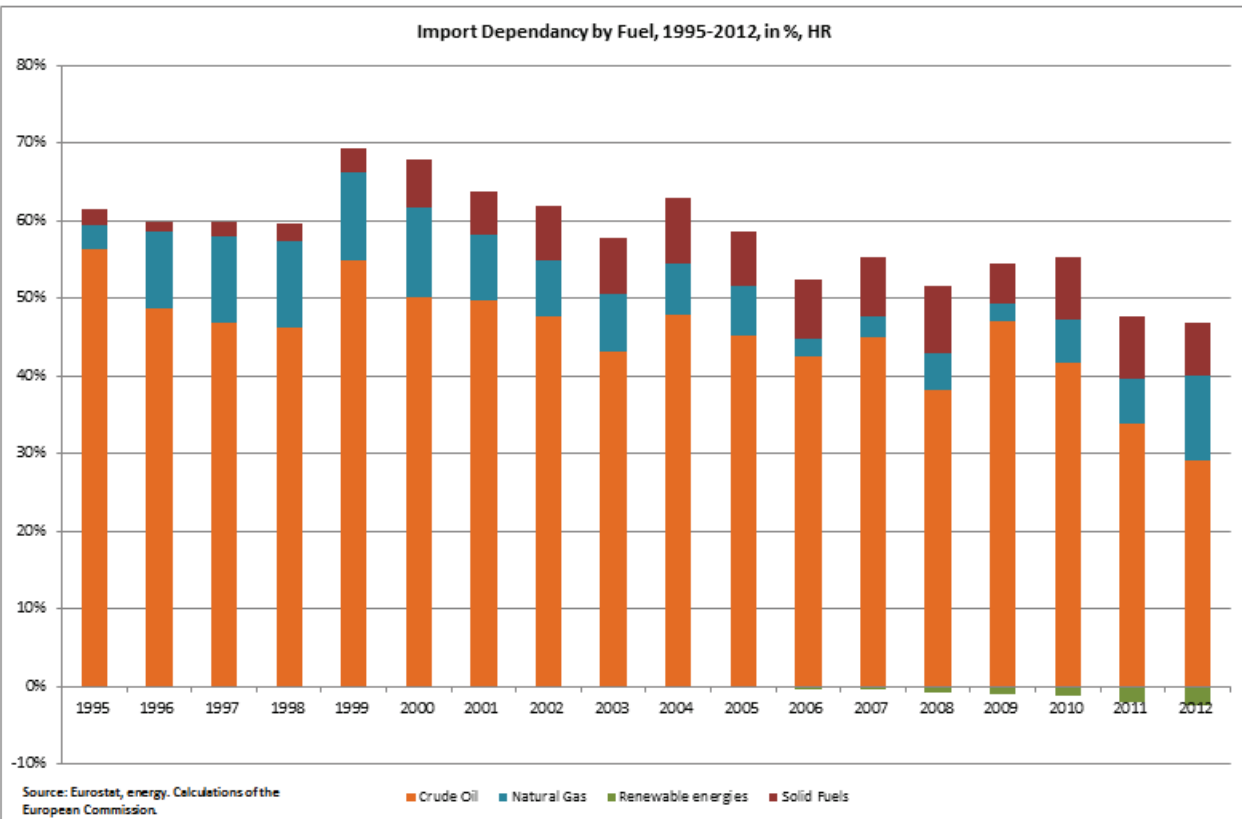
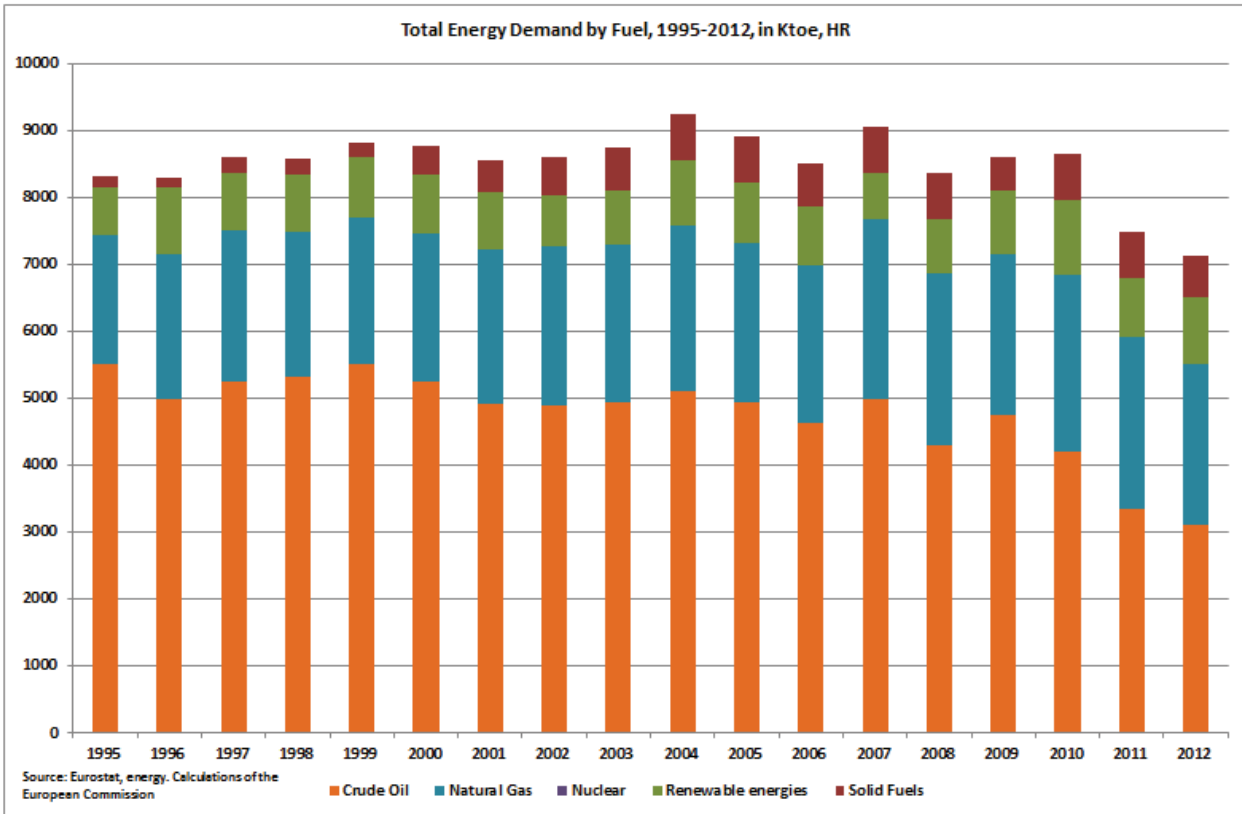
1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

FR

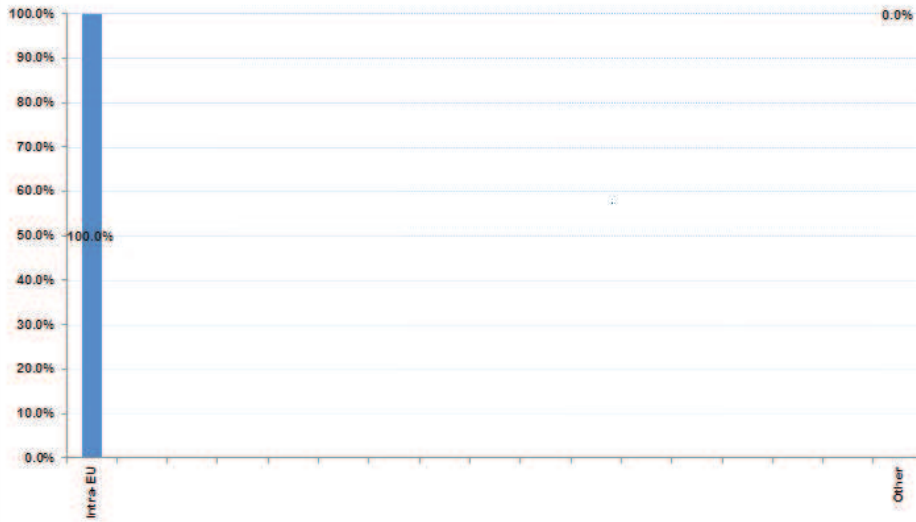
Country Fiche: Croatia



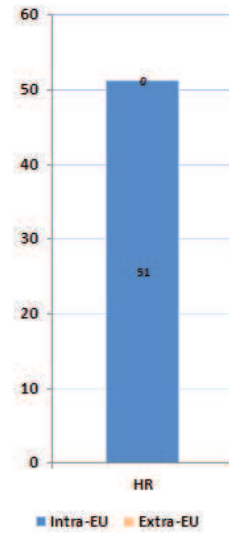
HR IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



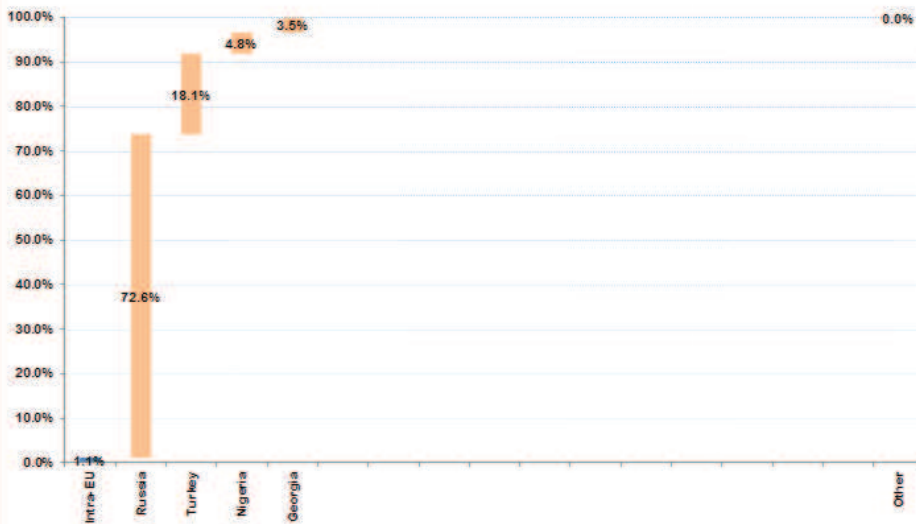
Source: Eurostat, energy. Calculations of the European Commission

HR

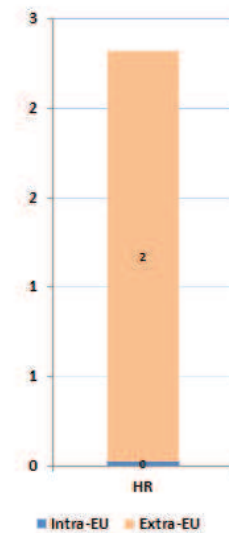
HR IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



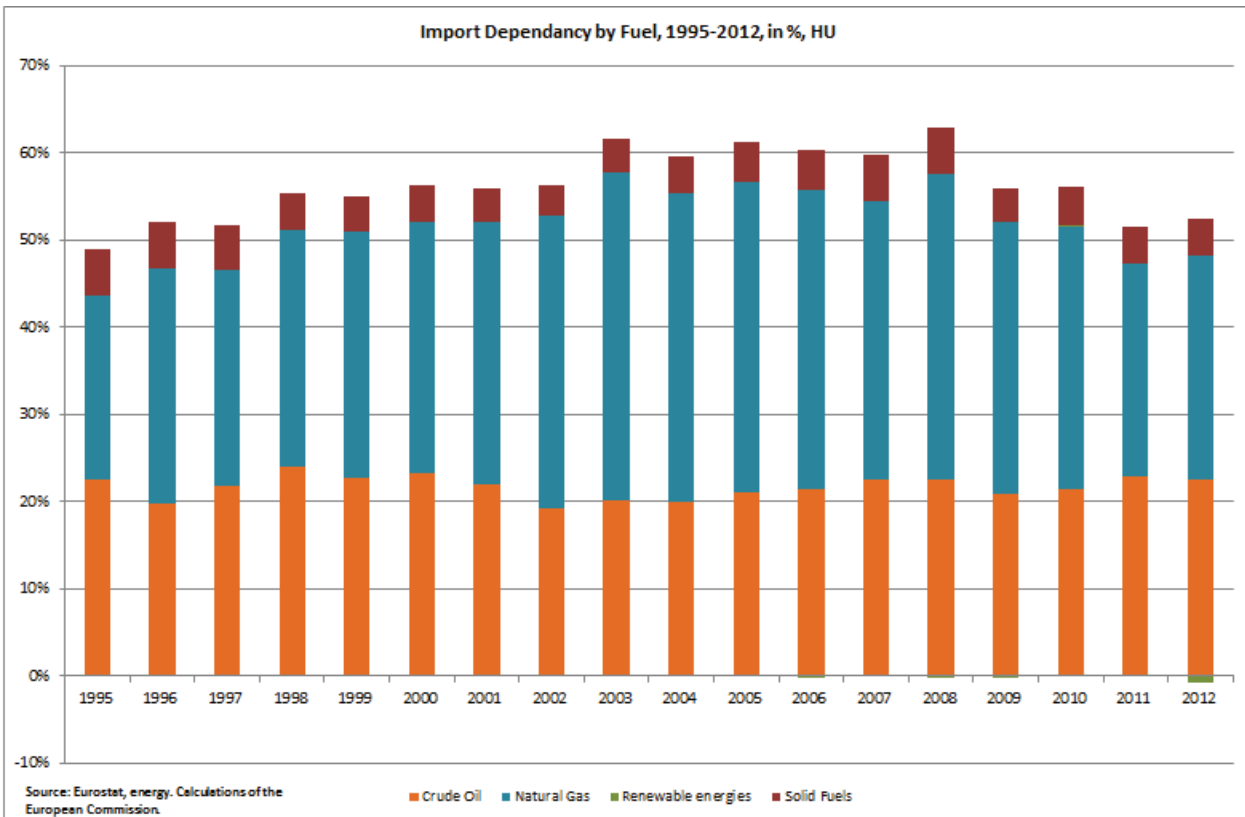
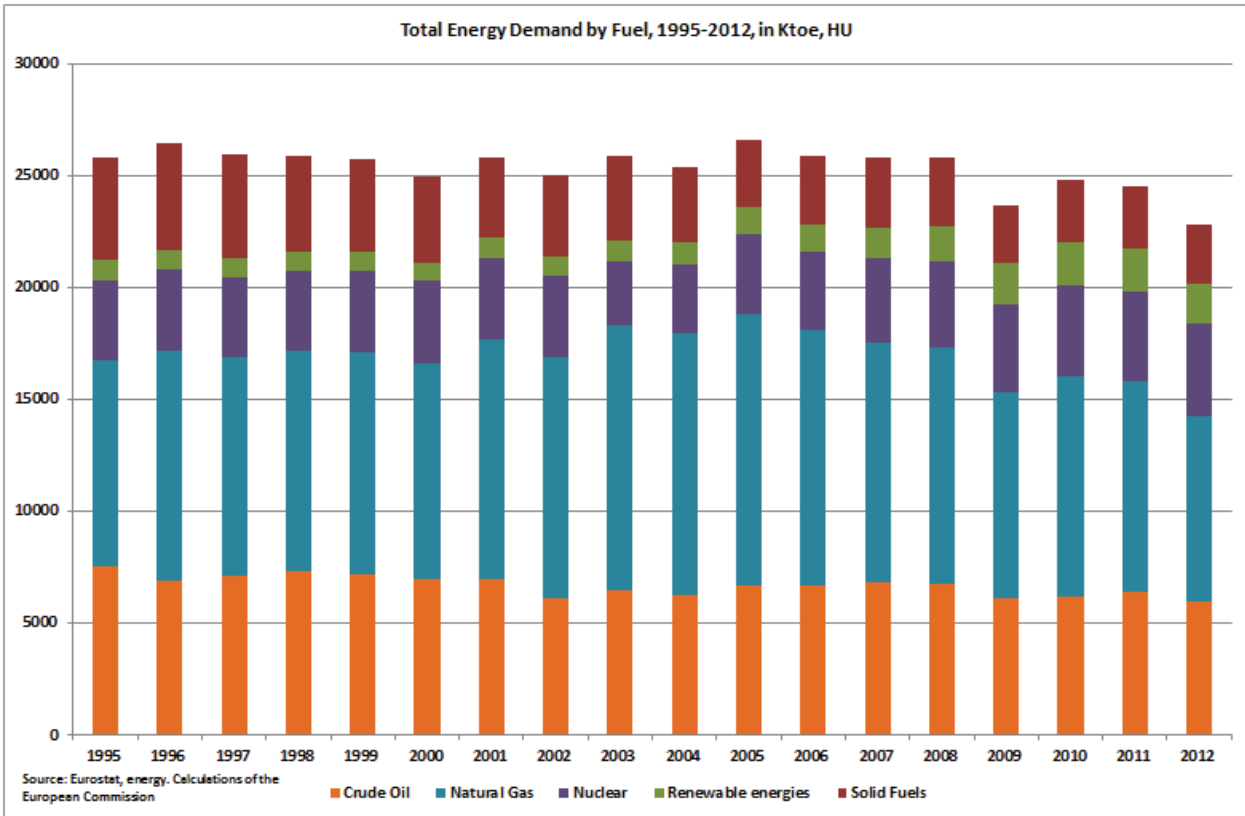
1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

HR

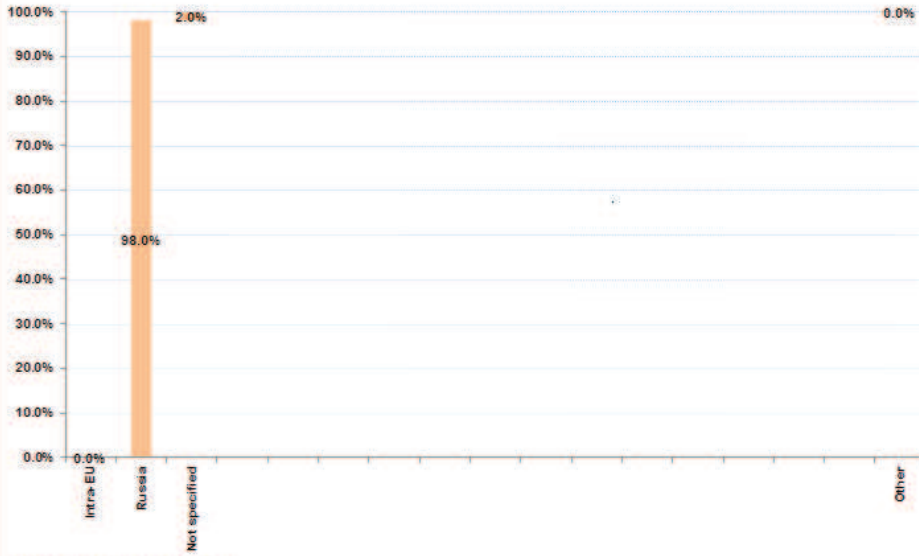
Country Fiche: Hungary



HU IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

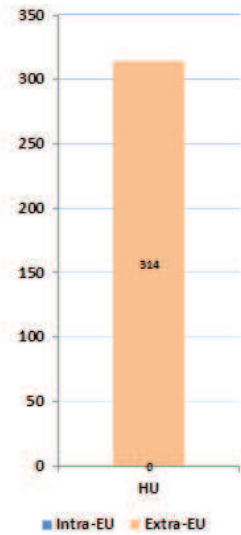
In % of the Total Imports



Source: Eurostat, energy, Calculations of the European Commission

HU

1000 Terajoules (GCV)

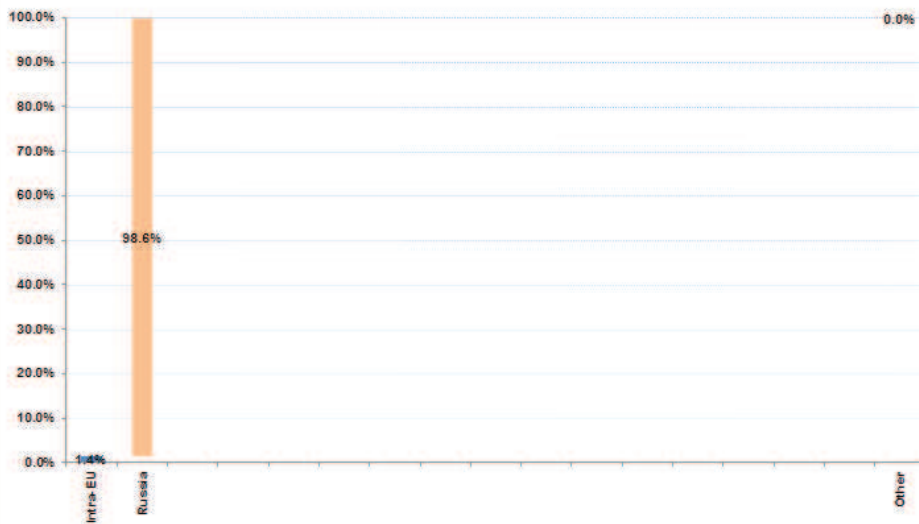


Intra-EU Extra-EU

HU IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



Source: Eurostat, energy, Calculations of the European Commission

HU

1000 Thousands of tonnes



Intra-EU Extra-EU

Hungary

Total gas consumption / Russian imports

Total: 9.3 Bcm/y // RU: 6 Bcm/y

Gas storage capacity

Total: 6.2 Bcm // Current: 1.2 Bcm

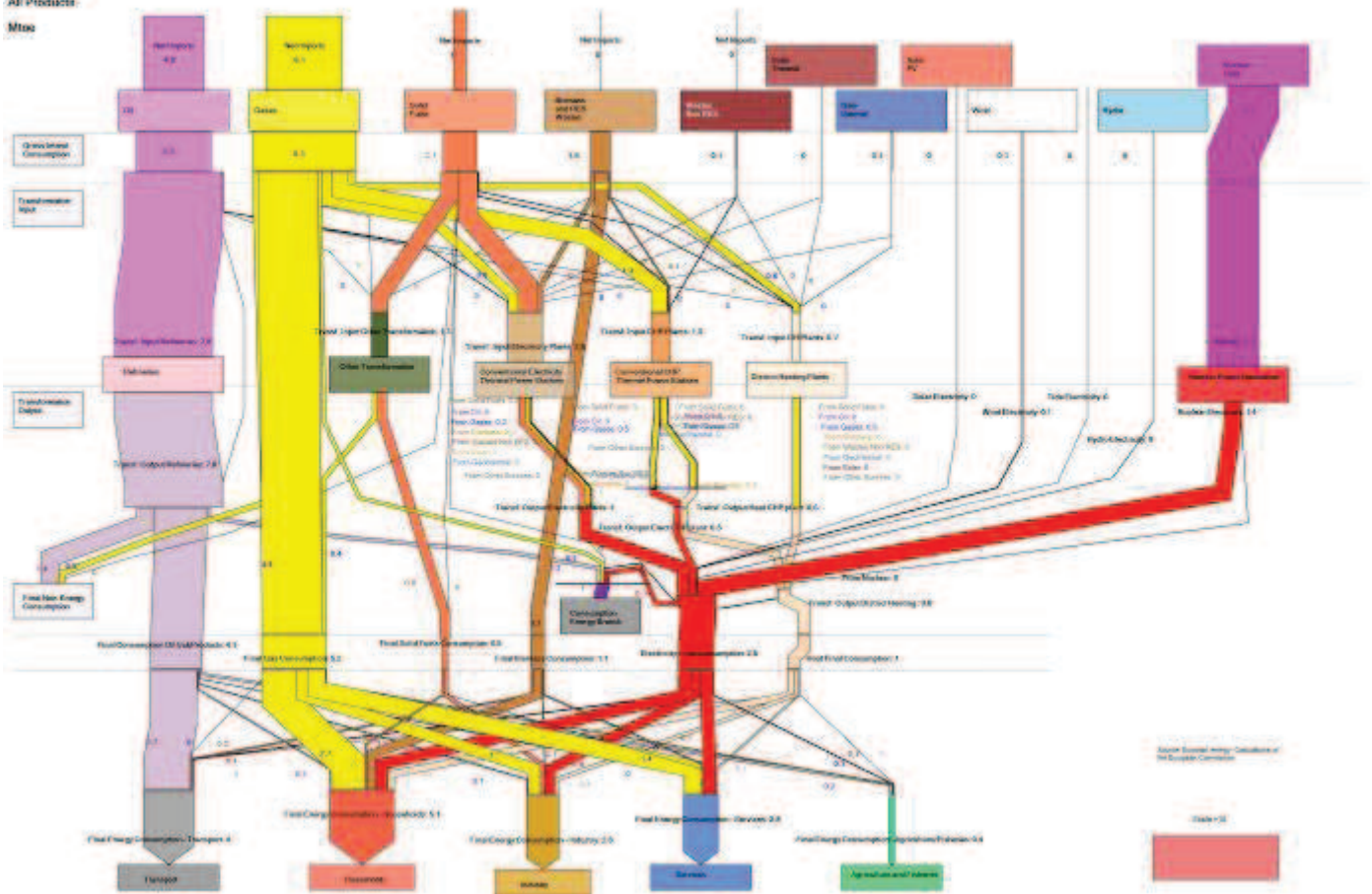
<i>and current level:</i>	
<i>Connections to other MSs and capacity:</i>	HU→CRO: 2.5 Bcm/y HU→RO: 1.7 Bcm/y AT→HU: 4.2 Bcm/y
<i>Alternative supply options:</i>	Reverse flows CRO and RO are being developed but these would not have a substantial impact on HU security of supply in the short-term.
<i>Assessment:</i> Hungary has considerable storage capacity compared to its annual gas consumption. However, storages could not be fully filled only from the Austrian route, Hungary needs to receive gas – at least throughout the whole injection period – to be able to secure 6.2 Bcm underground. With full storage use and maximizing imports from Austria, Hungary would still fall short if Russian gas was cut on a long-term period.	

ENERGY FLOW

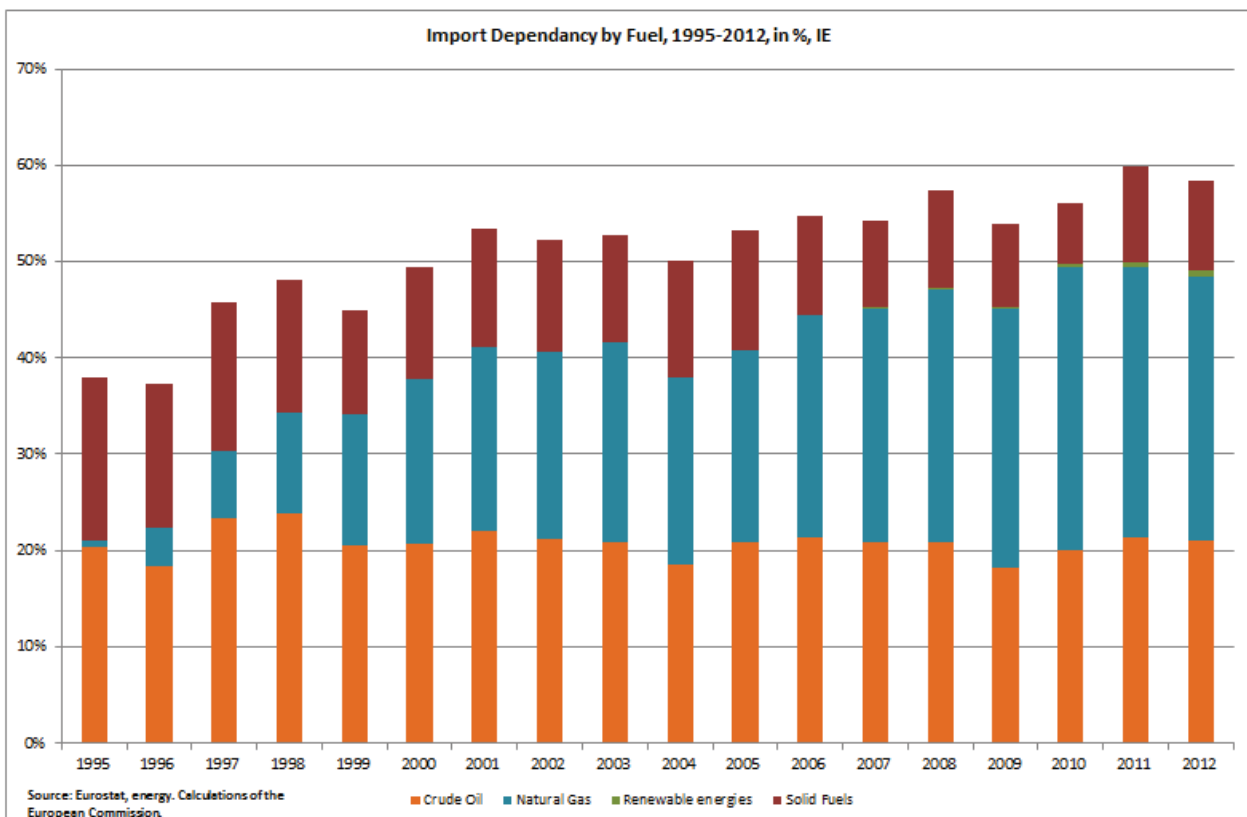
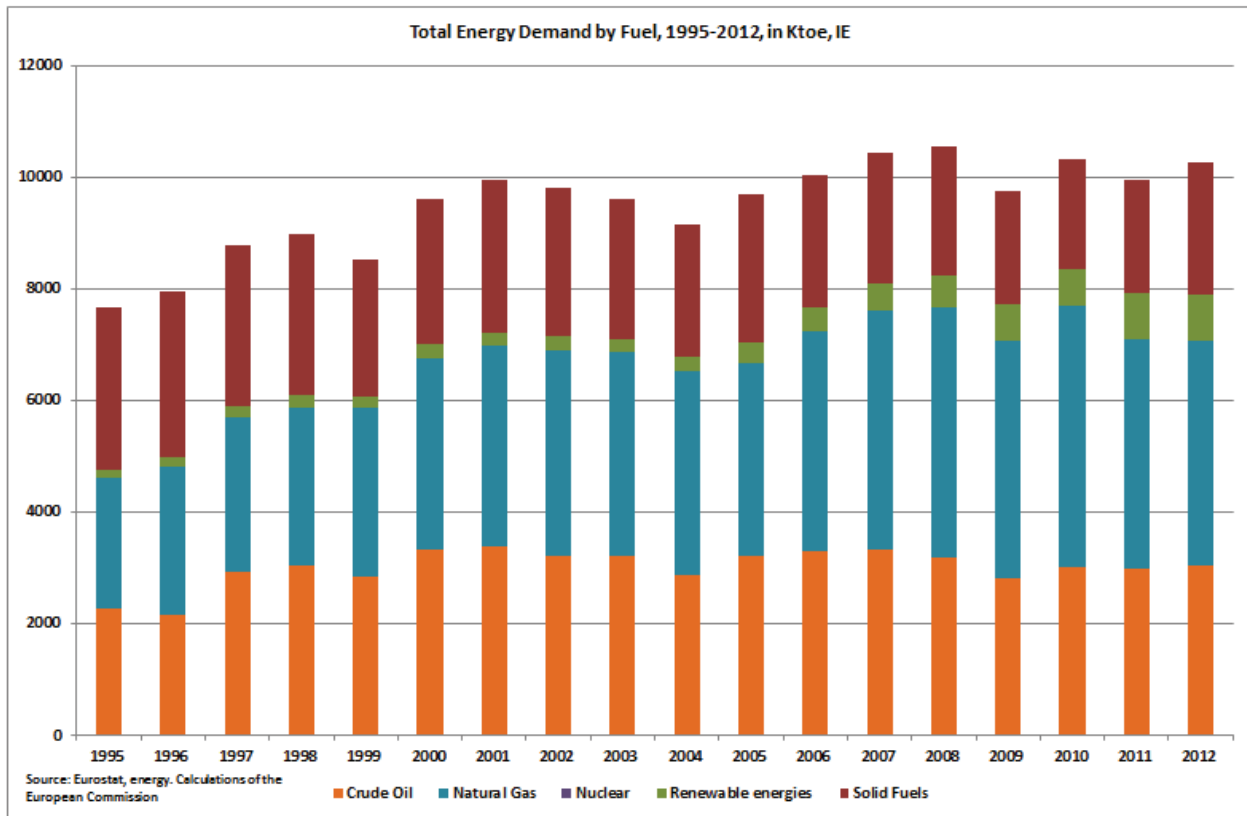
1HJ 2012

All Products

Mtoe



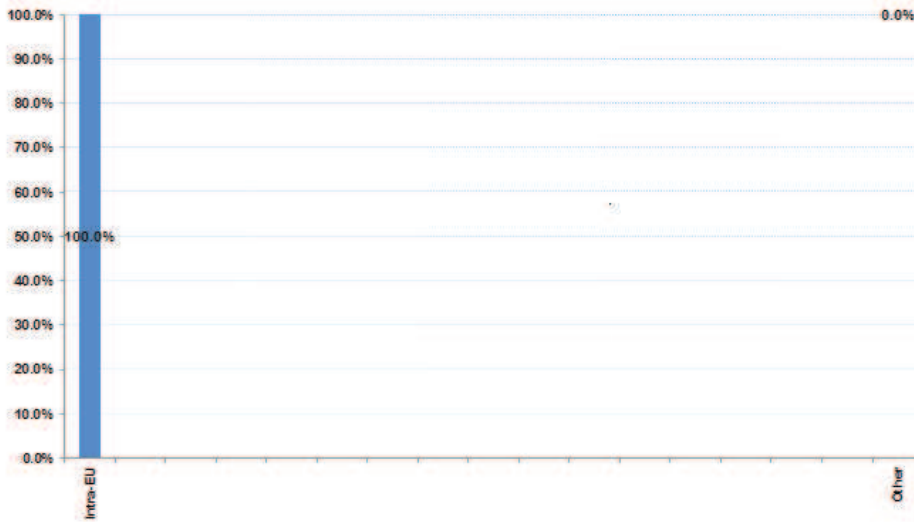
Country Fiche: Ireland



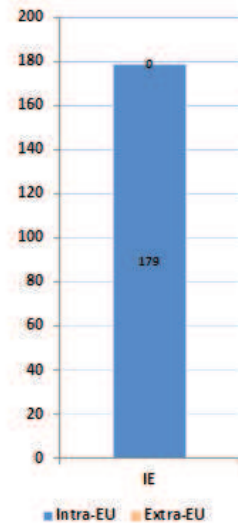
IE IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



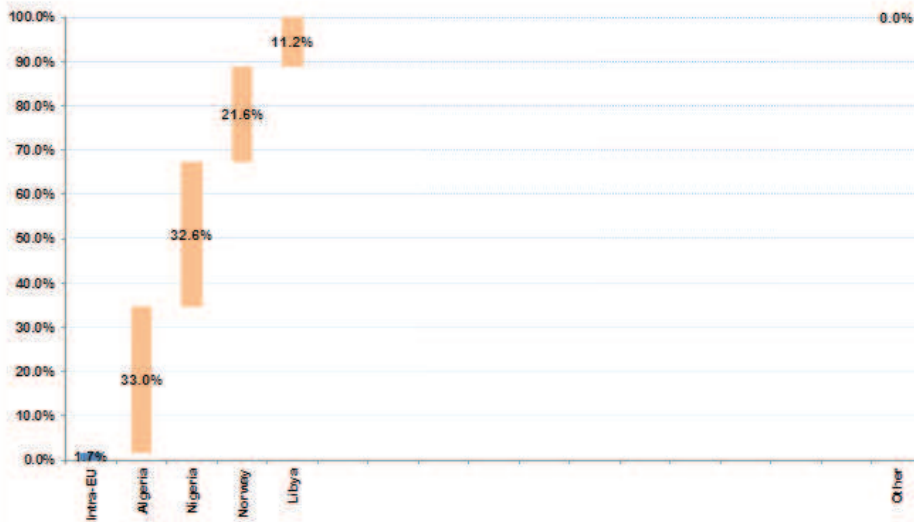
Source: Eurostat, energy. Calculations of the European Commission

IE

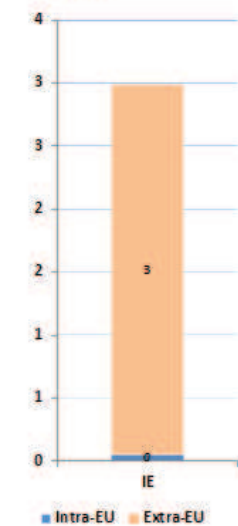
IE IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



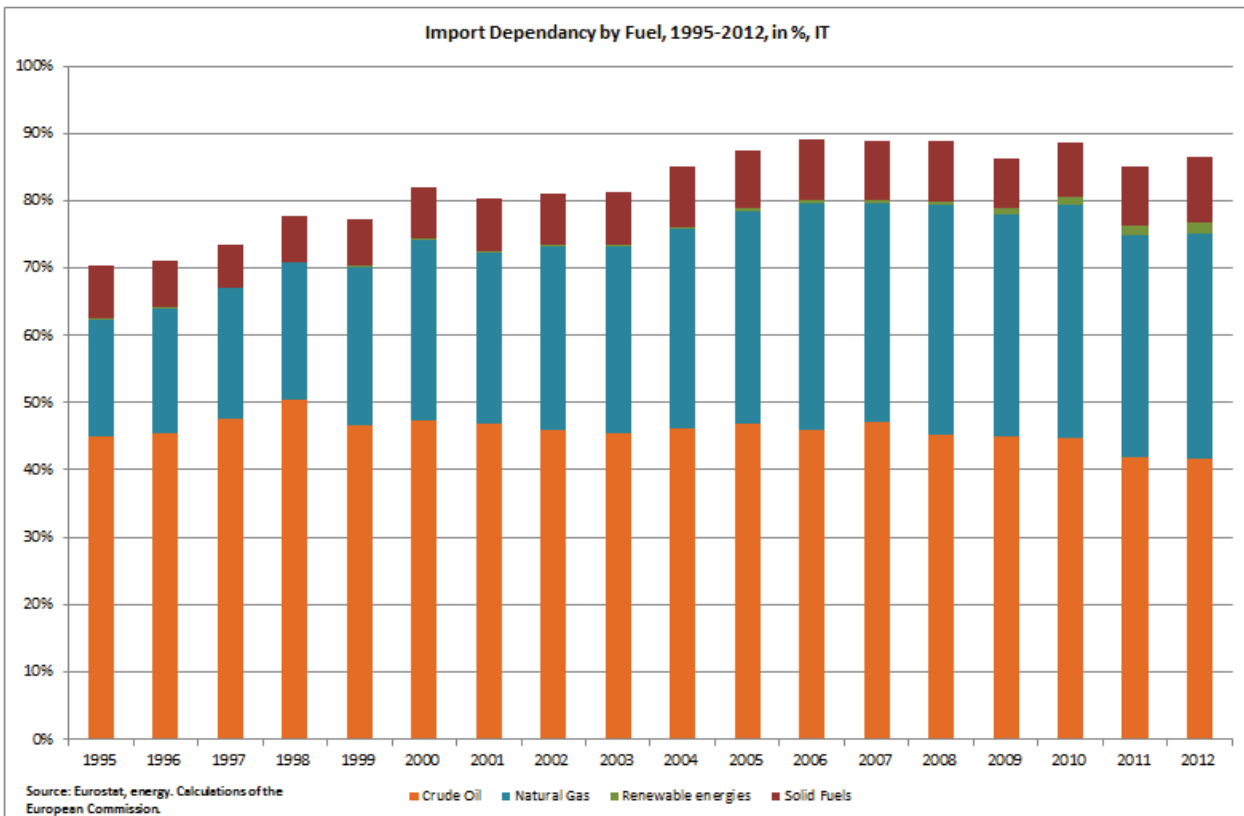
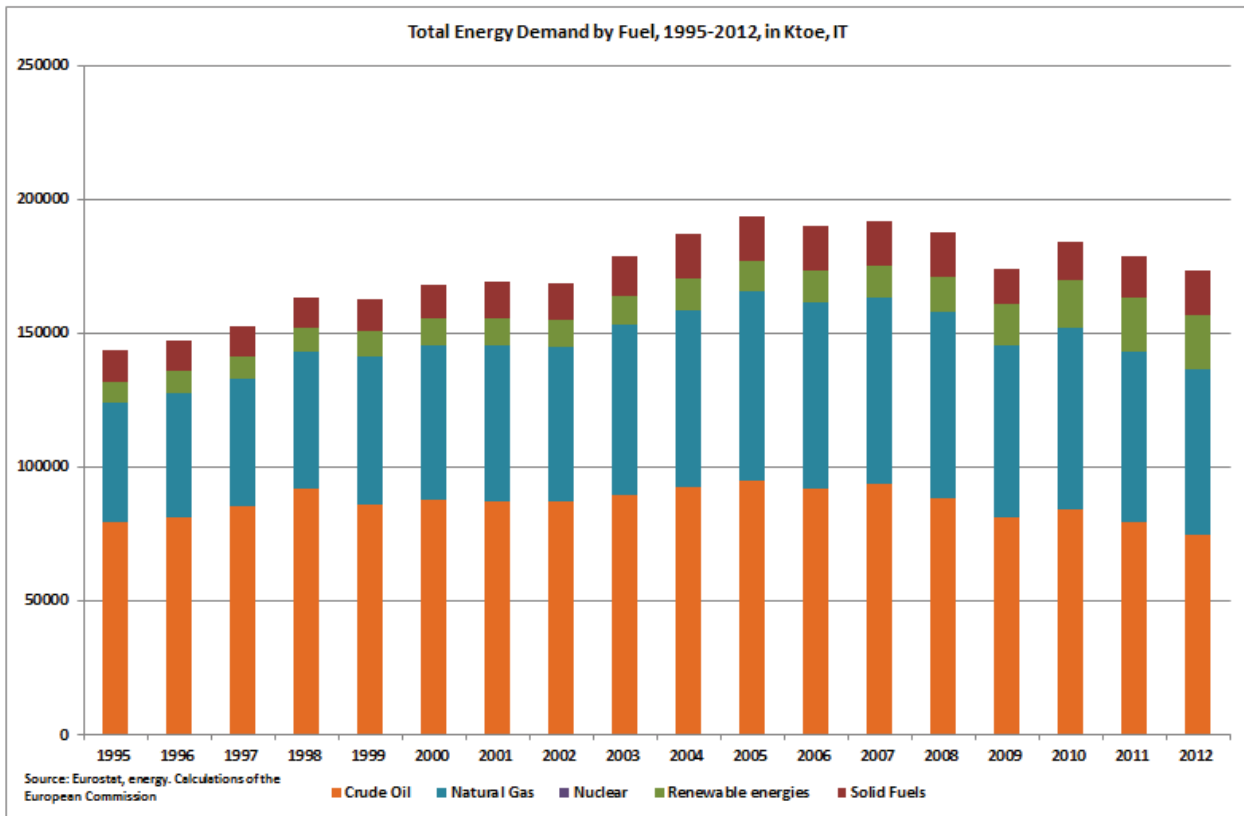
1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

IE

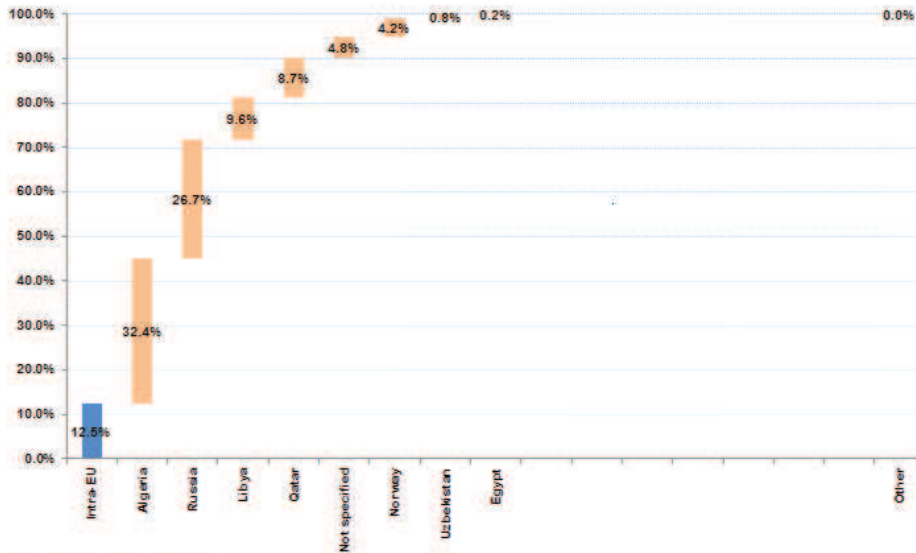
Country Fiche: Italy



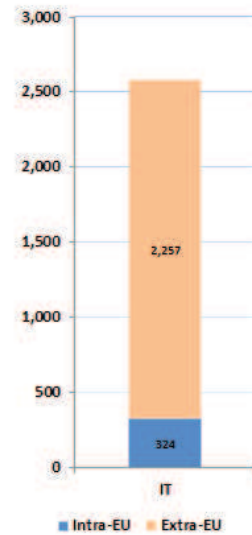
IT IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



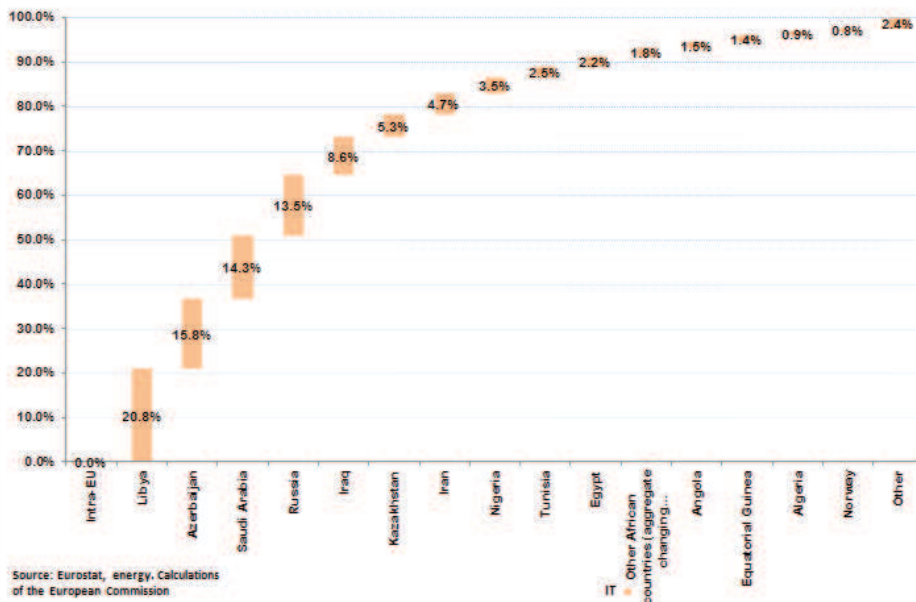
Source: Eurostat, energy, Calculations of the European Commission

IT

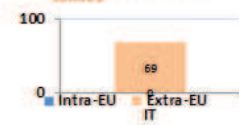
IT IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



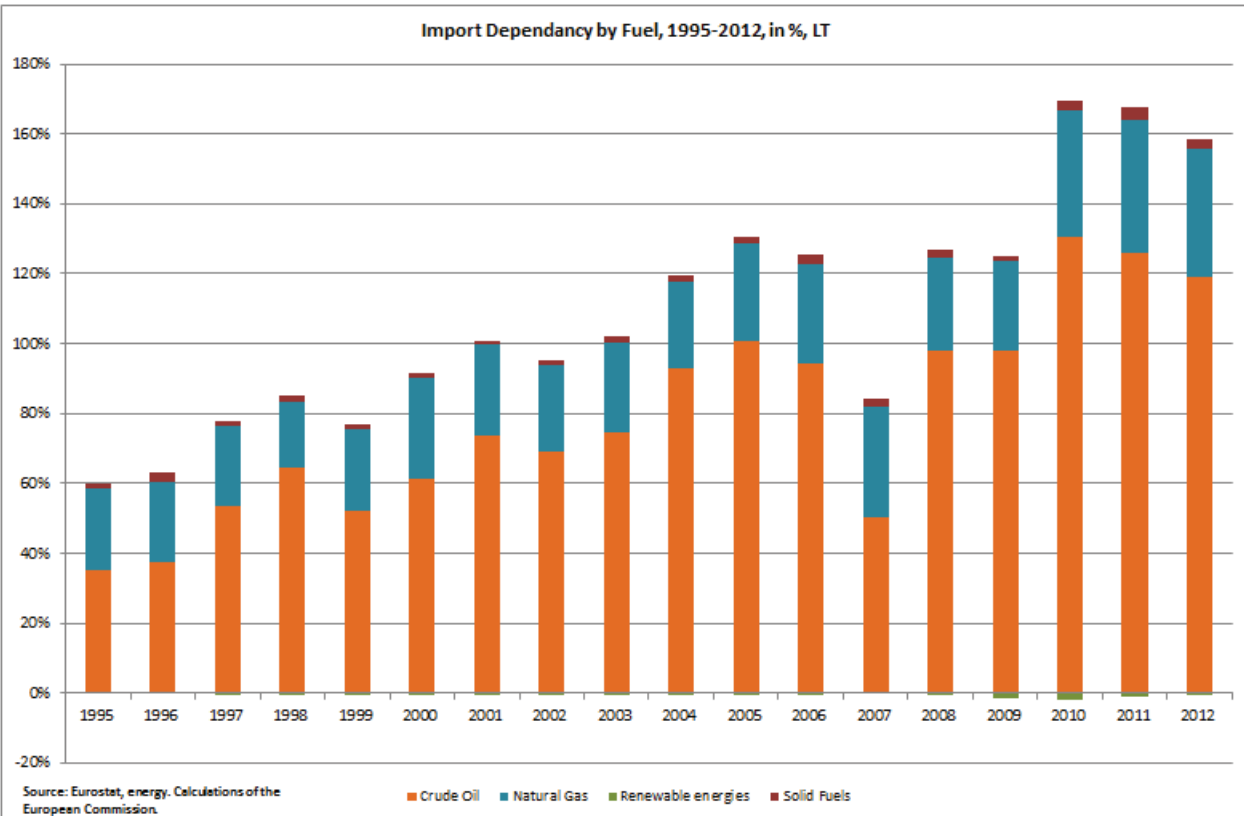
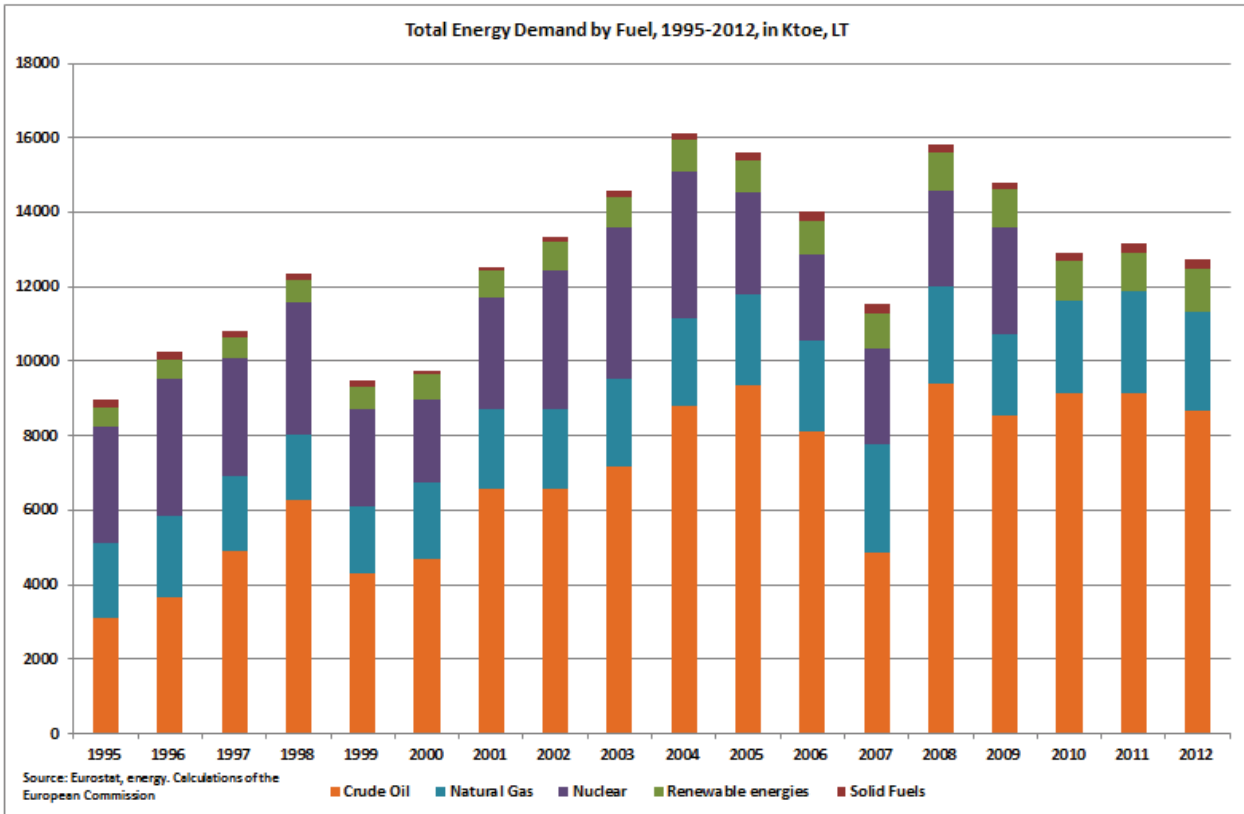
1000 Thousands of tonnes



Source: Eurostat, energy, Calculations of the European Commission

IT

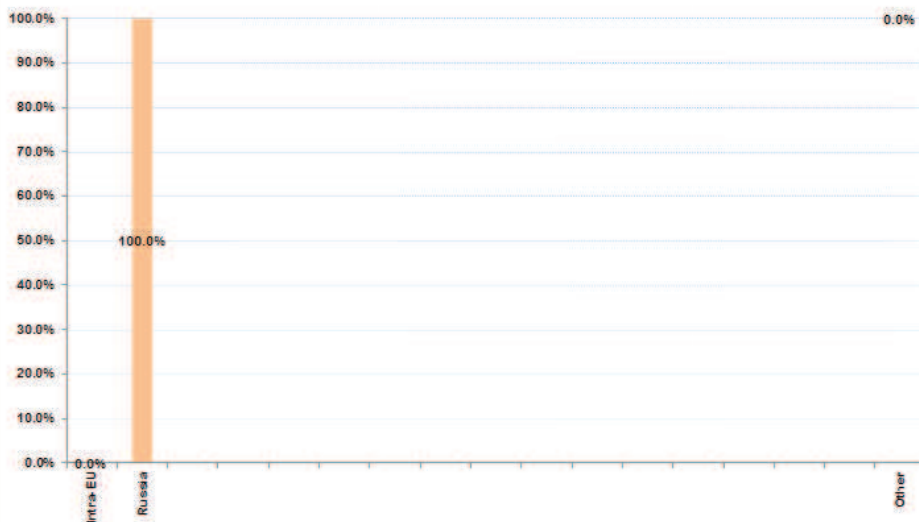
Country Fiche: Lithuania



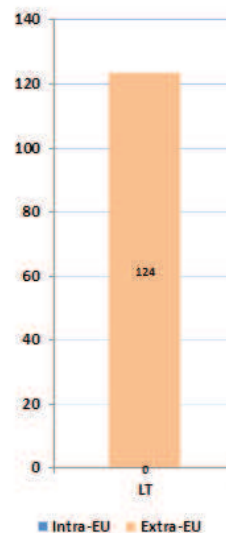
LT IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



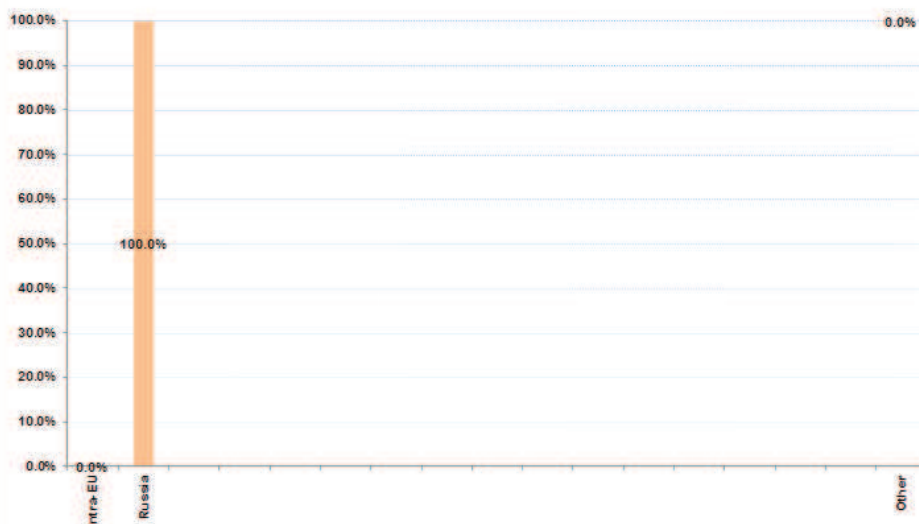
Source: Eurostat, energy. Calculations of the European Commission

LT

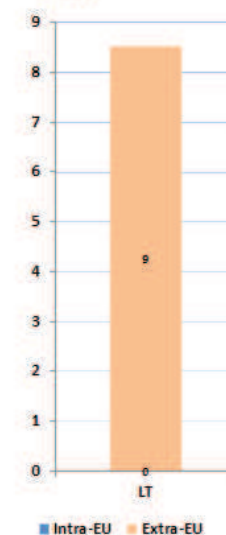
LT IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

LT

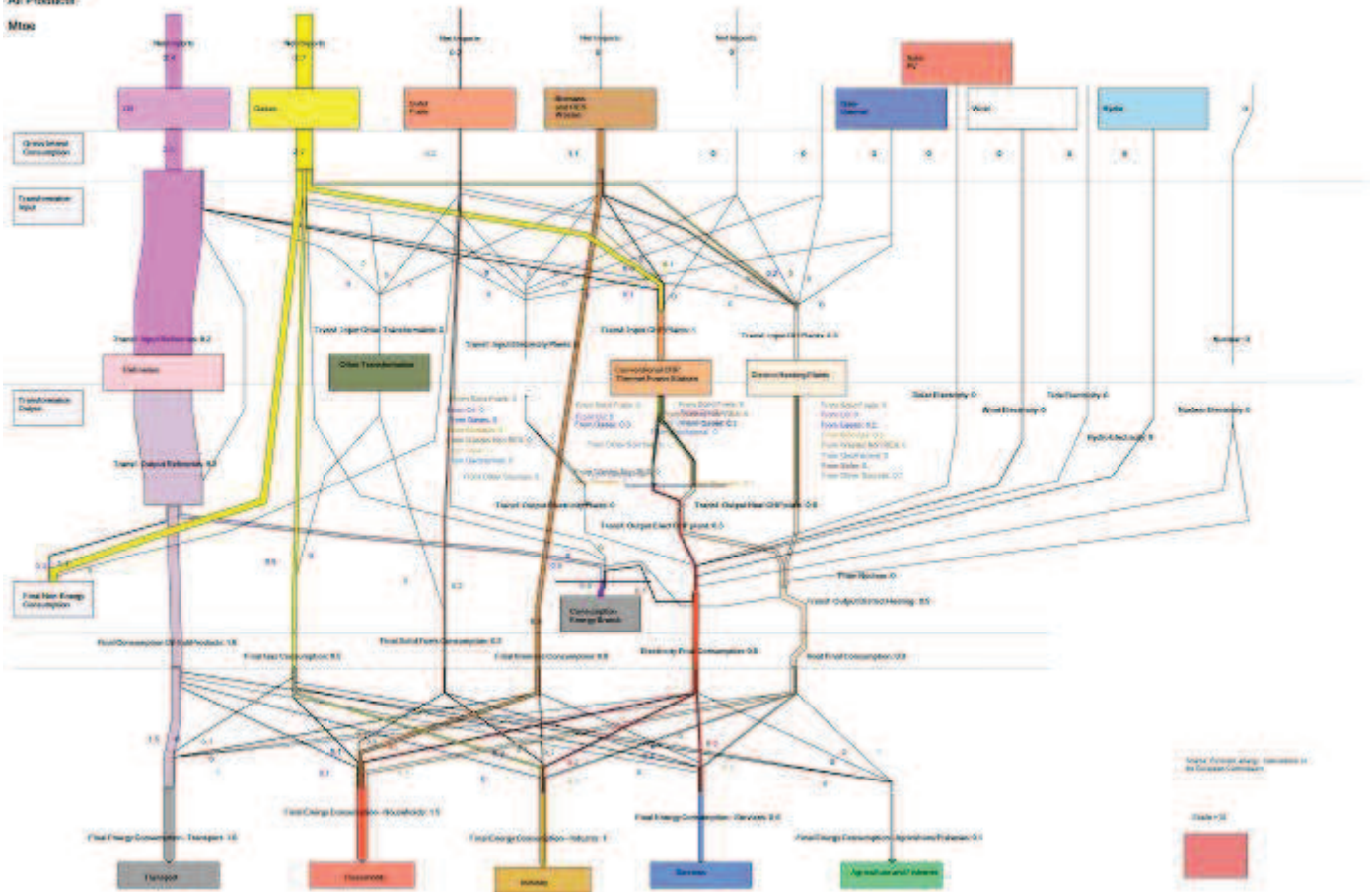
<i>Total gas consumption / Russian imports</i>	Total: 3.4 Bcm/y // RU: 3.4 Bcm/y
<i>Gas storage capacity and current level:</i>	n.a
<i>Connections to other MSs and capacity:</i>	LV→LT: 2.2 Bcm/y* (this figure is lower in winter because of limitations in the LV network)
<i>Alternative supply options:</i>	The planned LNG regasification unit is planned to come online by the end of 2014 with an initial capacity of 2 Bcm/y. The interconnection with Poland would improve the situation in the mid-term.
<i>Assessment:</i> Lithuania is the transit country for Russian gas to Kaliningrad. So far this has been its insurance policy, however, with the development of underground gas storages in Kaliningrad, short-term disruptions would no longer have an impact on the Russian enclave.	

ENERGY FLOW

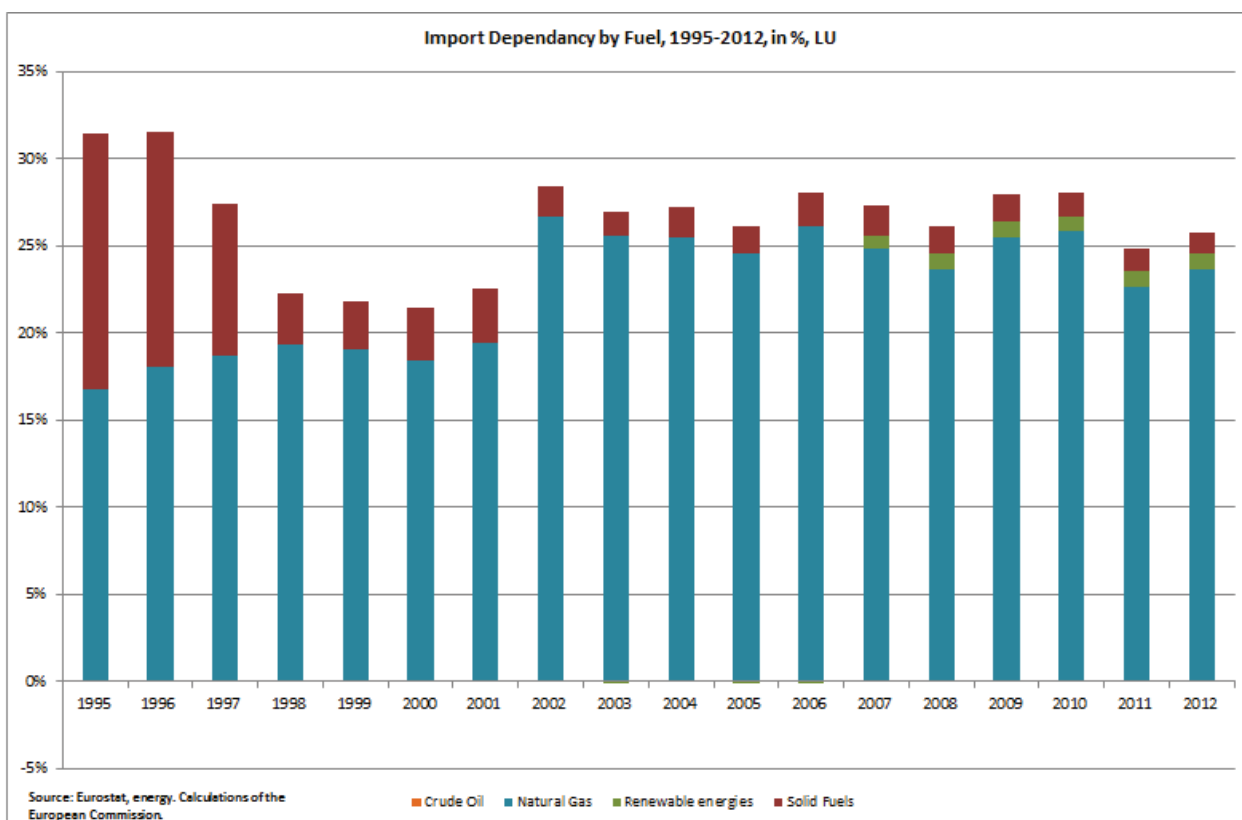
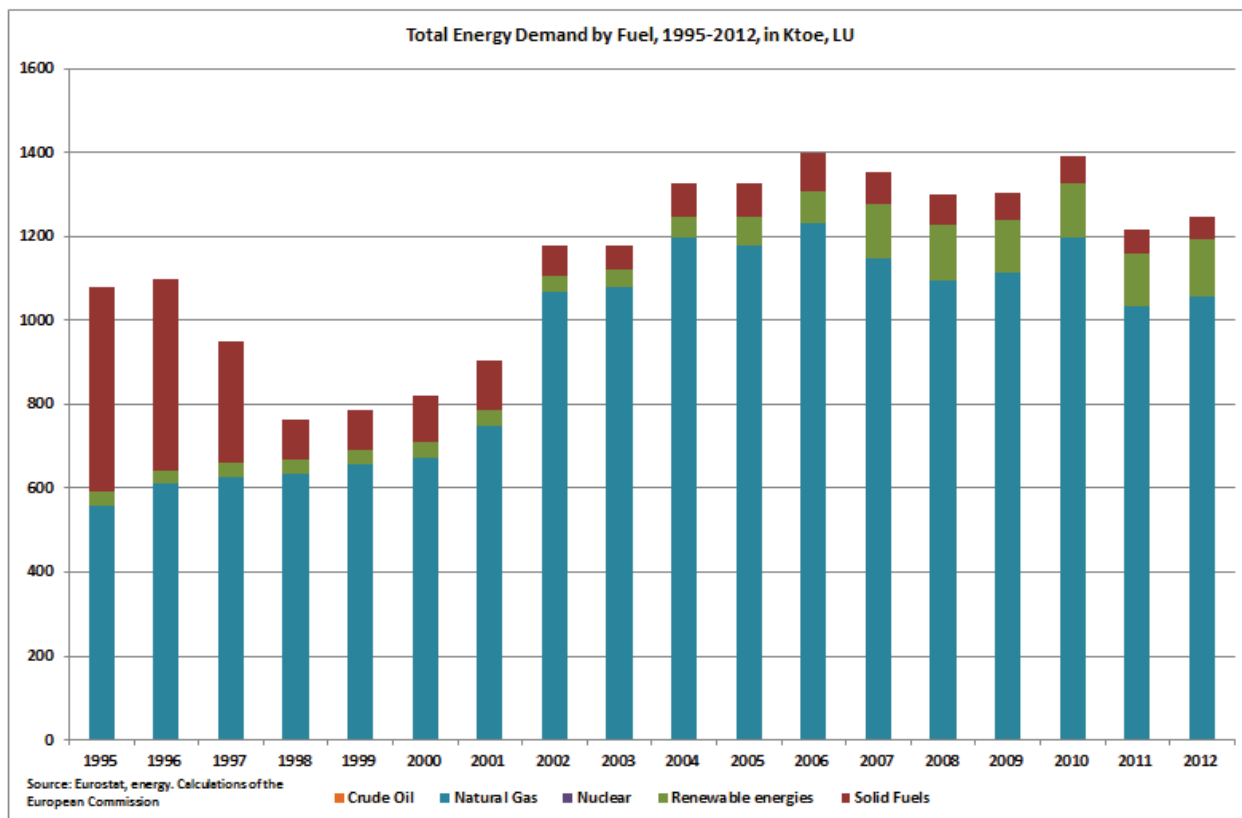
LT 2012

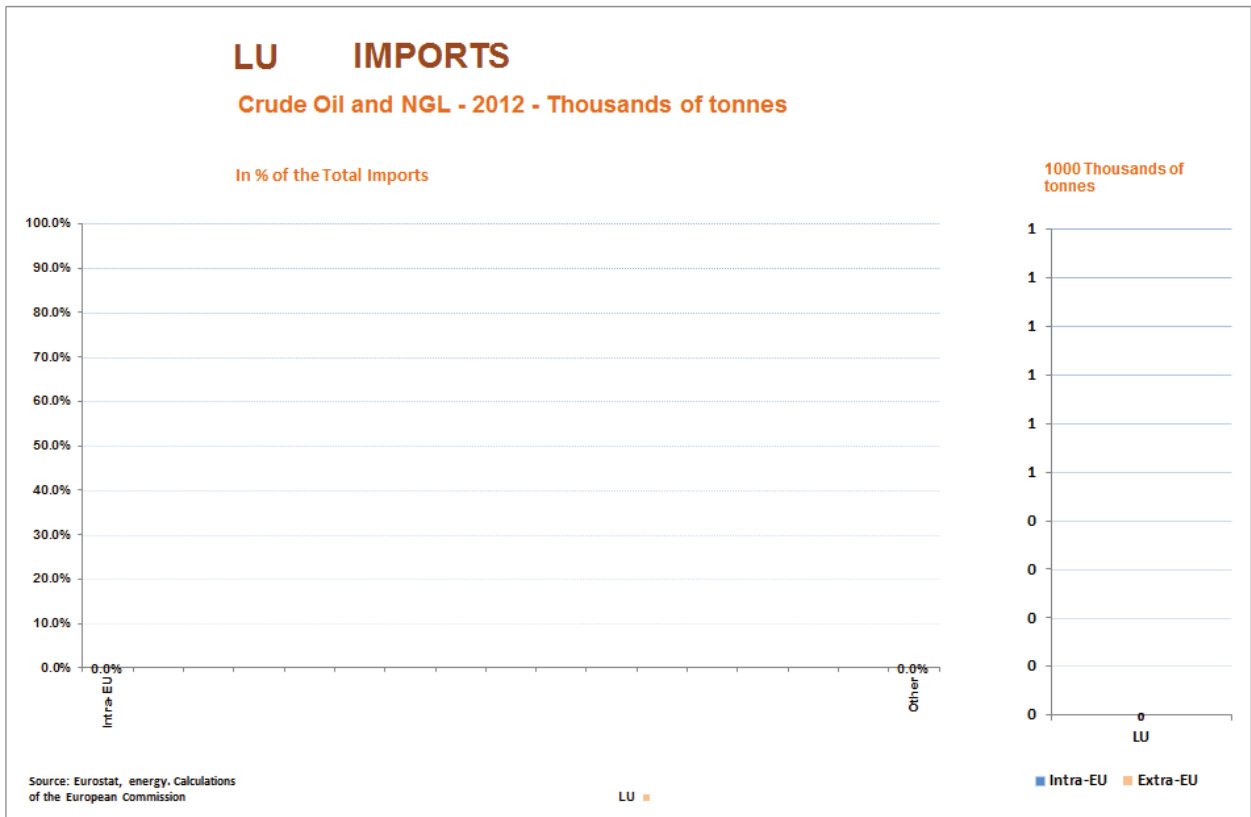
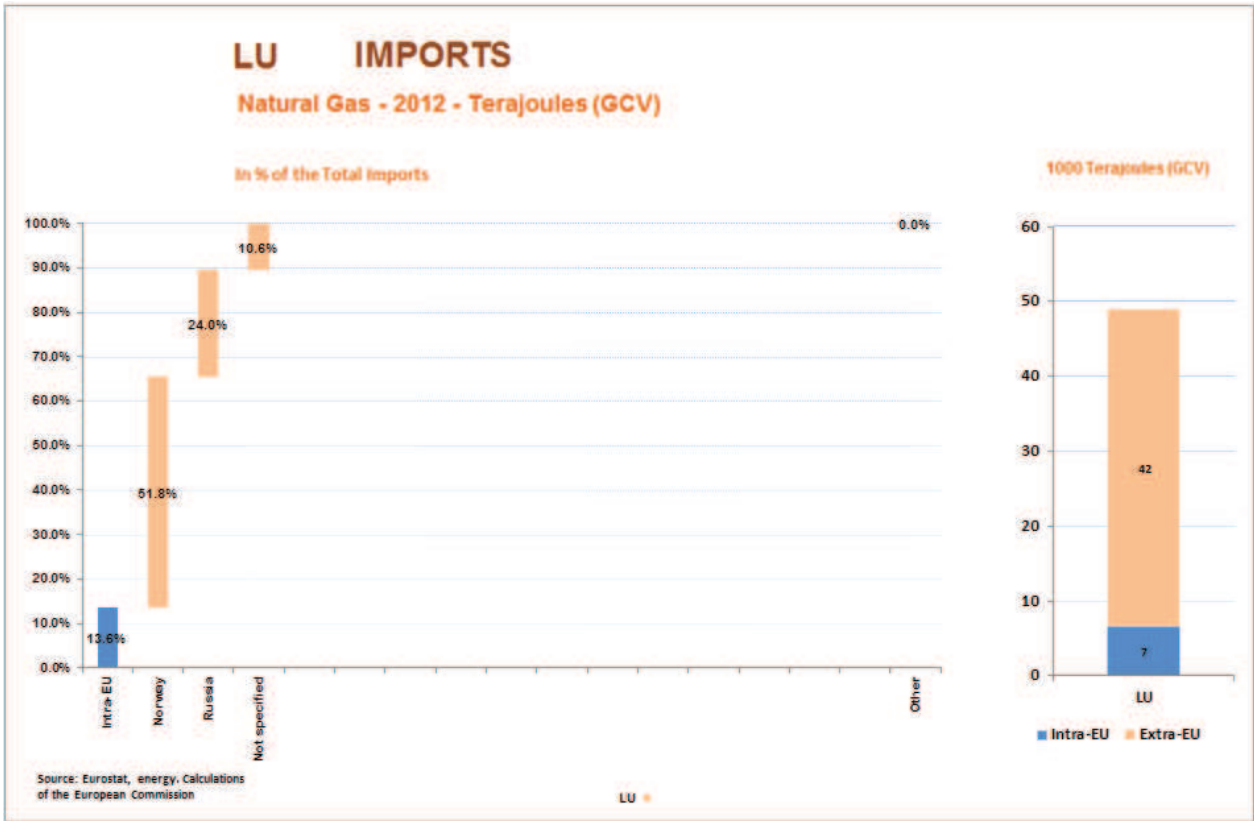
All Products

Mtoe

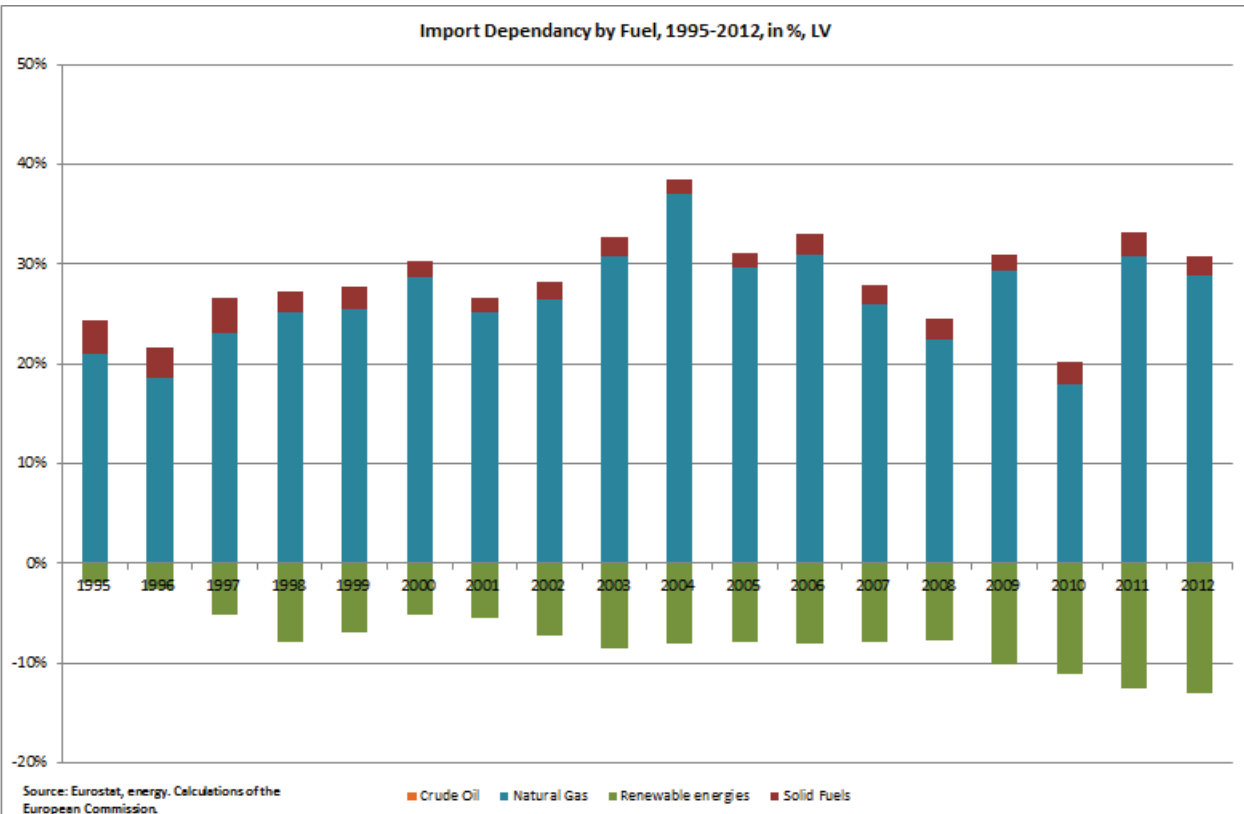
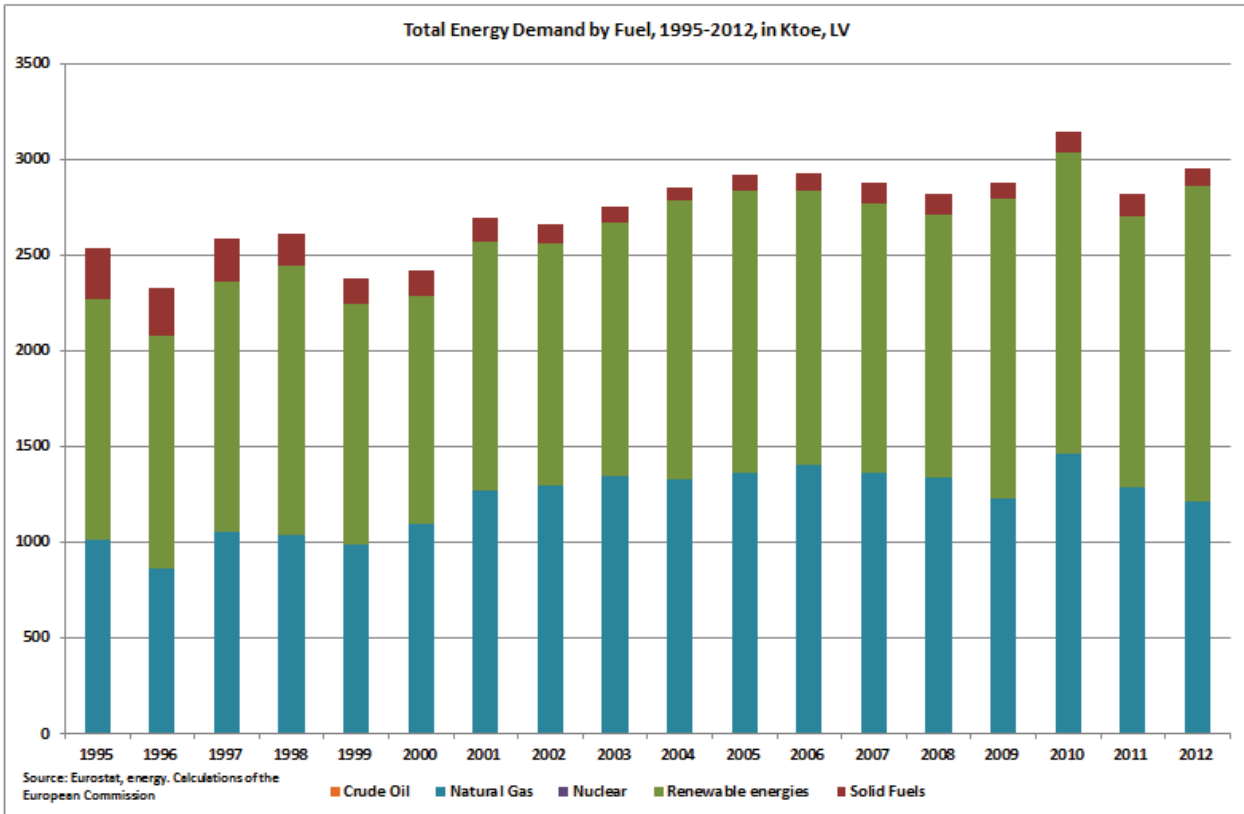


Country Fiche: Luxembourg





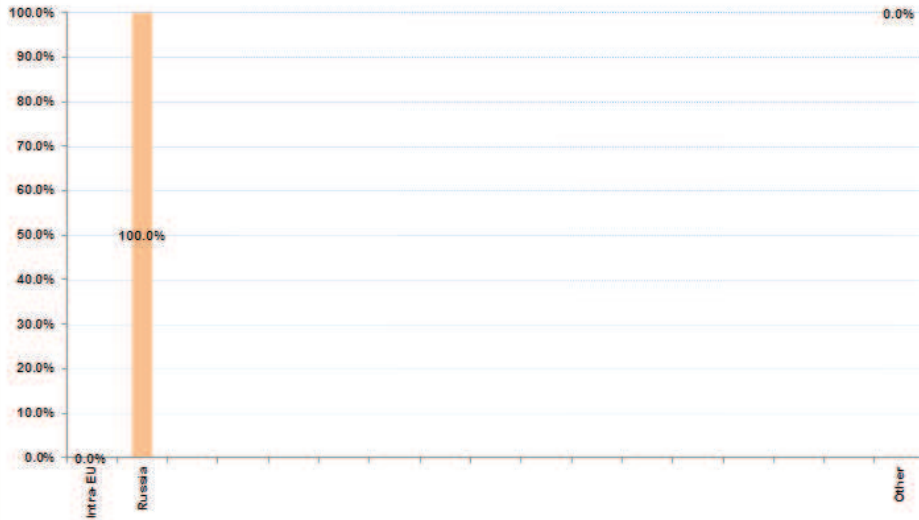
Country Fiche: Latvia



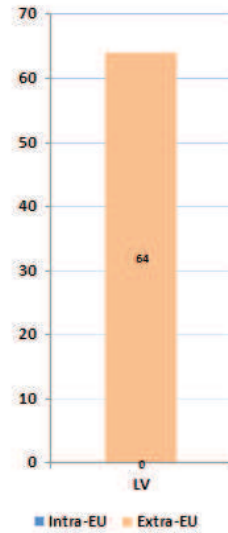
LV IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



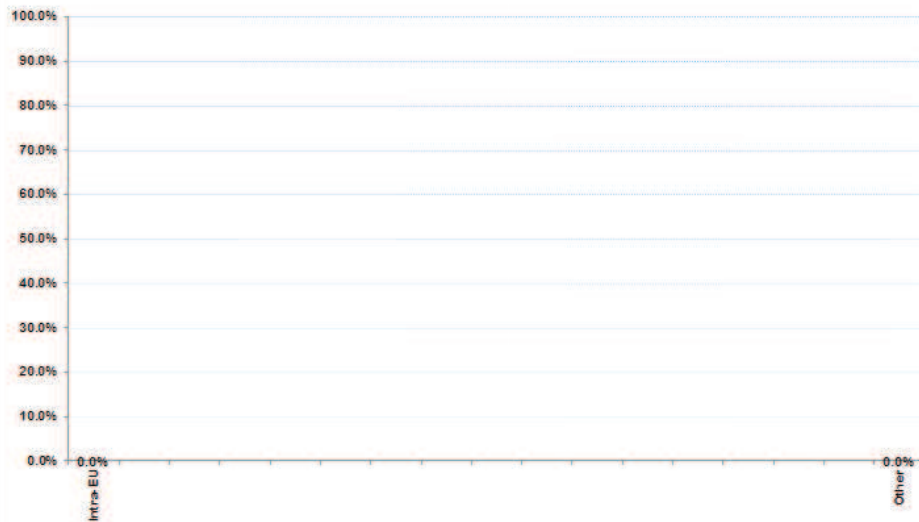
Source: Eurostat, energy. Calculations of the European Commission

LV

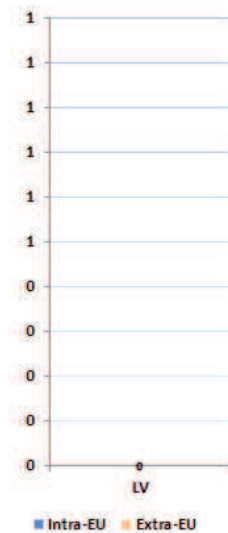
LV IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

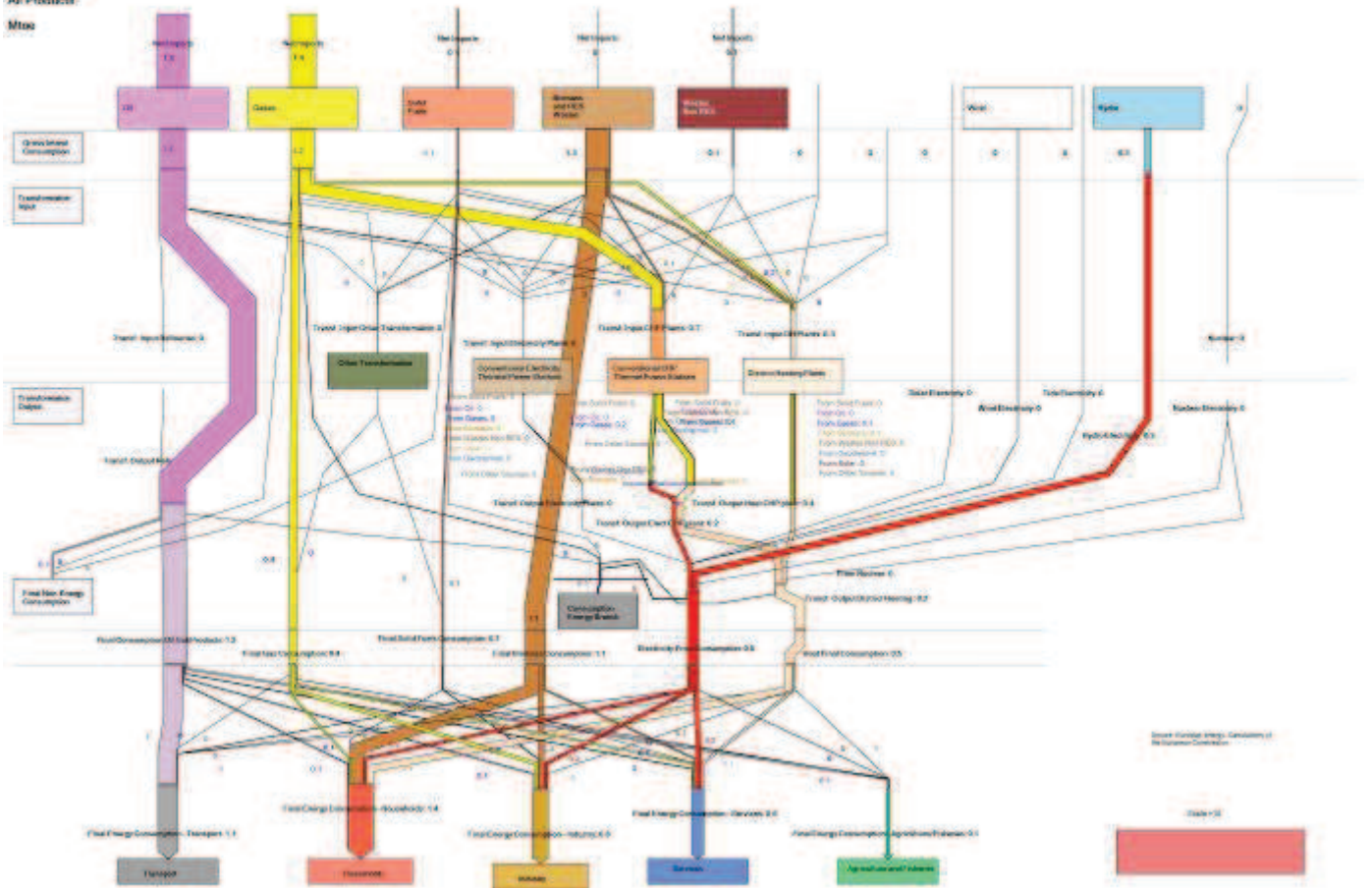
LV

Latvia

Total gas consumption /	Total: 1.7 Bcm/y // RU: 1.7 Bcm/y
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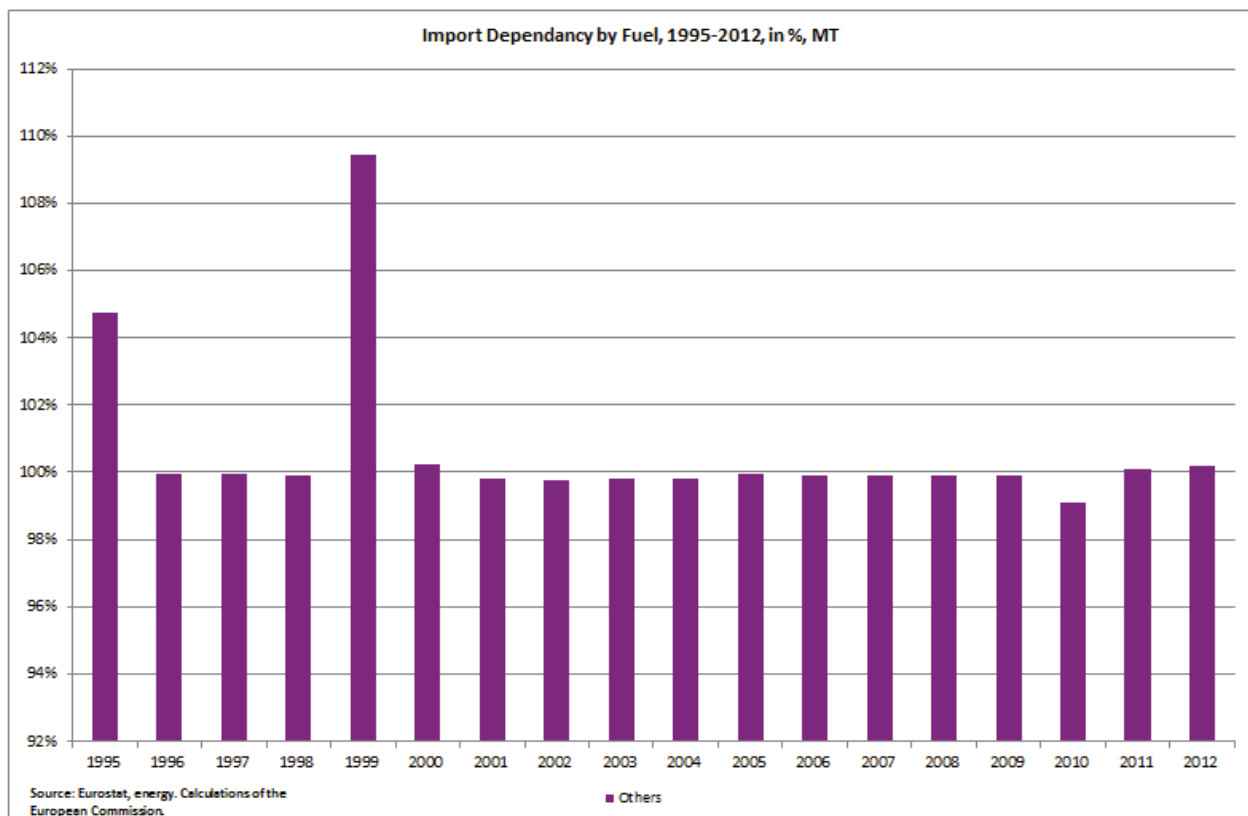
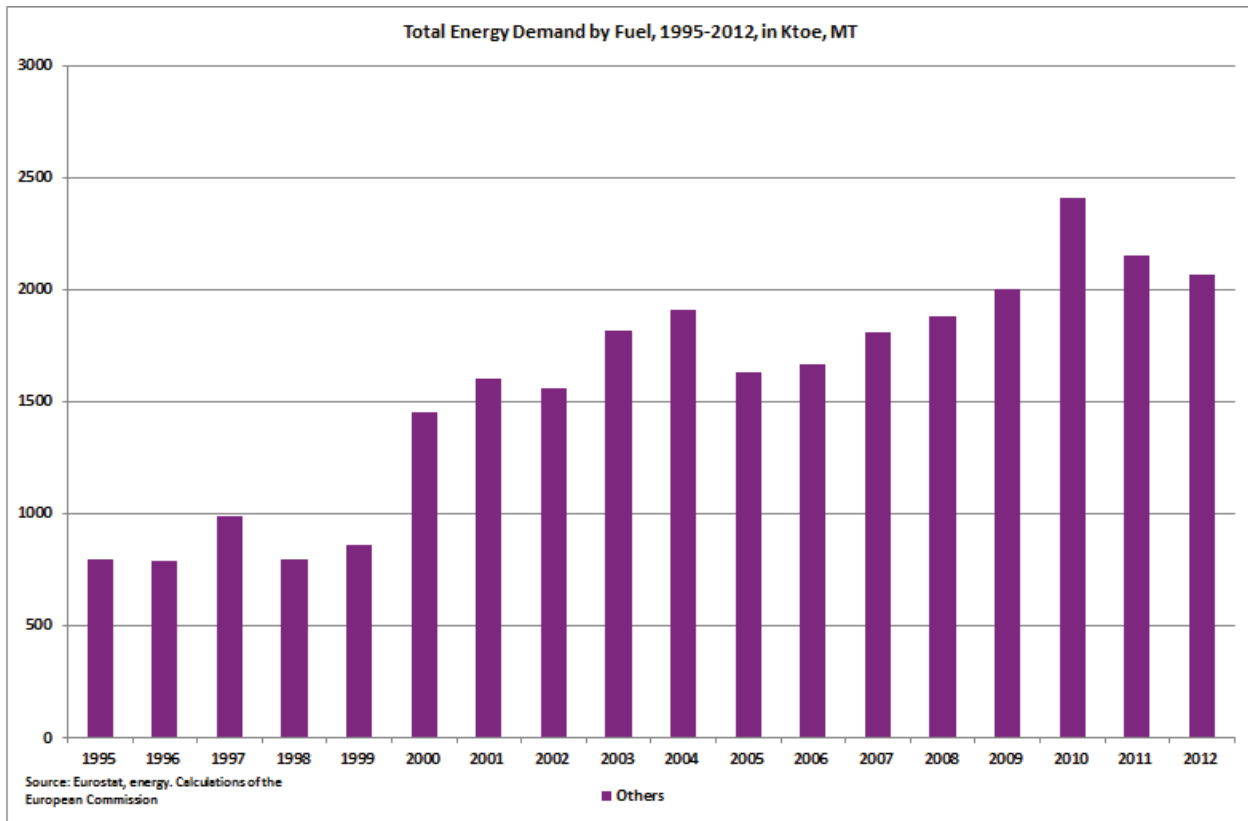
<i>Russian imports</i>	
<i>Gas storage capacity and current level:</i>	Total: 2.35 Bcm // Current: NO DATA PUBLIC but based on usual curve ~1 Bcm
<i>Connections to other MSs and capacity:</i>	LV→EE: 2.5 Bcm/y LV→LT: 2.2 Bcm/y* (this figure is lower in winter because of limitations in the LV network)
<i>Alternative supply options:</i>	Additional supplies to Lithuania via the regasification terminal could allow for additional sources from the end of 2014. Physical impact on the Latvian market would though probably be limited. Baltic connector or the LNG terminal coupled with reverse flows from EE could bring new gas in mid-term. Connection between PL-LT could bring gas in the long-term.
<i>Assessment:</i> Latvia is fully and exclusively dependent on Russian gas imports. Because of the specific operating regime in Russia, Gazprom in winter time is not able to supply the St. Petersburg area from its own network. Hence, it uses the storage facility in Incukalns to send the gas towards Russia, Estonia and – to a smaller extent – Lithuania in the winter, and the facility is filled up during the summer, when the gas is physically flowing in from Russia. The disruption of the storage facility (or lack of injections) would have main impact not only in Latvia and Estonia but in Russia as well. This situation may change if Russia upgrades its domestic network and will no longer need to keep gas in Latvia for winter supplies.	

ENERGY FLOW
 LV 2012
 All Products
 MWh

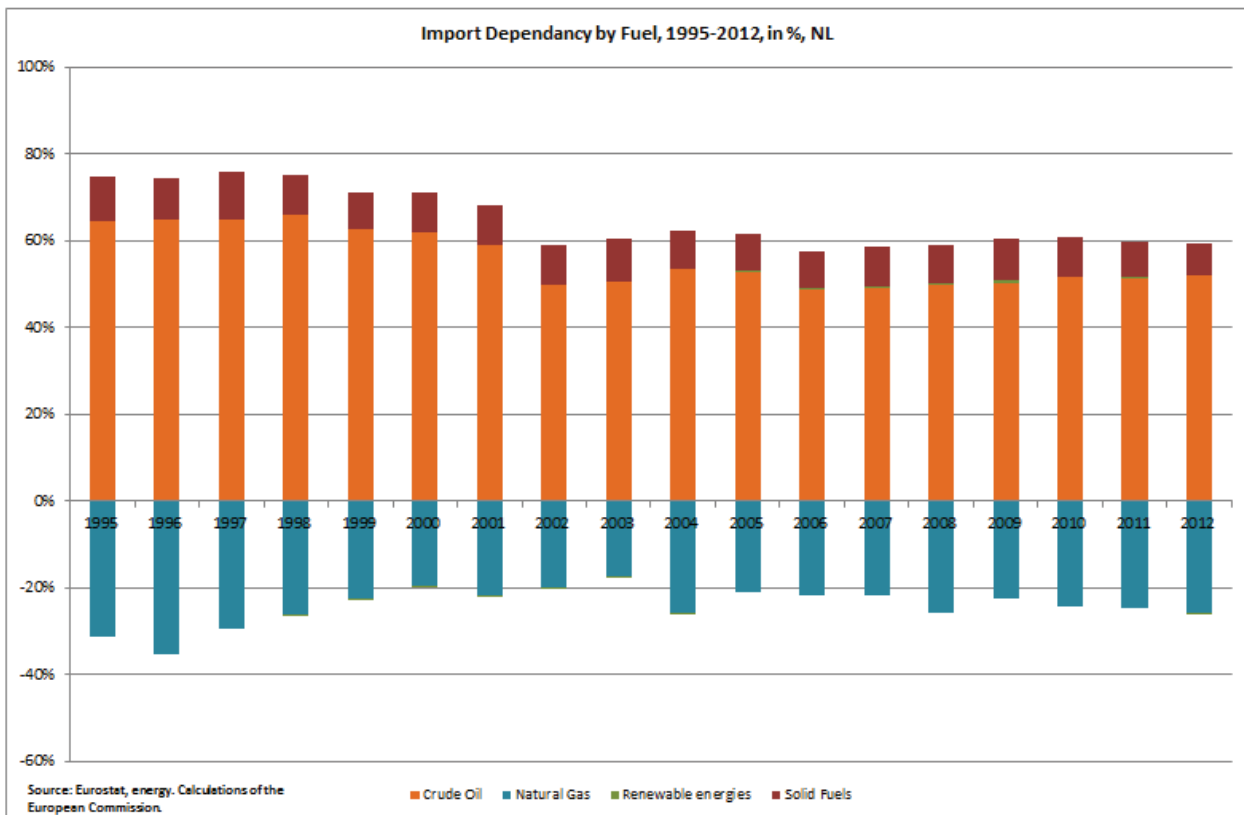
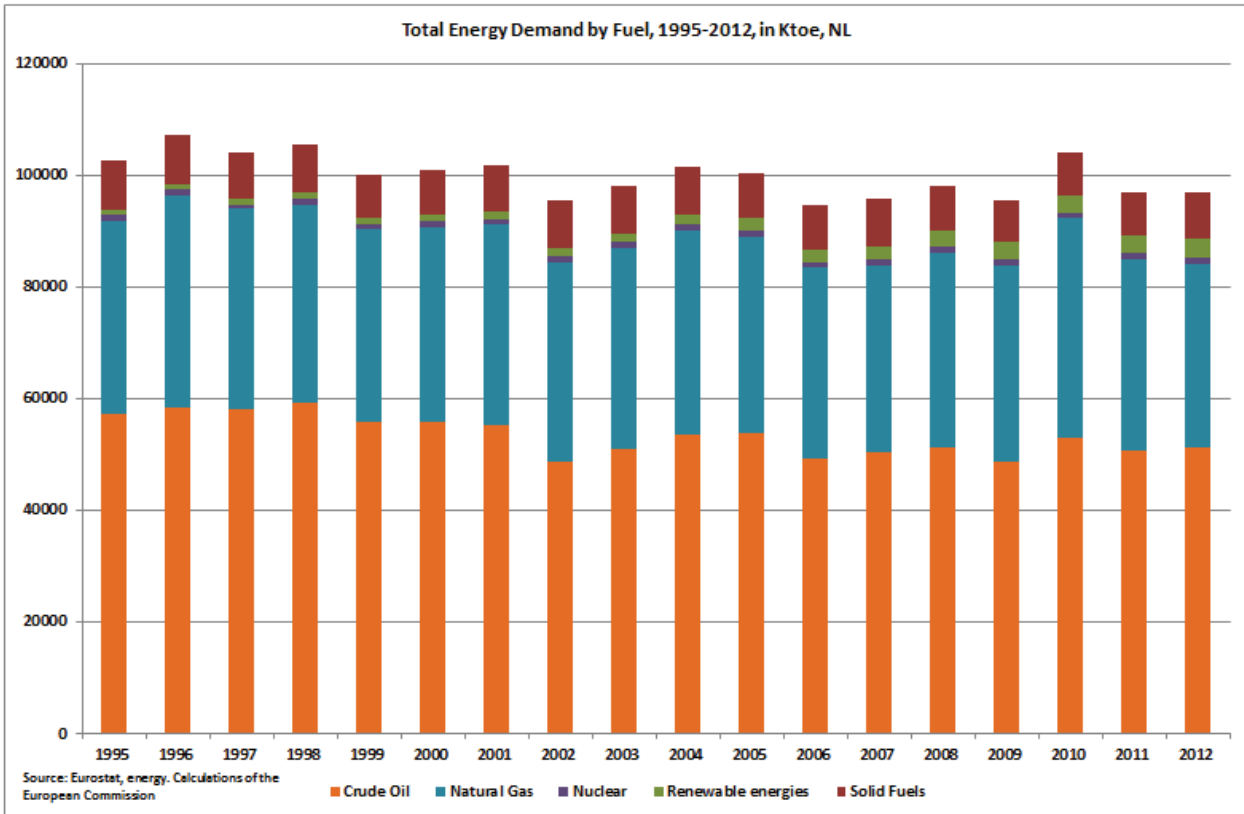


Country Fiche: Malta

Note: Malta reports all energy sources, except for renewables, under the category "Others" in the SIRENE database. For this reason, no breakdown of total demand by fuel or of import dependency by fuel is presented.

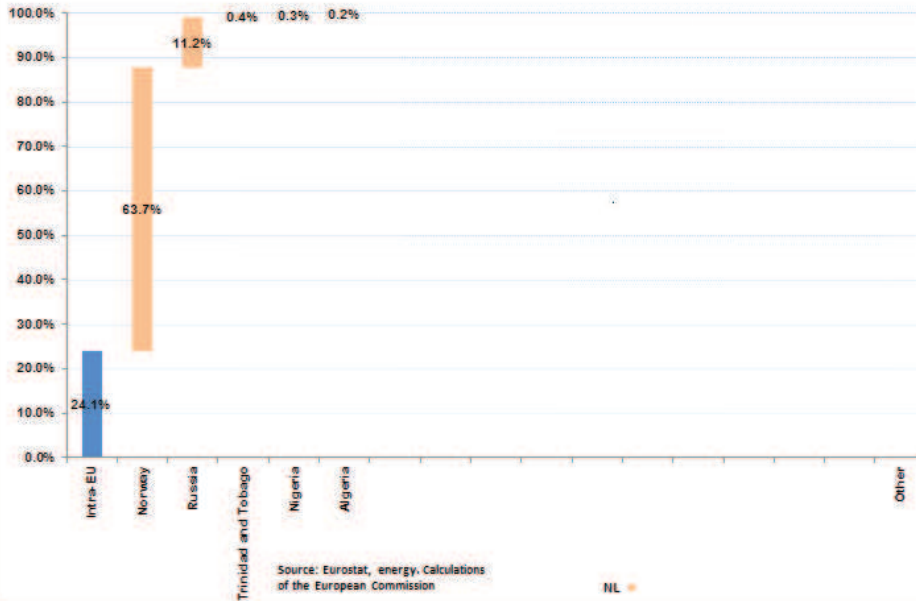


Country Fiche: The Netherlands

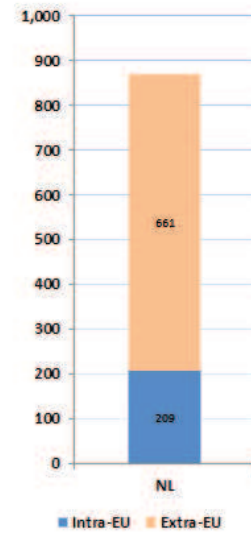


NL IMPORTS Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports

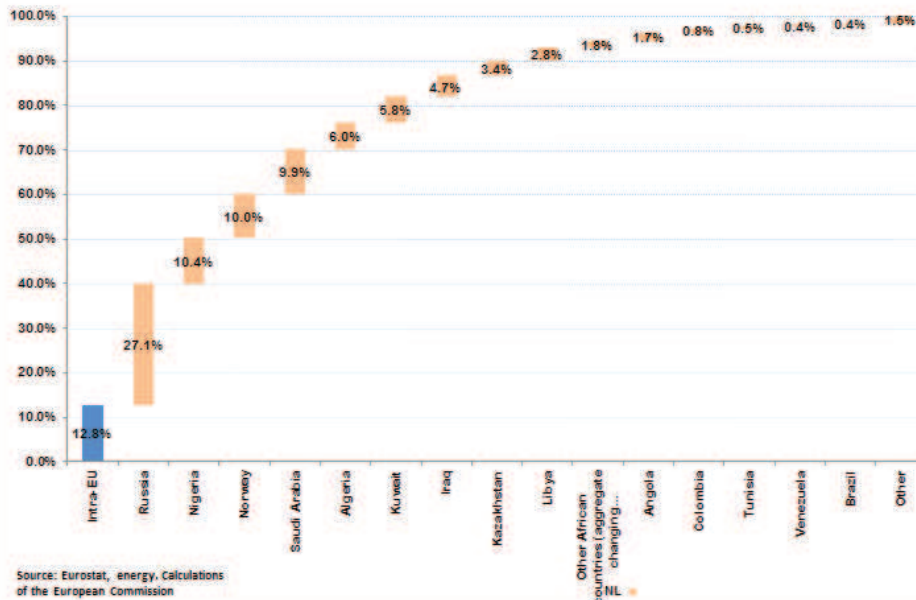


1000 Terajoules (GCV)

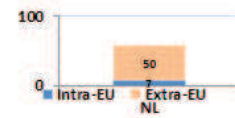


NL IMPORTS Crude Oil and NGL - 2012 - Thousands of tonnes

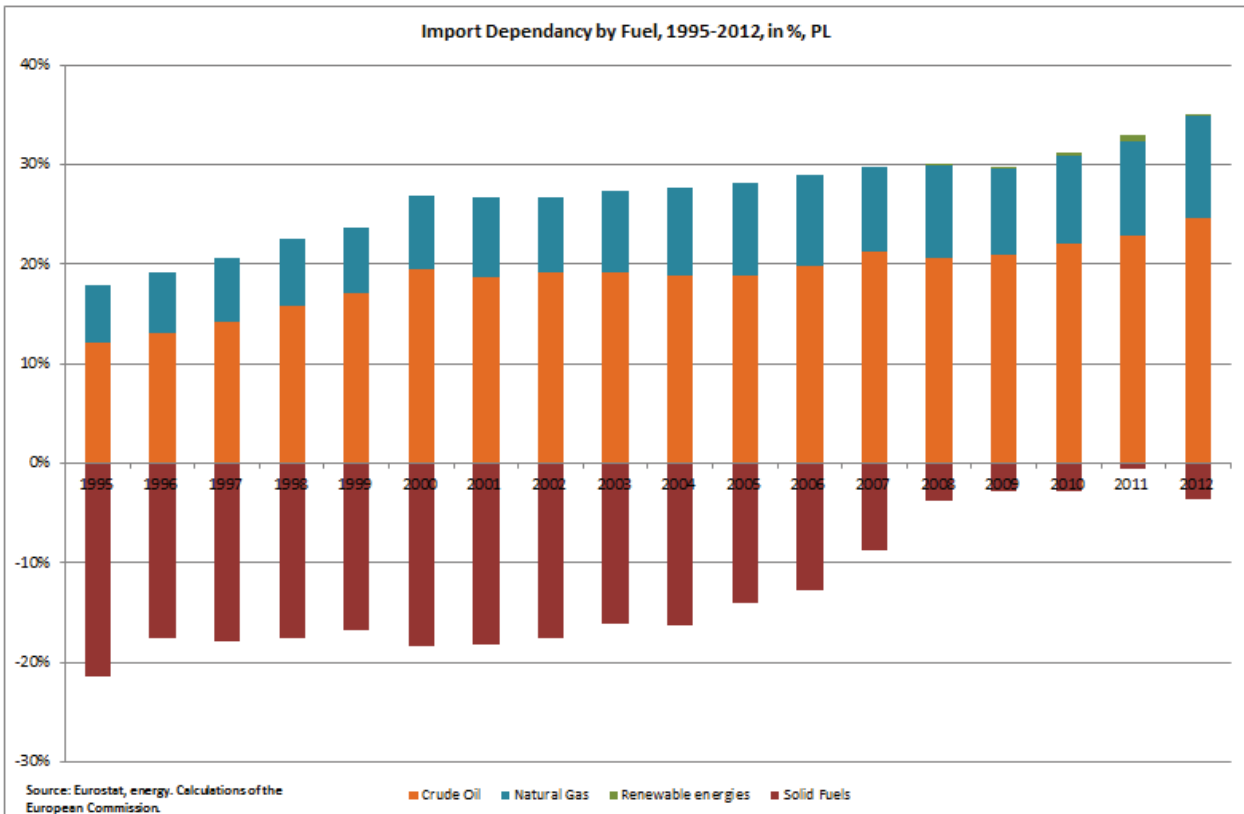
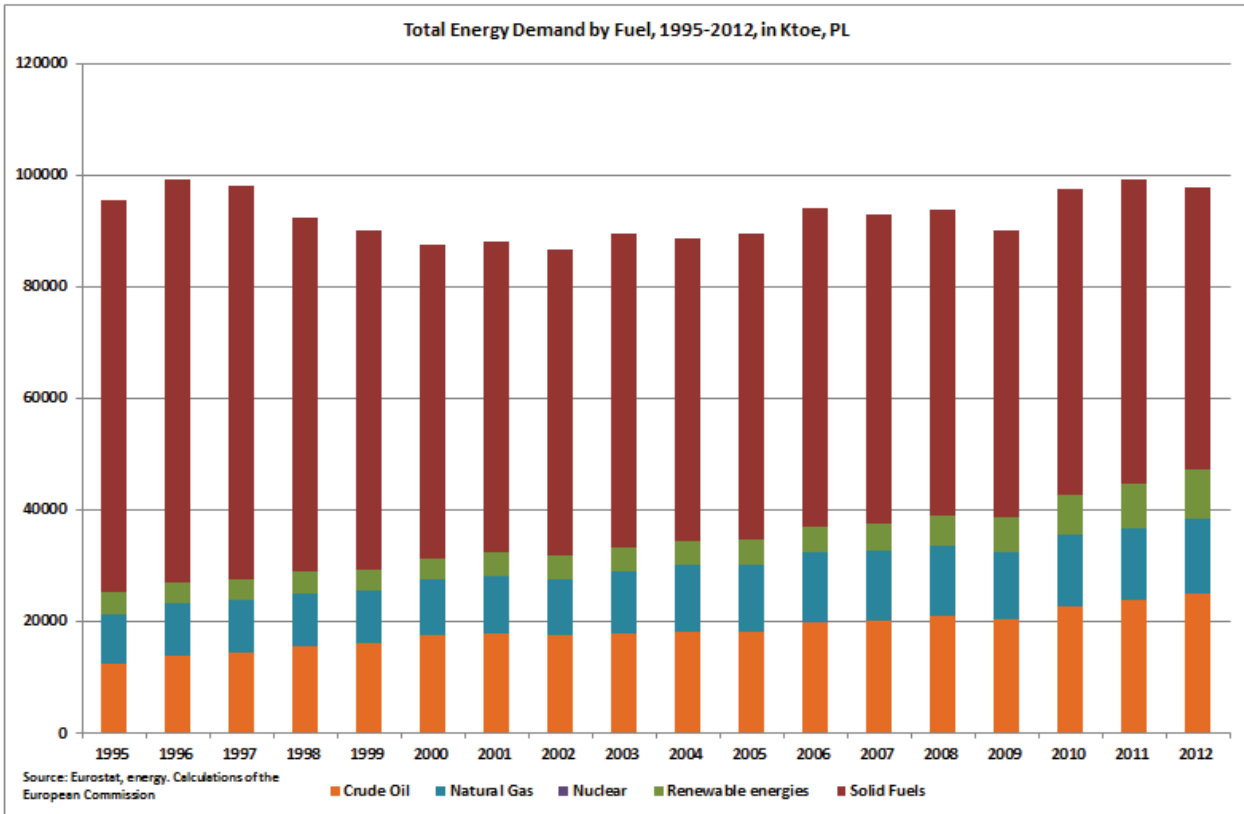
In % of the Total Imports



1000 Thousands of tonnes



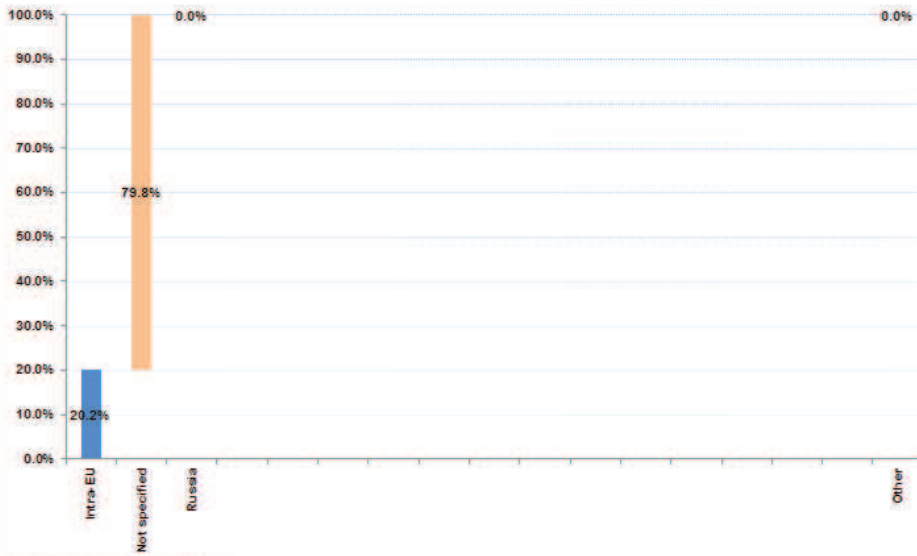
Country Fiche: Poland



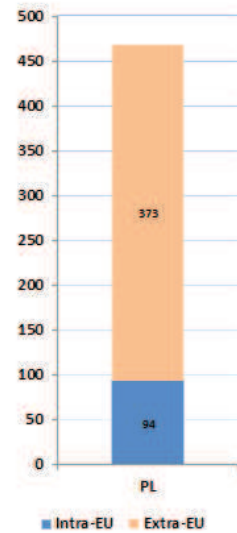
PL IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



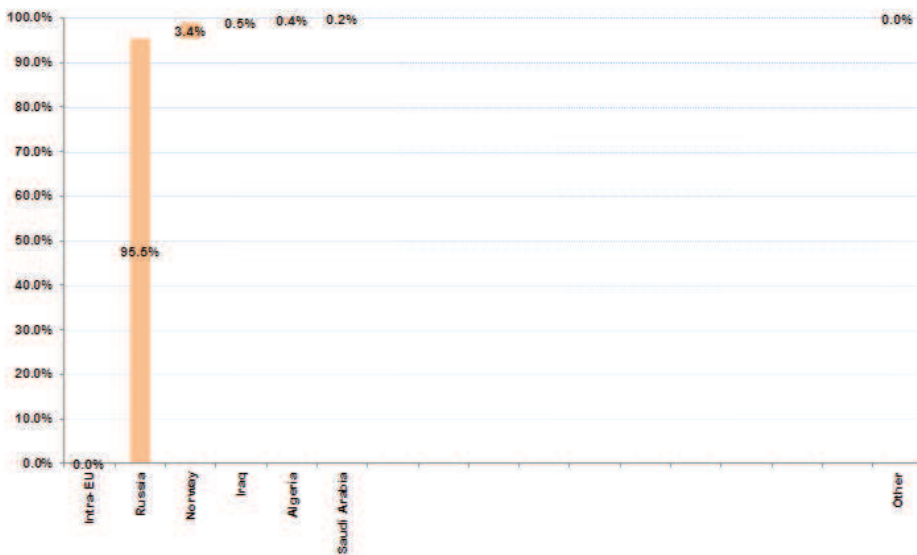
Source: Eurostat, energy. Calculations of the European Commission

PL

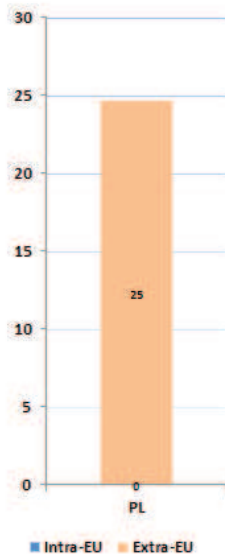
PL IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

PL

Poland

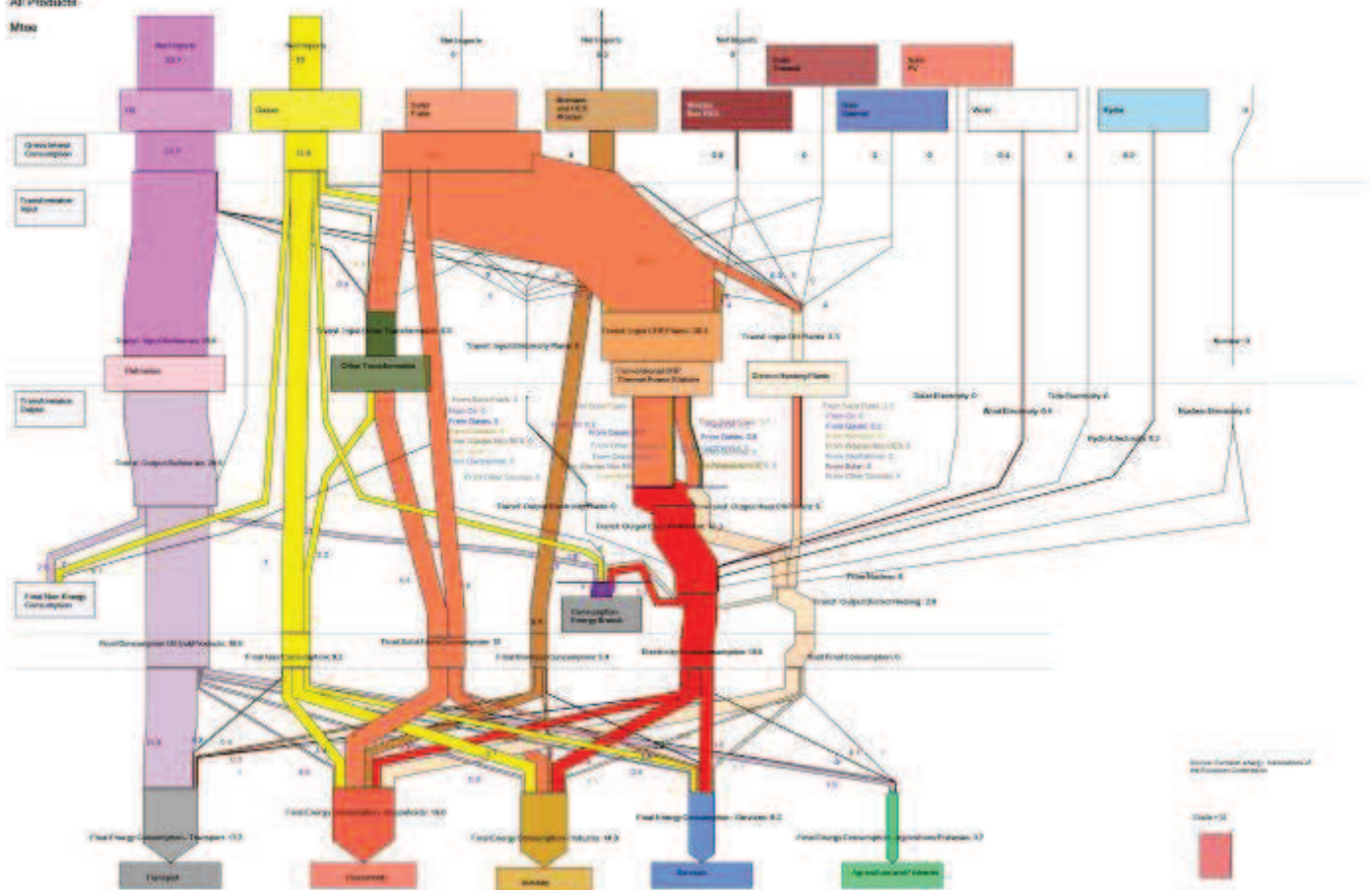
<i>Total gas consumption / Russian imports</i>	Total: 16.3 Bcm/y // RU: 9.8 Bcm/y
<i>Gas storage capacity and current level:</i>	Total: 1.75 Bcm // Current: 1.23 Bcm
<i>Connections to other MSs and capacity:</i>	PL→DE: 30.6 Bcm/y (Yamal) DE→PL: 1.6 Bcm/y (<i>from April extra 5.4 Bcm/y capacity expected to be added by implementing reverse flow on Yamal</i>) CZ→PL: 0.15 Bcm/y
<i>Alternative supply options:</i>	Physical reverse flows on the Yamal pipeline from DE – as a result of Regulation 994/2010 – will become operational from April 2014. The LNG terminal at Swinoujscie is planned to become operational by the end of 2014, with capacity of 5 Bcm/y. Expansion to 7.5 Bcm/y is part of the PCIs, with a target date of 2020.
<i>Assessment:</i> Poland receives part of its gas via direct interconnections with Belarus and Ukraine. In terms of quantities the LNG terminal and increased reverse flows from Germany could substitute missing Russian gas. However, these amounts may be difficult to be shipped to the South-Eastern part of Poland.	

ENERGY FLOW

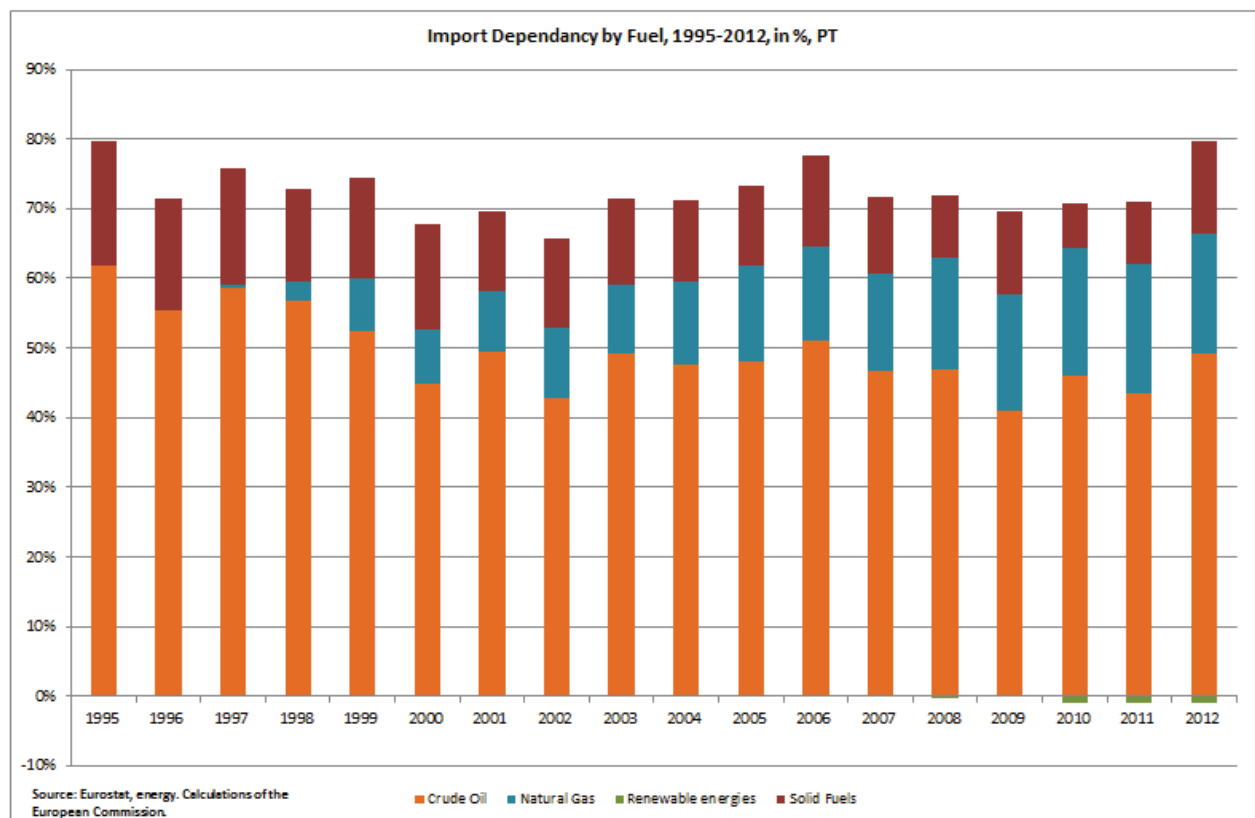
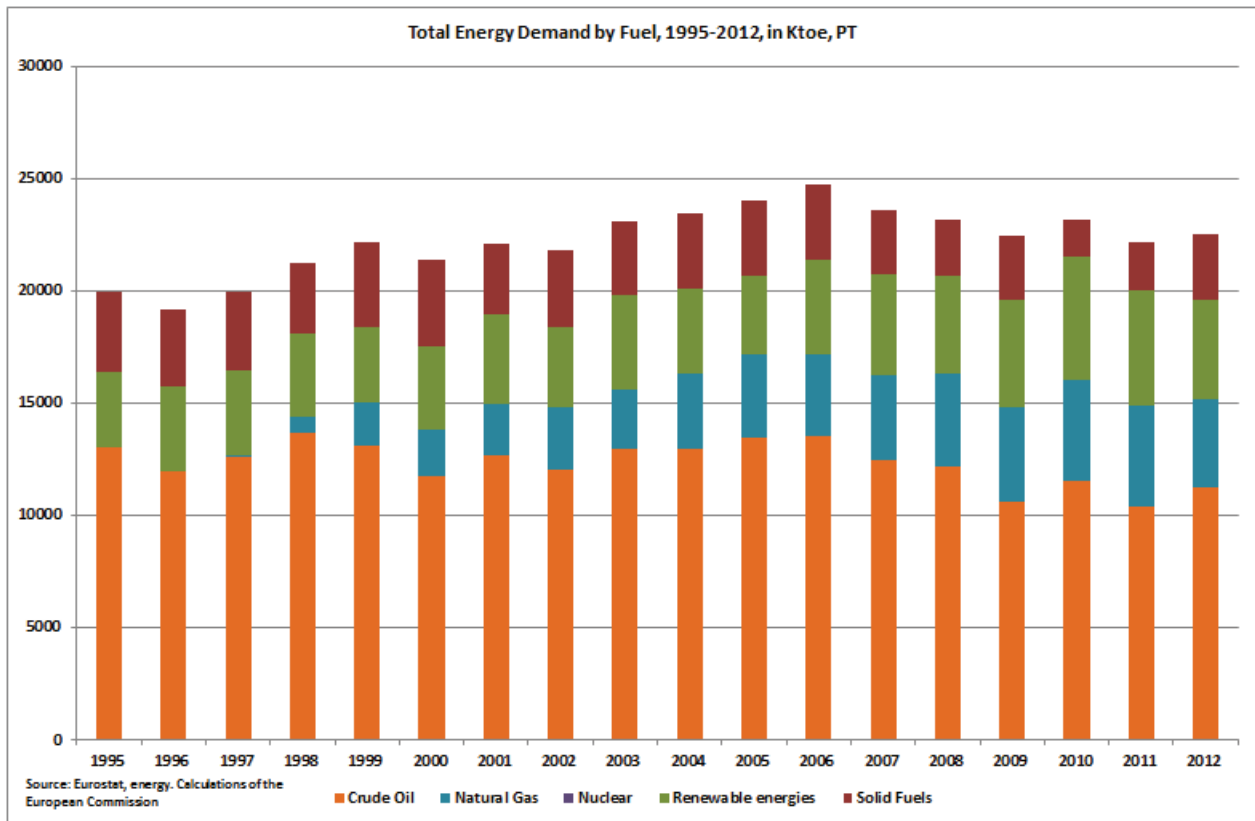
FL 2012

All Products

Mtoe



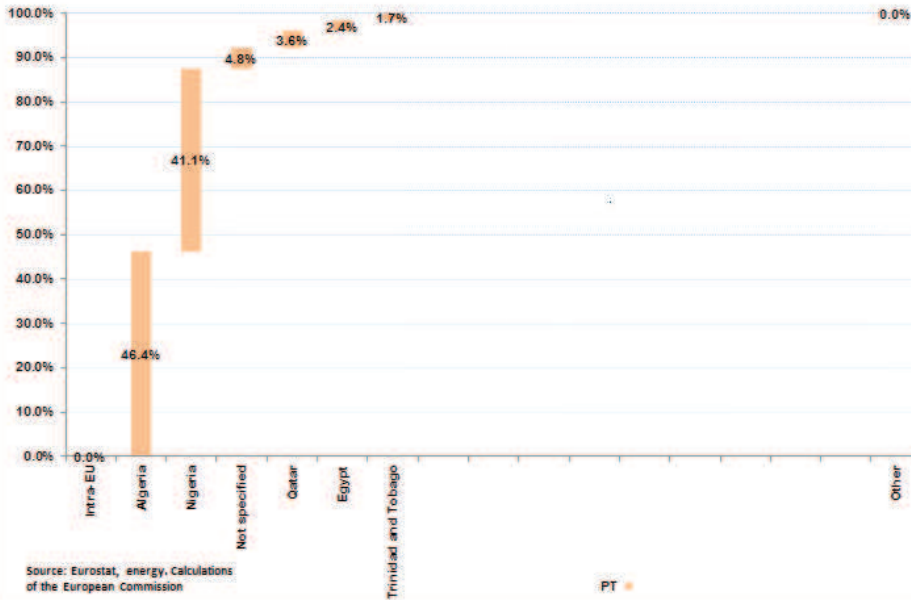
Country Fiche: Portugal



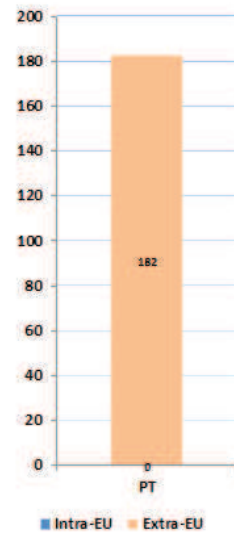
PT IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



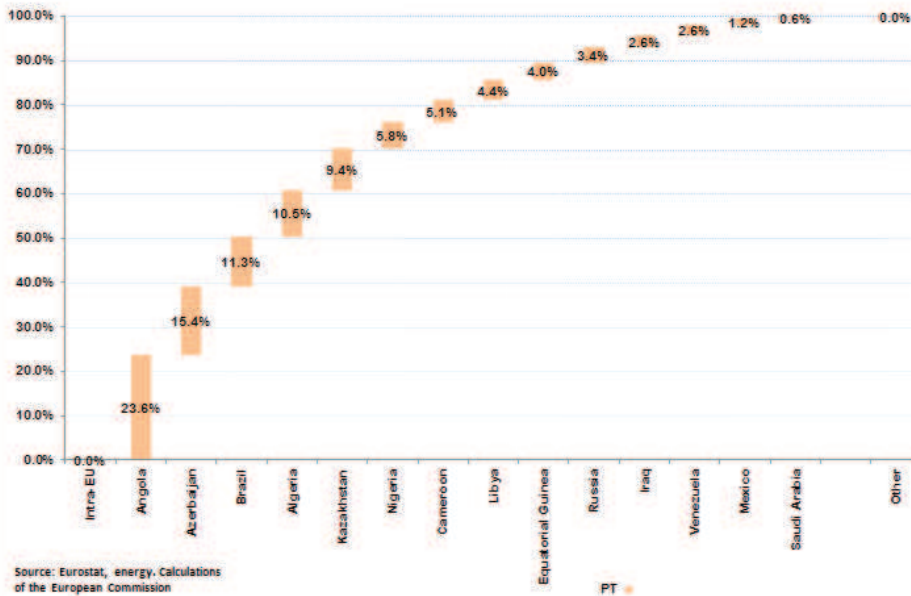
Source: Eurostat, energy. Calculations of the European Commission

PT

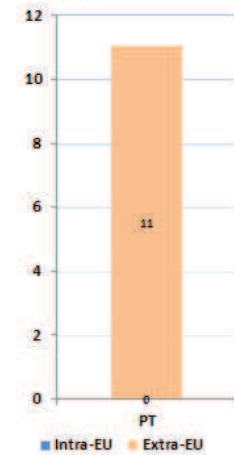
PT IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



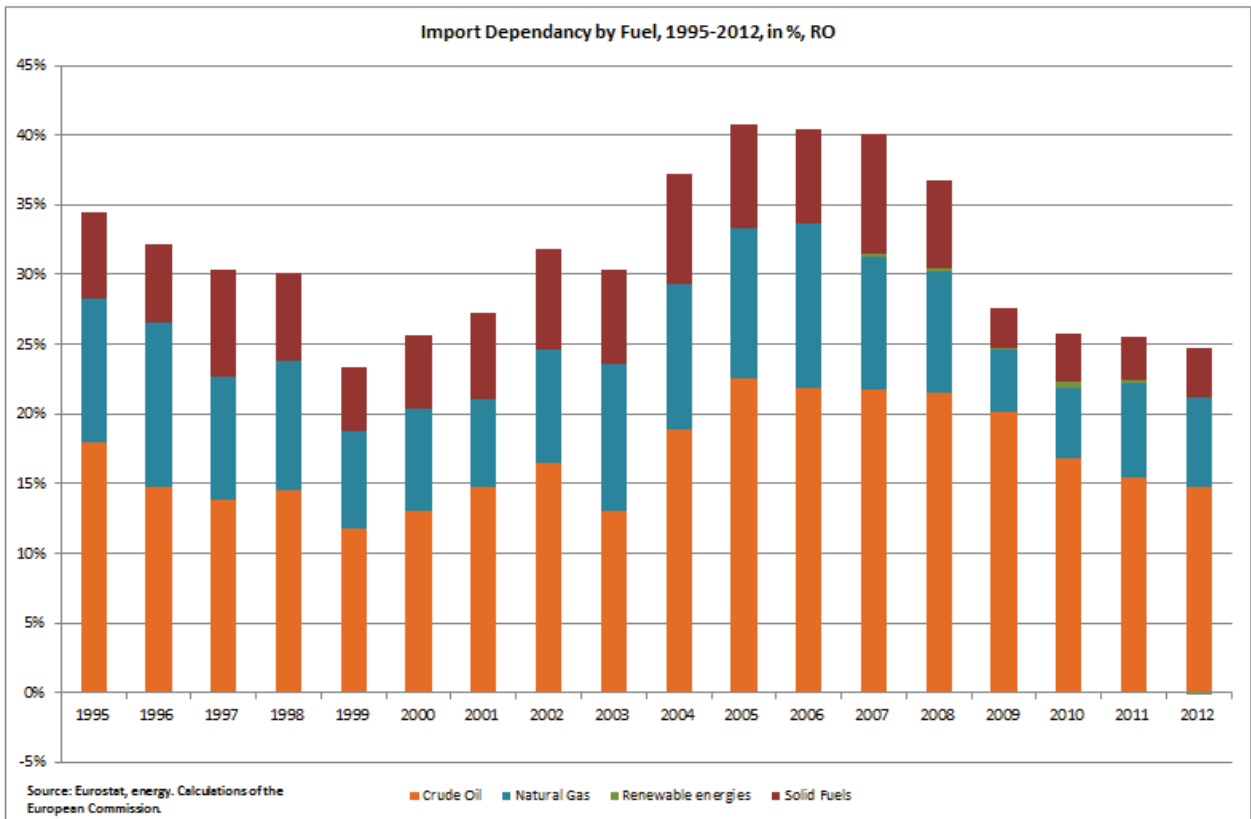
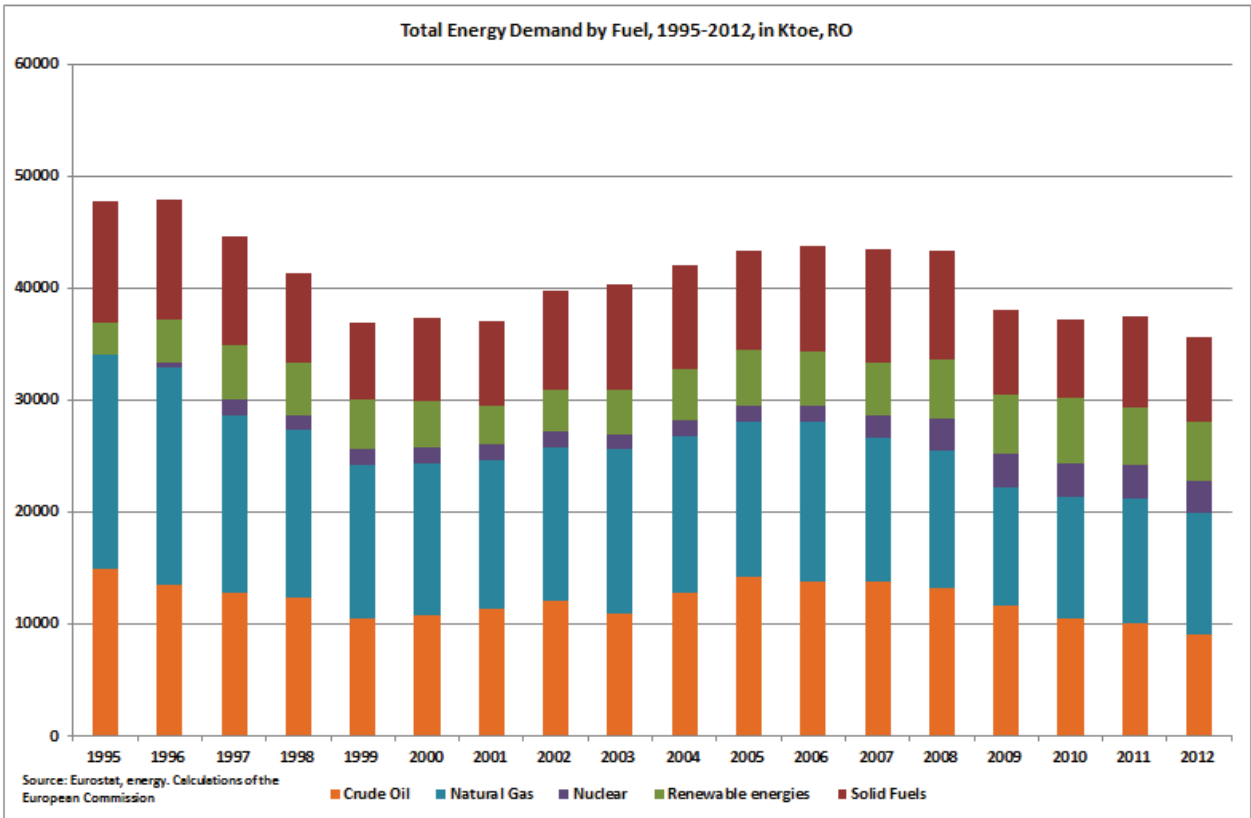
1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

PT

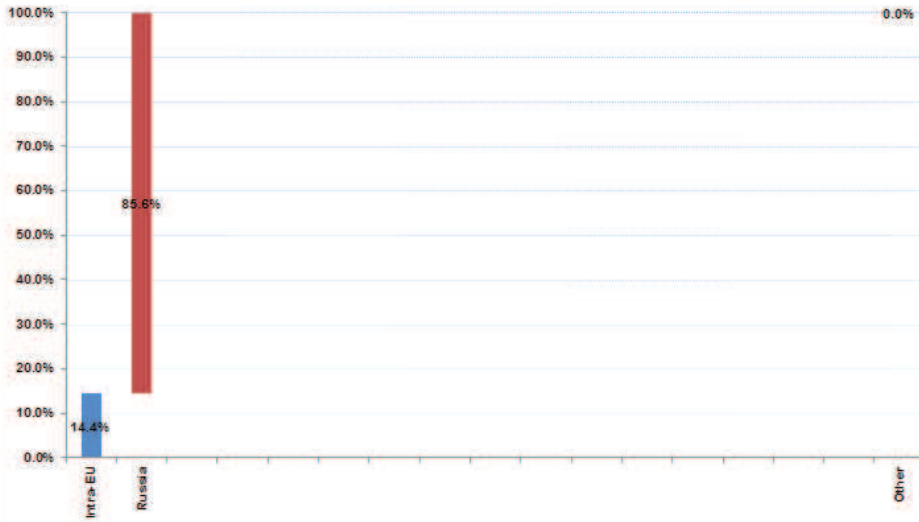
Country Fiche: Romania



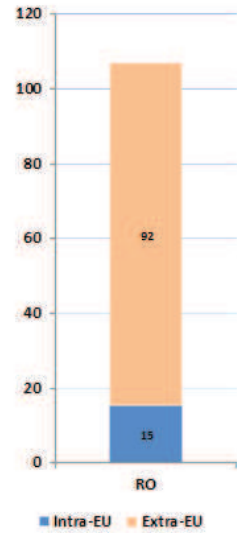
RO IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total imports



1000 Terajoules (GCV)



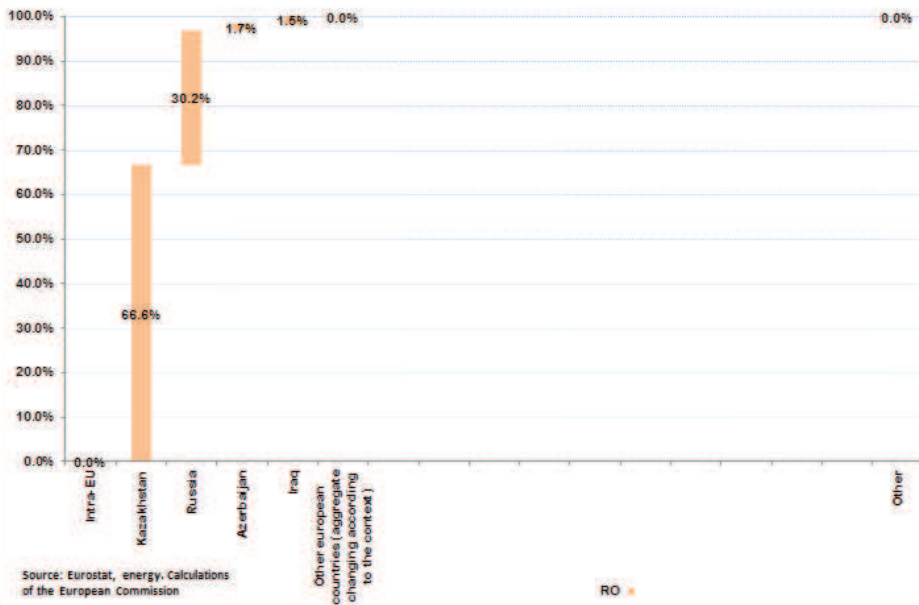
Source: Eurostat, energy. Calculations of the European Commission

RO

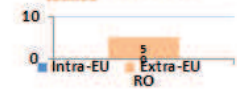
RO IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total imports



1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

RO

Romania

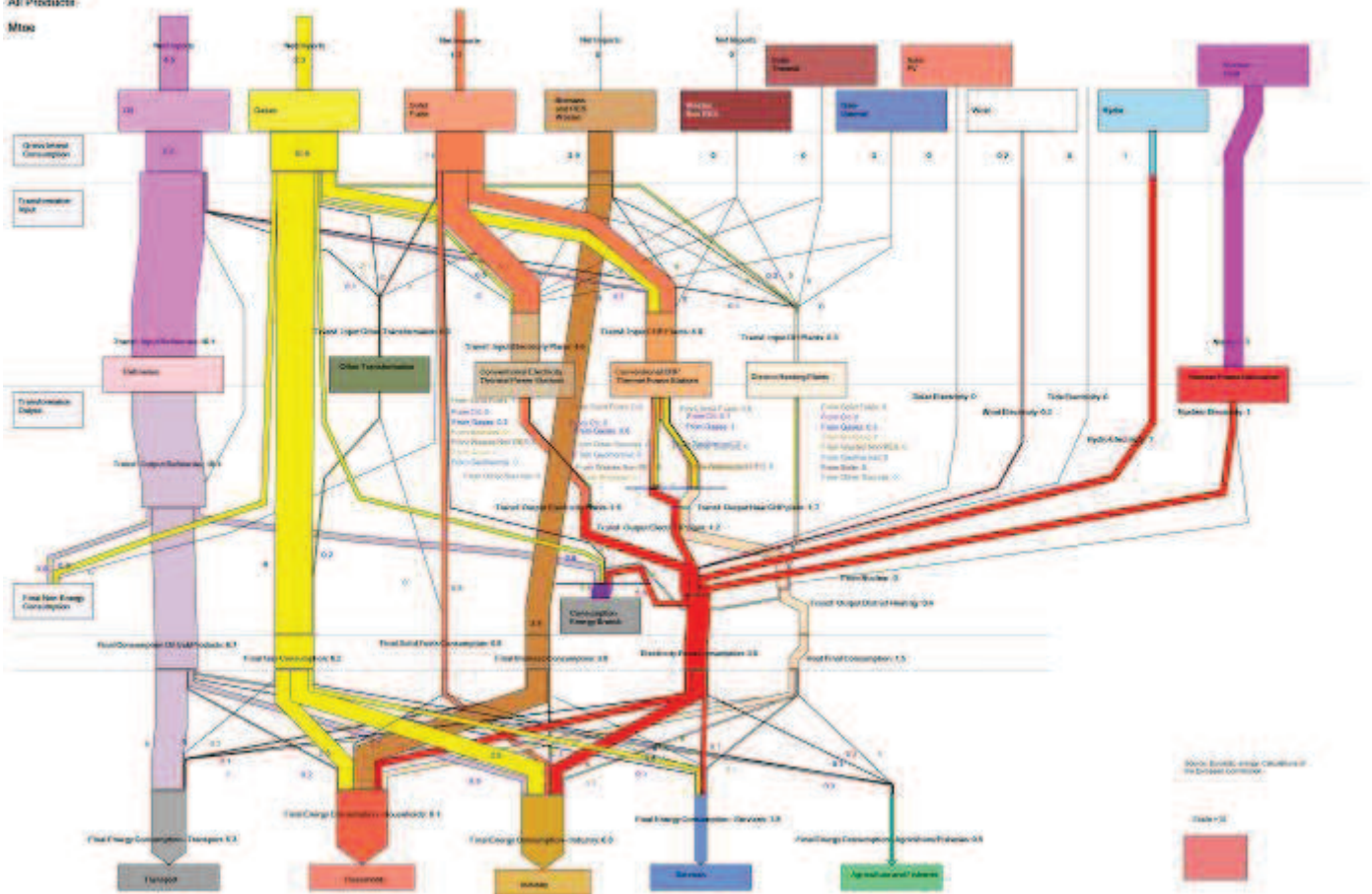
<i>Total gas consumption / Russian imports</i>	Total: 11.6 Bcm/y // RU: 1.2 Bcm/y
<i>Gas storage capacity and current level:</i>	Total: 2.7 Bcm // Current: NO DATA available in GSE's AGSI database
<i>Connections to other MSs and capacity:</i>	HU→RO: 1.7 Bcm/y
<i>Alternative supply options:</i>	The interconnection with Bulgaria is expected to come online in June 2014 with a capacity of 0.5 Bcm/y (max capacity of 1.5 Bcm will be reached by 2016).
<i>Assessment:</i> Romania has significant domestic production, therefore Russian imports constitute ~10% of its total demand. In quantities, the maximization of imports from Hungary could cover the missing volumes, but in reality Hungary is also dependent on the same Russian gas, therefore it is questionable whether this is a realistic option.	

ENERGY FLOW

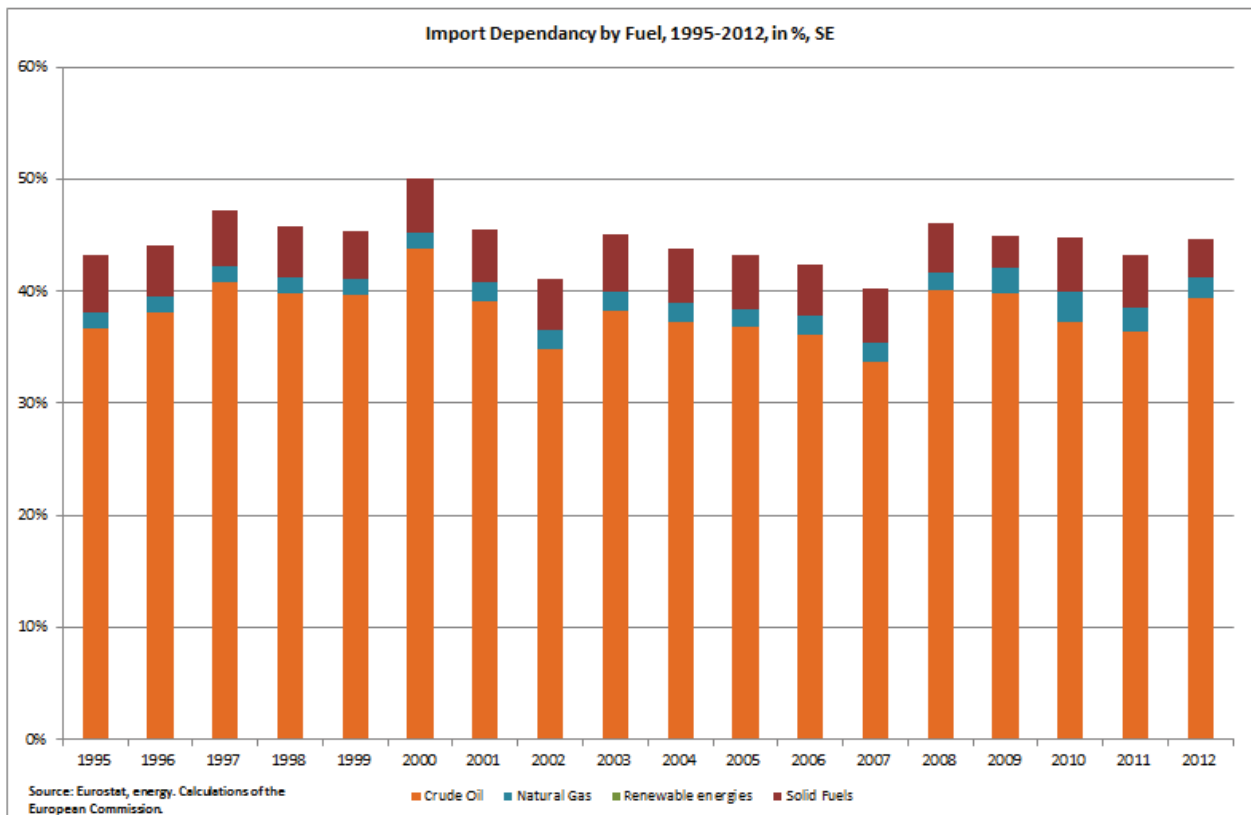
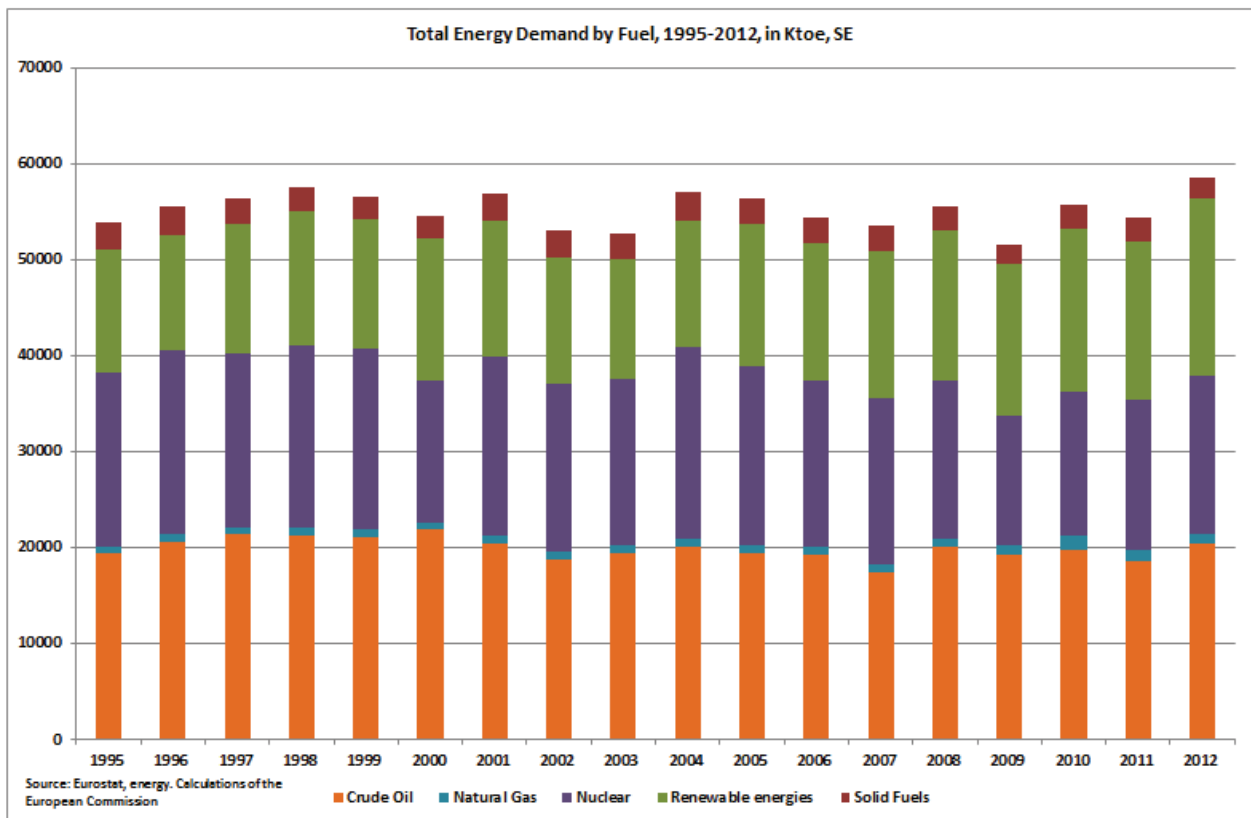
RO 2012

All Products

Mtoe



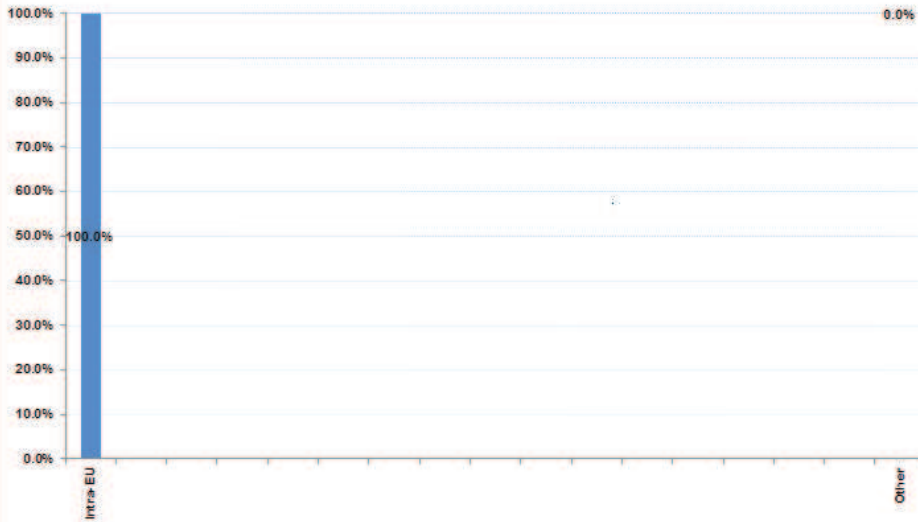
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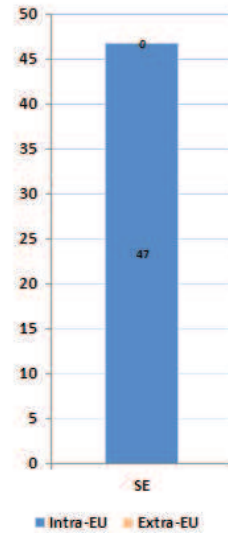
SE IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



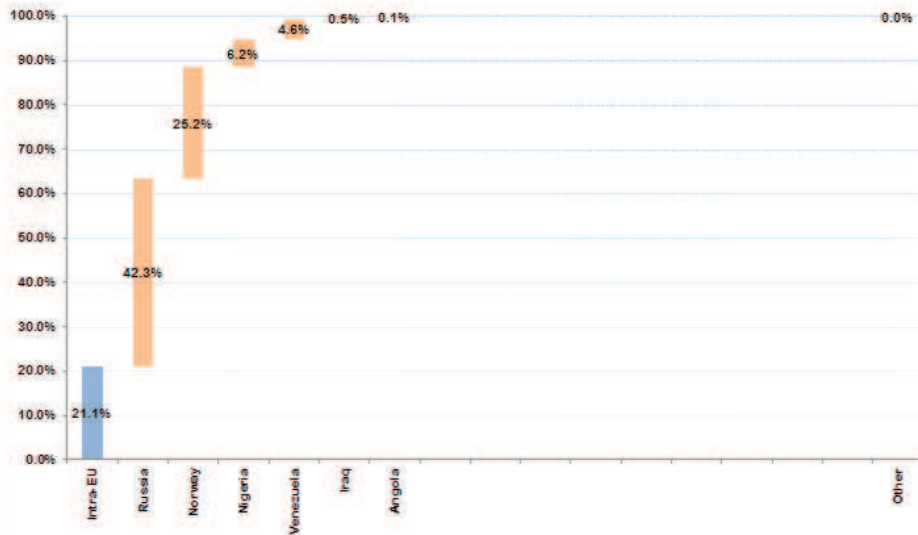
Source: Eurostat, energy. Calculations of the European Commission

SE

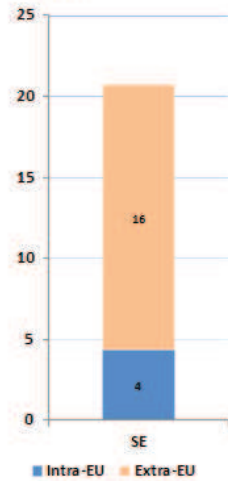
SE IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



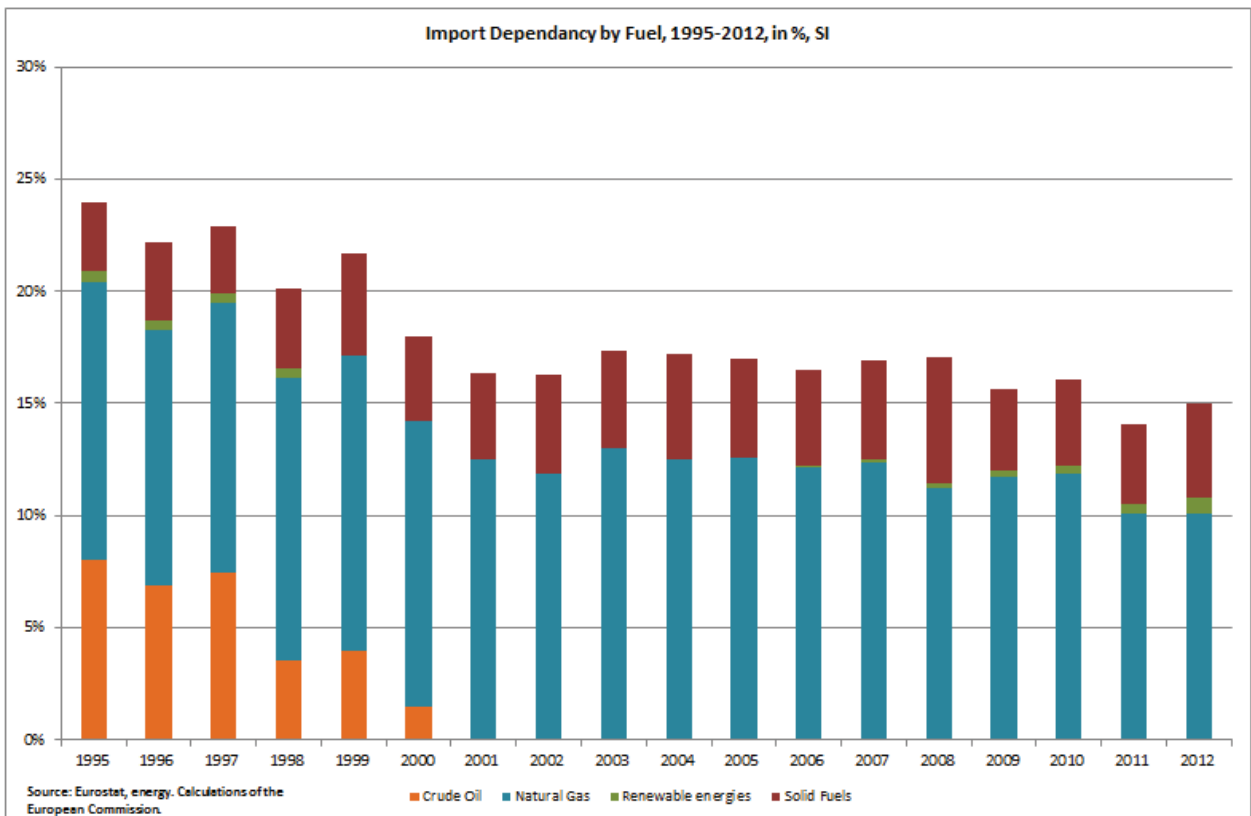
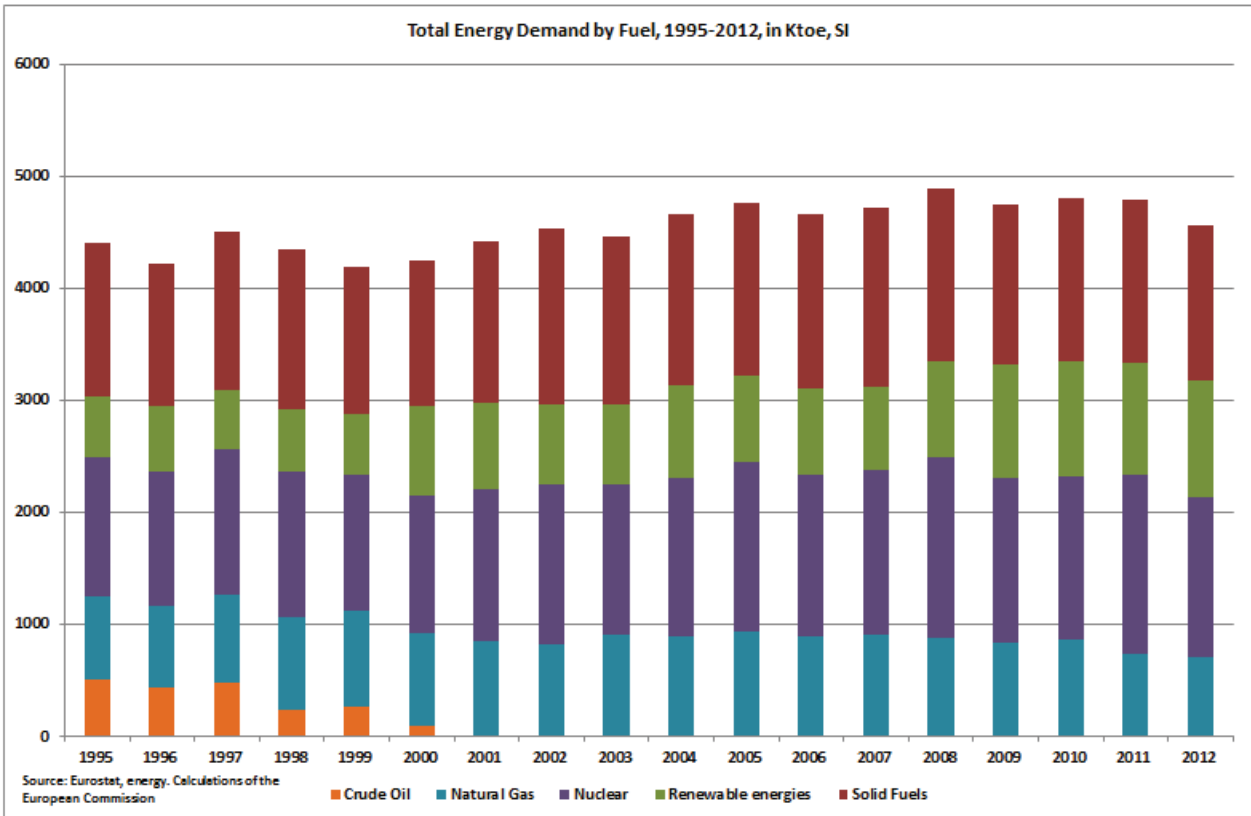
1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

SE

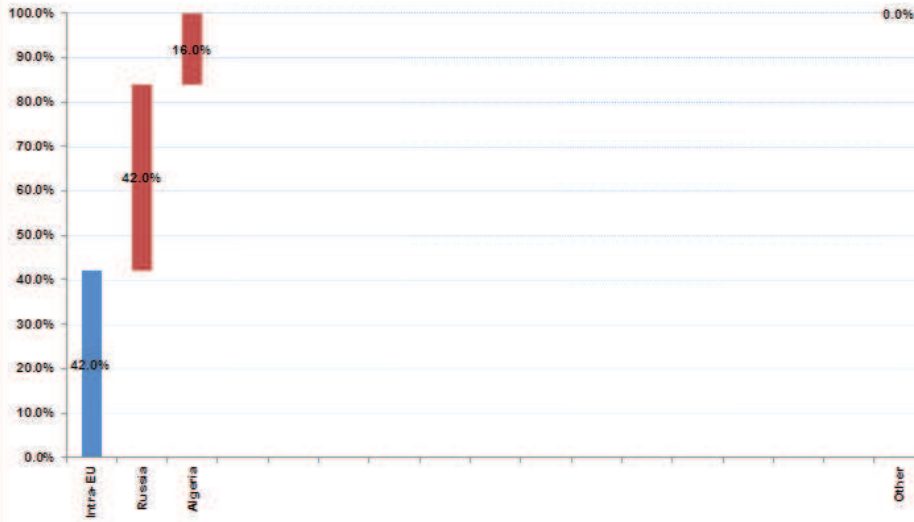
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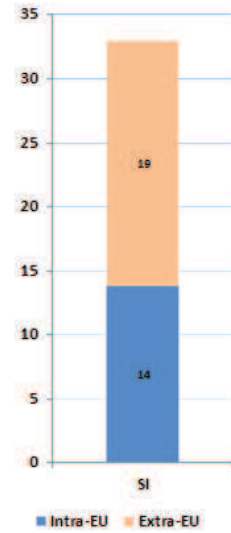
SI IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



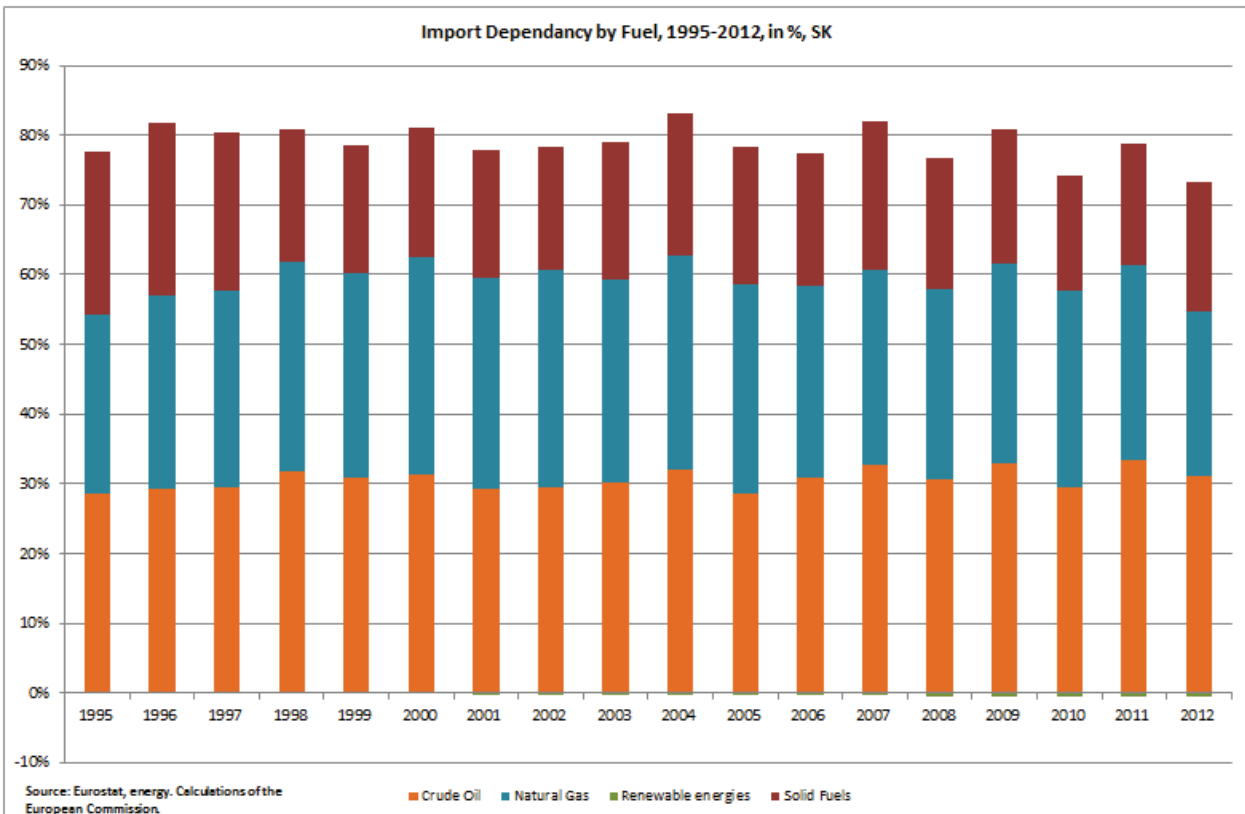
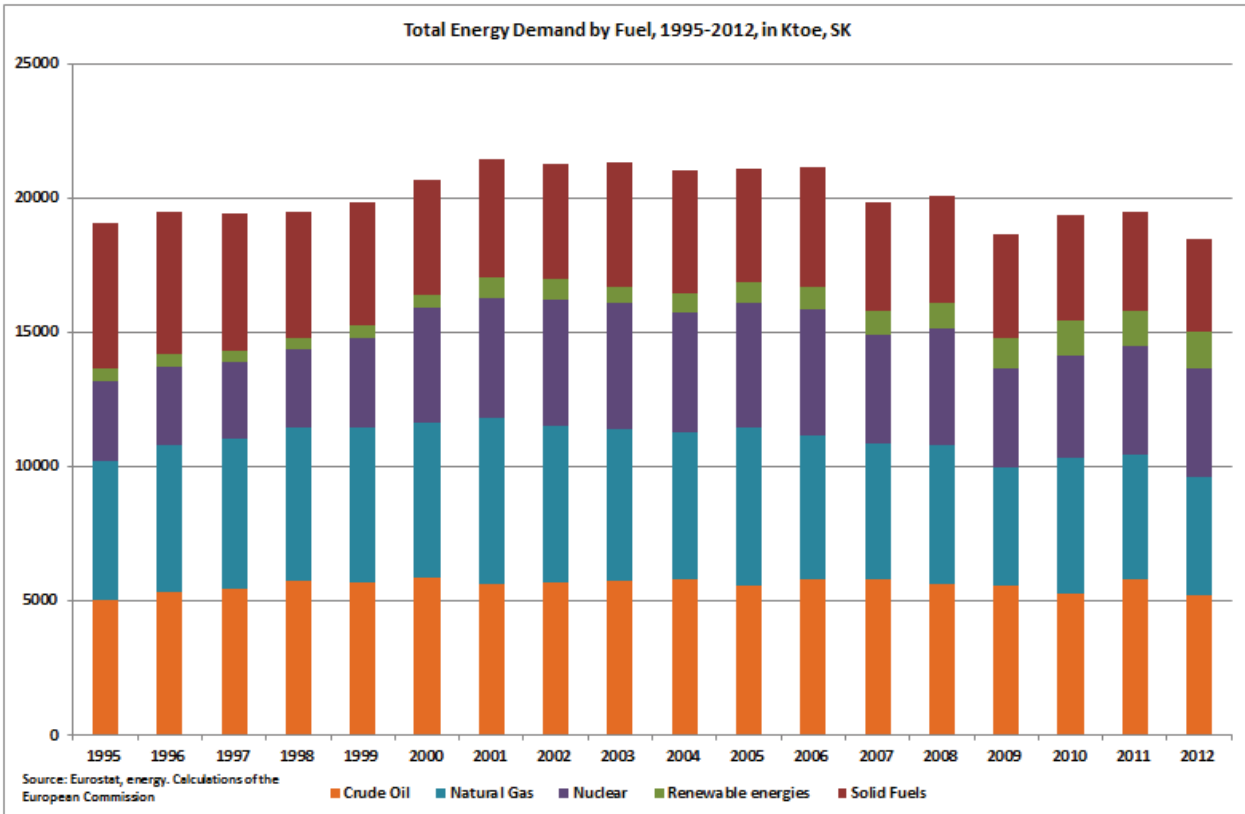
1000 Terajoules (GCV)



Source: Eurostat, energy. Calculations of the European Commission

SI

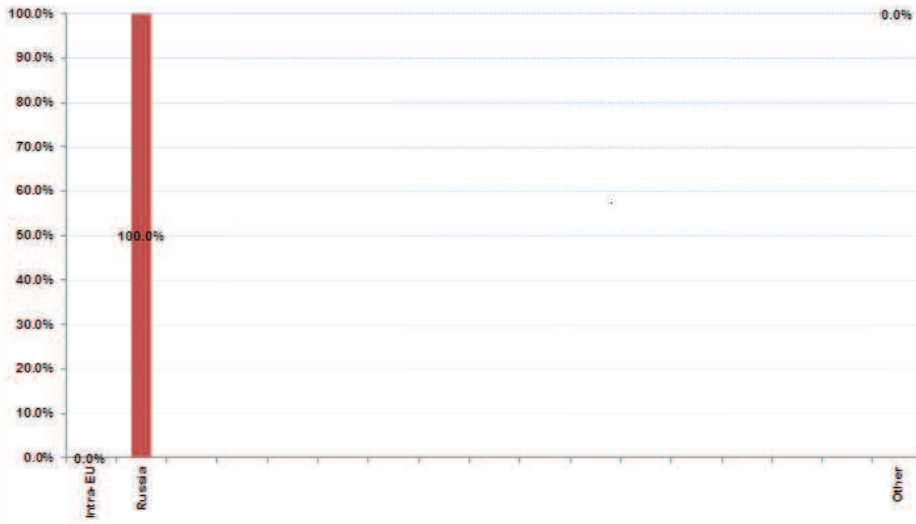
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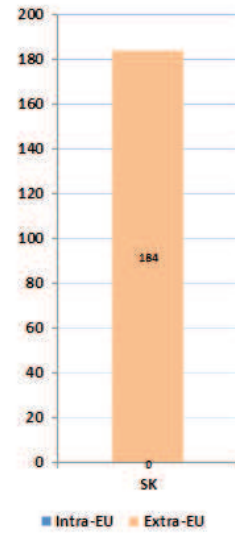
SK IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



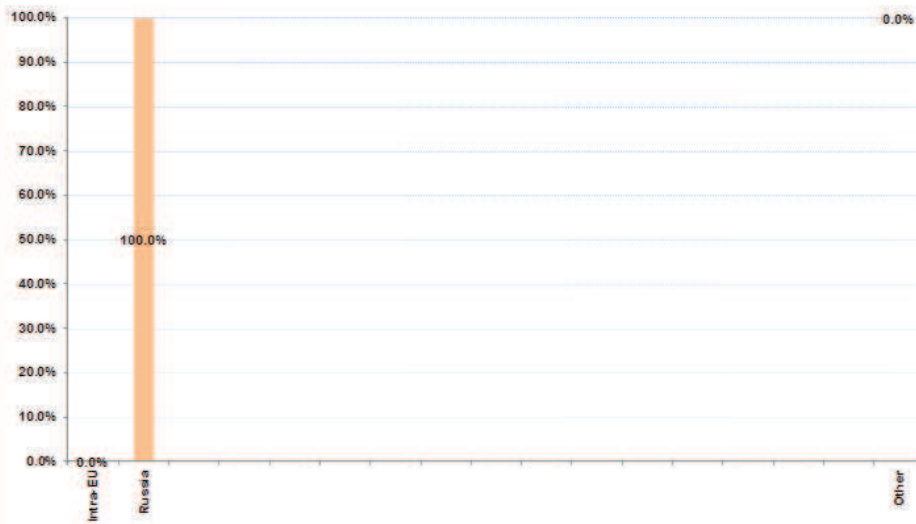
Source: Eurostat, energy. Calculations of the European Commission

SK

SK IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

SK

Slovakia

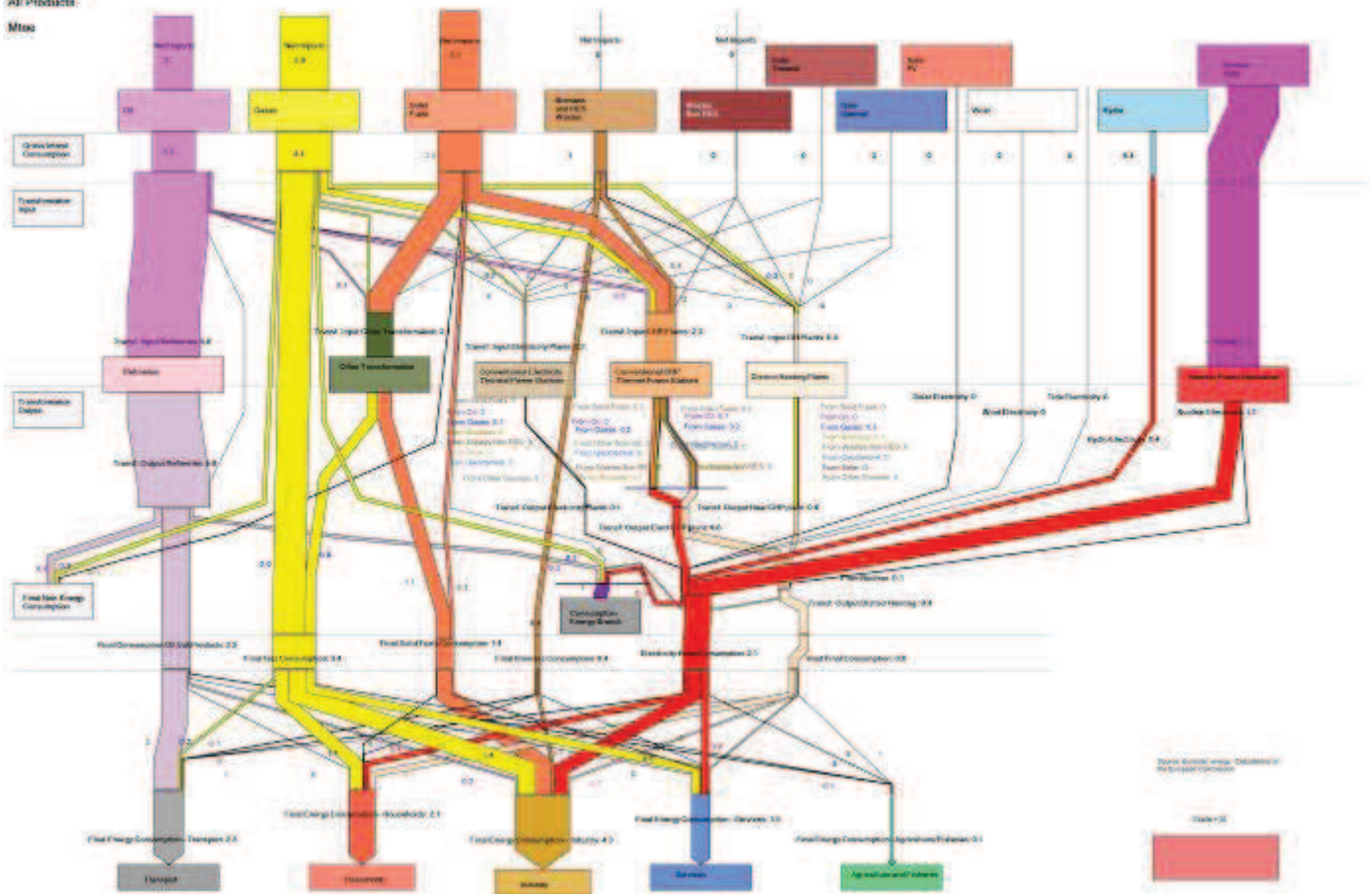
<i>Total gas consumption / Russian imports</i>	Total: 5.1 Bcm/y // RU: ~4.8 Bcm/y
<i>Gas storage capacity and current level:</i>	Total: 2.9 Bcm // Current: 1.15 Bcm
<i>Connections to other MSs and capacity:</i>	SK→CZ: 25.4 Bcm/y SK→AT: 56.7 Bcm/y CZ→SK: 13.2 Bcm/y AT→SK: 13.8 Bcm/y
<i>Alternative supply options:</i>	Interconnection with HU is expected to be fully operational from mid-2015. SK could receive ~1.6 Bcm/y and could transport to HU ~4.5 Bcm/y via that new link.
<i>Assessment:</i> Slovakia has considerably improved its security of supply after the 2009 gas crisis by putting in place massive reverse flow capacities that could cover its annual demand – in case there are enough sources and capacities from Western Europe.	

ENERGY FLOW

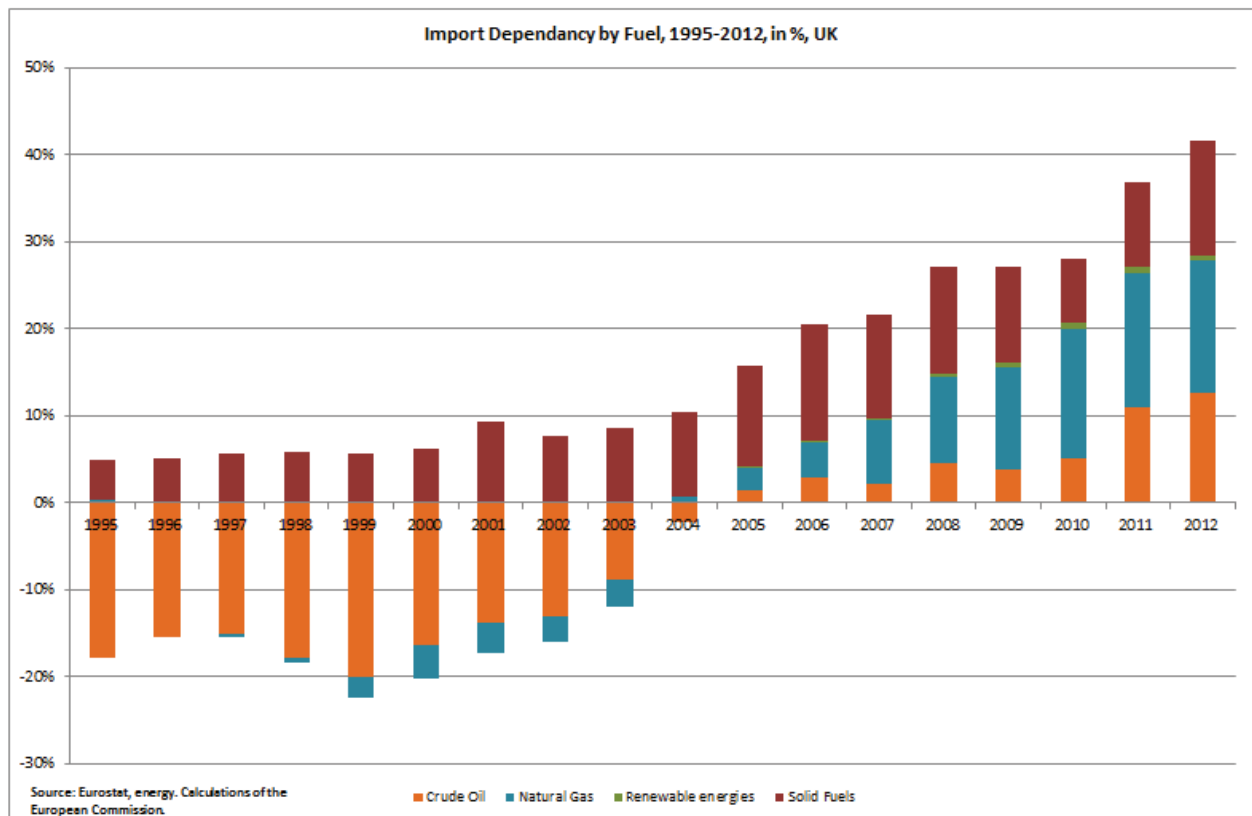
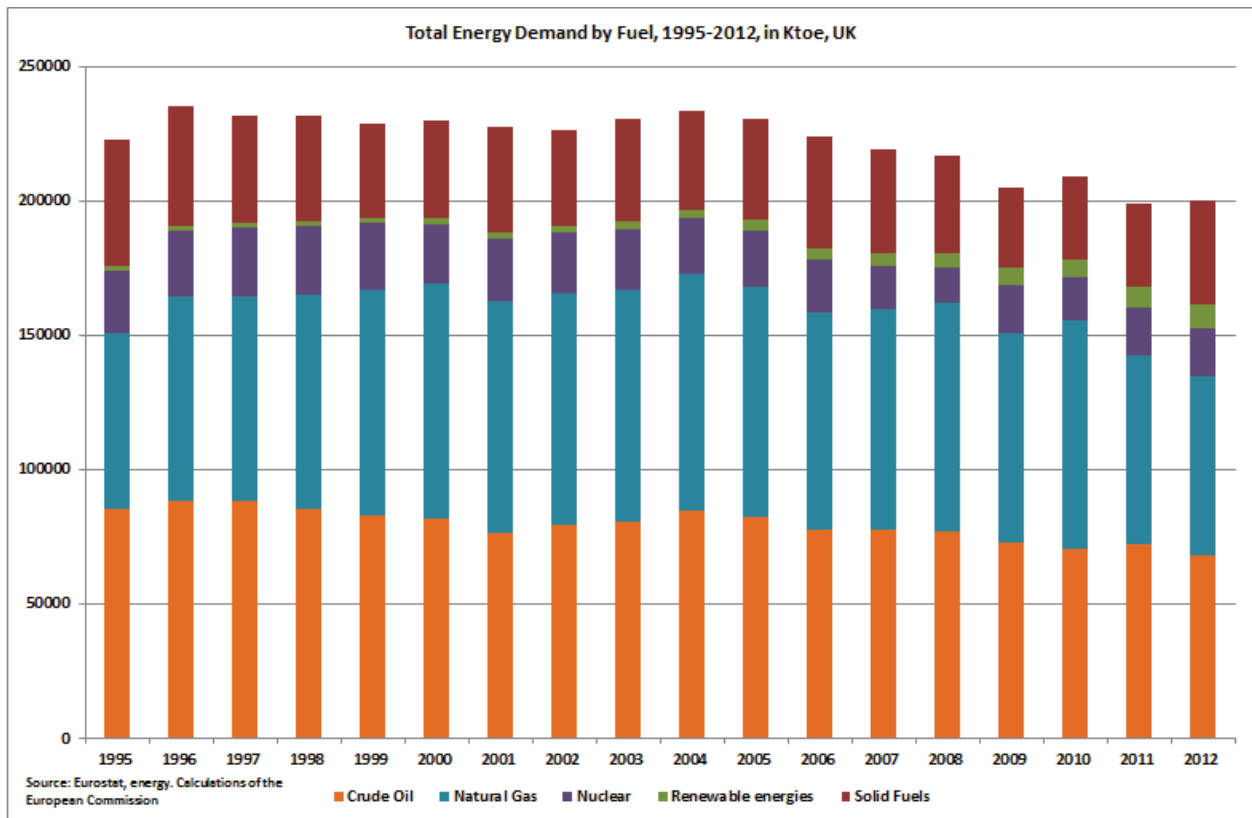
SE 2012

All Products

Mtoe



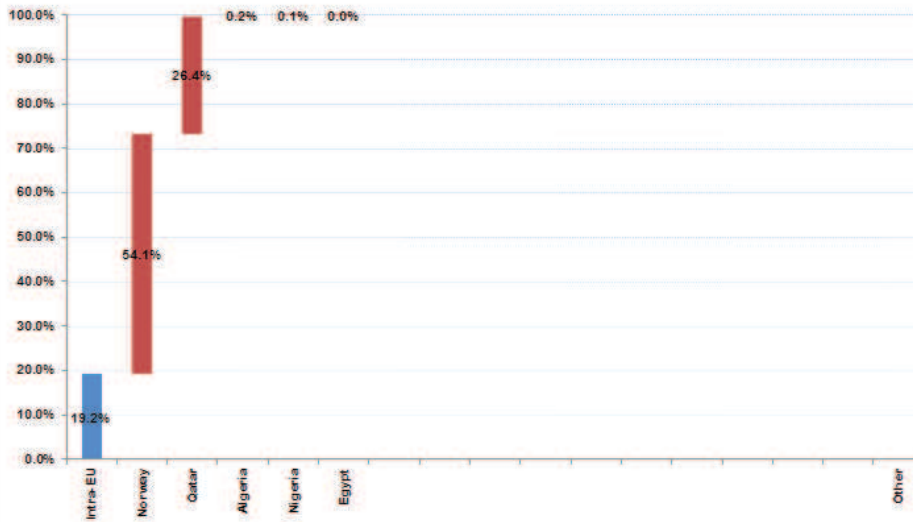
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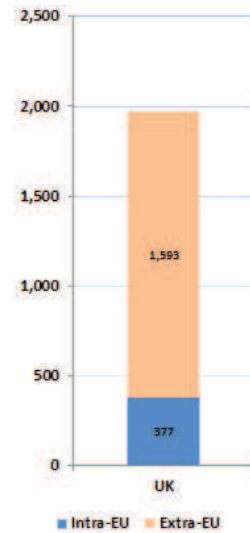
UK IMPORTS

Natural Gas - 2012 - Terajoules (GCV)

In % of the Total Imports



1000 Terajoules (GCV)



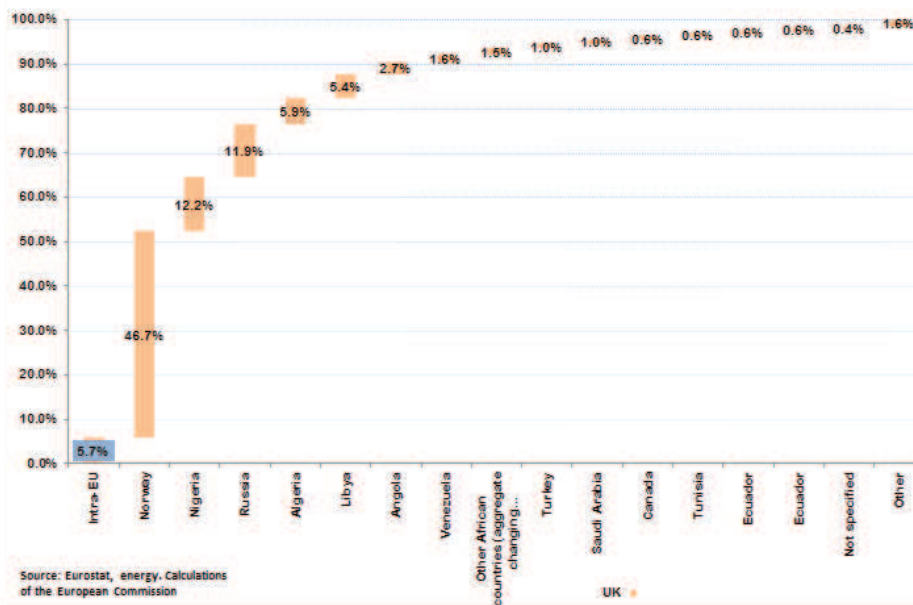
Source: Eurostat, energy. Calculations of the European Commission

UK

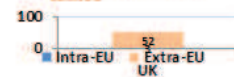
UK IMPORTS

Crude Oil and NGL - 2012 - Thousands of tonnes

In % of the Total Imports



1000 Thousands of tonnes



Source: Eurostat, energy. Calculations of the European Commission

UK

Annex II: Emergency response tools to address an oil supply disruption

Member State	Emergency stocks			Demand restraint measures	Rationing/Allocation	Fuel switching	Production surge	Relaxing fuel specifications
	Quantity on 31/12/2013	Stockholding system	Release procedure					
Austria	3.0 Mt (99 days of net imports)	Obligation imposed on industry but most operators choose to hold their stocks at the private, non-profit stockholding company ELG which is Austria's central stockholding entity	Stocks to be released by ELG	Measures are grouped in three stages, depending on the nature and severity of the crisis, and would mostly concern the transport sector	The third stage of demand restraint measures would rely on coupon rationing for the private sector and allocation for fuel oil use in industry	Limited potential in power generation (low share of oil); some possibility in households to switch from heating oil to biomass	Not available	Product specifications can be relaxed for a limited period
Belgium	5.1 Mt (102 days of net imports)	All stocks held by APETRA, Belgium's central stockholding entity	Stocks to be released by APETRA; APETRA also has Crude Against Product Agreements with refiners which allows the simultaneous sale of crude oil from APETRA and the purchase of products by APETRA	While there is no specific contingency plan for demand restraint measures, a number of decrees are available to activate such measures, including speed limits and driving restrictions	Rationing of distribution of fuel oil and motor fuels is possible; lists of priority endusers of petroleum products are available	Very limited potential in power generation (low share of oil)	Not available	
Bulgaria	0.8 Mt (70 days of net imports)	1/3 of the stocks held by the State Agency State Reserve and Wartime Stocks (SASRWTS), Bulgaria's central stockholding entity, with the rest to be covered by companies	Stocks to be released directly by SASRWTS or by temporarily decreasing the obligation of economic operators	Possibility to introduce restrictions on the consumption of petroleum products in the country	Possibility to allocate products for specific groups of consumers		Not available	
Croatia	0.7 Mt (89 days of net imports)	All stocks held by HANDA, Croatia's central stockholding entity	Pursuant to the decision of the government, stocks are released by HANDA through tenders	Possibility to introduce demand restraint measures including speed limits, driving restrictions and limiting the opening hours of petrol stations				
Cyprus	0.5 Mt (84 days of net imports)	KODAP/COSMOS, the country's central stockholding entity is responsible for maintaining the emergency stocks; part of the stocks are held by the Electricity Authority Cyprus and oil companies	The minister has the right to order KODAP/COSMOS and operators the release all or part of the stocks	The minister can impose demand restraint measures	The minister can allocate products to specific groups of customers		Not relevant	
Czech Republic	2.3 Mt (102 days of net imports)	All stocks held by the Administration of State Material Reserves (ASMR) which is the country's central stockholding entity	Stocks to be released by ASMR by tender or loan	Possible measures include appeals to the public for voluntary measures, speed limits, driving restrictions and regulating petrol station operations	A card system for priority users and a coupon distribution to private vehicles has been devised and could be implemented quickly in a severe disruption	Insignificant	Not available	
Denmark	1.5 Mt (74 days of consumption)	Stockholding obligation imposed on industry but about 70% of the stocks are held by FDO, the Danish central stockholding entity	The Danish Energy Agency can instruct FDO to release stocks or temporarily lower the companies' obligation	Light handed measures would be considered (supplementary to stock release) in a severe and long lasting disruption, including information campaigns and making alternative forms of transportation more attractive		Limited potential for switching from oil to coal or natural gas in power and heating plants	Although Denmark is a significant producer, production in the North Sea is normally operated at full capacity with no or minimal potential to increase output	

Member State	Emergency stocks			Demand restraint measures	Rationing/Allocation	Fuel switching	Production surge	Relaxing fuel specifications
	Quantity on 31/12/2013	Stockholding system	Release procedure					
Estonia	0.2 Mt (73 days of consumption)	All stocks held by OSPA, the Estonian central stockholding entity	Stocks to be sold at market prices to shortlisted market players based on their market share	Possible measures include ecodriving, car pooling and sharing, better utilisation of public transport, speed limits, encouraging home office; estimated saving of ~8%		Limited scope for fuel switching; to a small extent local shale oil can replace imported fuel oil	Not available	The government can authorise the non-application of requirements related to climatic conditions
Finland	3.7 Mt (162 days of net imports)	Government stocks held by the National Emergency Supply Agency (NESA), complemented by a stockholding obligation imposed on industry	NESA releases stocks by public tender; NESA may also authorize industry to use their obligated stocks	Considered as a secondary measure that could complement a stock release in case of a long lasting severe supply disruption; possible measures include lowering room temperatures and speed limits, limitations of car use	Possible rationing of traffic fuels and light/heavy fuel oils in space heating, industrial use and agricultural use	Little potential, estimated at maximum 3% of the total oil consumption in the industry and transformation sector	Not available	
France	19.3 Mt (91 days of net imports)	Stockholding obligation imposed on companies which has to delegate part of their obligation to SAGESS, the country's central stockholding entity	SAGESS stocks can be loaned or exchanged with industry stocks (relocalisation); the industry's stockholding obligation can be lowered	A wide range of measures are set out in the Hydrocarbon Resources Plan, ranging from voluntary (e.g. information campaigns) to compulsory (e.g. lower speed limits, limiting fuel distribution); certain measures can be decided at regional (department) level	Mandatory rationing and allocation of fuels to priority consumers is possible; estimated saving is maximum 9%	Little scope for fuel switching	Not relevant	
Germany	24.8 Mt (105 days of net imports)	All emergency stocks are held by EBV, the German central stockholding entity	EBV offers the stocks to its member companies at market prices	Several measures are available, including speed limits, prohibitions on the use of vehicles and a ban on Sunday driving; such measures are considered in the event of a severe or long-lasting disruption	Rationing of motor fuels (issuing ration coupons) and heating oil (selling only partial amounts to consumers) is foreseen as a last resort; in case of motor fuels, a saving of up to 50% is estimated	Very limited possibilities for reducing oil consumption in the short term by fuel switching	Not available	
Greece	3.3 Mt (96 days of net imports)	Stockholding obligation imposed on industry (importers and large consumers); the new law allows the establishing of a central stockholding entity by a decree	Stocks are released by a temporary decrease of the obligation or by instructing companies to reduce stock levels	Several voluntary (e.g. encouraging public transport and car sharing) and compulsory (e.g. restrictions of car use and fuel sales) measures are foreseen		Oil products are widely used for electricity generation, especially in the islands, but these plants cannot switch to alternative fuels	Not relevant	
Hungary	1.1 Mt (98 days of net imports)	All emergency stocks are held by HUSA, the country's central stockholding entity	Stocks are offered to HUSA's member companies through a tender or the Minister can determine which consumers are entitled to purchase the released stocks	Light (e.g. encouraging public transport and lower temperatures in buildings) and heavy-handed (e.g. speed and driving restrictions, restricting fuel sales) measures are available	For motor fuel, rationing tickets can be introduced; for fuel oil, quotas can be established	There is virtually no ability to switch from oil to other fuels	Not available	

Member State	Emergency stocks			Demand restraint measures	Rationing/Allocation	Fuel switching	Production surge	Relaxing fuel specifications
	Quantity on 31/12/2013	Stockholding system	Release procedure					
Ireland	1.6 Mt (92 days of net imports)	Practically all emergency stocks are held by NORA, the Irish central stockholding entity	In a domestic supply disruption, NORA stocks would be allocated to companies on the basis of their market share; in a global disruption, stocks would be made available to the market by tender	Considered secondary, to be introduced incrementally after a stock release; possible measures include speed limits, traffic restrictions and restrictions of fuel sales; the impact of voluntary measures (e.g. carpooling, increased use of public transport) is estimated at 6% of all transport demand		The limited role of oil in electricity generation makes the fuel switching potential negligible	Not relevant	
Italy	13.2 Mt (90 days of net imports)	Stockholding obligation imposed in industry but the newly established central stockholding entity (OCSIT) will gradually take over 1/3 of the obligation	A ministerial decree would authorise companies to reduce their mandatory stocks by a certain amount, and to make these stocks available to the market	The measures foreseen include appeals to the public for voluntary measures to limit consumption, a reduction in domestic heating and driving restrictions/bans		Around a third of oil-fired electricity generation plants can switch to natural gas in the event of an emergency; however, the share of oil is shrinking in this sector	Very limited potential as active fields operate at or close to maximum capacity	Not foreseen as it would cause practical difficulties (segregation of products intended for export to countries that have not implemented such measures)
Latvia	0.3 Mt (94 days of net imports)	The Ministry of Economy acts as the Latvian central stockholding entity; the Ministry purchases emergency oil stocks service from economic operators selected by open tenders	The companies holding the stocks for the benefit of the central stockholding entity would be authorized to use/sell (part of) the stocks	Depending on the level of the crisis (3 levels), the consumption of different user groups (3 groups) can be restricted by a predetermined maximum percentage (up to 100% for the third group)	Supplies can be prioritised to certain groups of energy users		Not relevant	
Lithuania	0.5 Mt (95 days of net imports)	The Lithuanian Oil Products Agency, the country's central stockholding entity, holds 30 days of specific stocks, with the rest of the obligation covered by companies	The Government can decide on the use of stocks; in case of industry stocks, the obligation would be lowered	Possible limitation of energy supply to consumers			Not relevant	
Luxembourg	0.7 Mt (91 days of net imports)	Stockholding obligation imposed on importers; the new draft law envisages the establishing of a central stockholding entity but its role is not clear yet	The minister can request companies to release stocks	A coordination of demand restraint measures (e.g. speed limits, driving bans reduced deliveries) is foreseen with the other Benelux countries		There is no potential to switch away from oil to other energy sources in power generation	Not relevant	
Malta	0.2 Mt (78 days of net imports)	Stockholding obligation imposed on the industry, overseen by the Malta Resources Authority (MRA)	The Minister may direct the MRA to release stocks	The Minister may direct the MRA to impose restrictions on consumption	Possible allocation of oil products to certain groups of users on a priority basis		Not relevant	

Member State	Emergency stocks			Demand restraint measures	Rationing/Allocation	Fuel switching	Production surge	Relaxing fuel specifications
	Quantity on 31/12/2013	Stockholding system	Release procedure					
Netherlands	5.6 Mt (108 days of net imports)	The stockholding obligation is shared between COVA, the Dutch central stockholding entity and oil companies	COVA stocks are made available through a tendering mechanism; for industry-held stocks, the obligation can be lowered	Focus on voluntary measures; if voluntary measures prove to be inadequate, the authorities can proceed to obligatory measures (e.g. speed limits and Sunday driving bans); in practice, demand restraint measures would only be considered for longer lasting supply disruptions	Supply to priority end-users and critical infrastructure sectors	Inconsequential (oil use is concentrated in transport and the petrochemical sector where it has no viable alternatives)	Not available as oil fields are normally operated at full capacity	
Poland	6.6 Mt (101 days of net imports)	Stockholding obligation imposed on industry, complemented by government stocks held by the Material Reserve Agency	Government stocks can be released through auction, tender or sales to specific entities; industry stocks can be made available by reducing the obligation or instructing industry to make a stockdraw	Ranging from light-handed (e.g. encouraging ecodriving and public transport) to compulsory measures (e.g. restrictions on fuel sales, speed limits, driving restrictions/bans); savings can reach up to an estimated 20% of transport fuel consumption	Rationing of fuels is possible	Fuel switching capacity in the transformation sector is estimated to be insignificant	Not available	
Portugal	2.7 Mt (94 days of net imports)	EGREP, the central stockholding entity holds 1/3 of the emergency stocks, with the rest of the obligation imposed on industry	EGREP stocks are offered at market price to industry operators based on their market share; for industry stocks, the minister can lower the obligation - oil companies may be requested to demonstrate that they are not hoarding products	Both voluntary (e.g. media campaigns to encourage lower energy use) and compulsory (e.g. speed limits, driving bans, restrictions of fuel sales) measures are available	Priority can be given to the supply of motor fuels to entities whose activity is considered essential	Fuel switching capacity is very limited in the short term	Not relevant	Possibility to increase available supplies by easing product specifications and allowing for possible relaxation of emission objectives in case of emergency
Romania	1.4 Mt (69 days of consumption)	Stockholding obligation imposed on the industry	The Government can decide on the use of stocks					
Slovakia	0.7 Mt (96 days of net imports)	Stockholding obligation imposed on the industry but stocks are held by the Emergency Oil Stocks Agency (EOSA), the country's central stockholding entity, on behalf of the industry	The release of public stocks could be implemented either in the form of loans or sales (preference for loans); private companies can be ordered to draw down their stocks in an emergency	5 different stages are foreseen, depending on the severity of the crisis; possible measures include speed limits, restrictions of motor vehicle use based on odd/even car plates, limiting the opening hours of petrol stations and other restrictions of fuel sales		Fuel switching capacity is considered inconsequential in the short term	Not available	
Slovenia	0.6 Mt (96 days of net imports)	All stocks are held by ZRSBR, the Slovenian central stockholding entity	The government can order the release of stocks; in that case, stocks are offered to the agency's member companies; as a second step, stocks could be sold through international tender	The government can order demand restraint measures	The government can decide on the allocation of oil products to certain groups of users on a priority basis		Not relevant	

Member State	Emergency stocks			Demand restraint measures	Rationing/Allocation	Fuel switching	Production surge	Relaxing fuel specifications
	Quantity on 31/12/2013	Stockholding system	Release procedure					
Spain	14.8 Mt (99 days of net imports)	Stockholding obligation imposed on companies, but about half of the stocks are held by CORES, the Spanish central stockholding entity	Industry stocks are released by lowering the stockholding obligation; CORES stocks would be sold to market operators based on their market share; in case of a regional disruption, stocks can also be relocated within the country	3 three sets of measures are distinguished according to the seriousness of the crisis; possible measures include carpooling, fare reduction and service increase in public transport, speed limits and driving bans based on odd/even license plates	Possible measures include the limitation or allocation of supply to consumers of any oil products as well as restrictions on their use	In the case of an emergency, some diesel-fuelled power stations can switch to heavy fuel oil but the saving would be negligible	Not available	
Sweden	2.6 Mt (84 days of net imports)	Stockholding obligation imposed on the industry	By reducing the obligation, thereby granting operators permission to draw stocks below the minimum level	Light handed measures (e.g. information campaign to encourage oil savings) would be considered to supplement stock release in case of a severe and long lasting crisis; speed limits and Sunday driving bans could be also used	A rationing system would be considered as a last resort; it would require parliamentary approval	Short-term fuel switching capacity is considered inconsequential and there are no incentives or policy options to incite such switching in case of a disruption	Not relevant	In the case of an oil crisis, no environmental regulations would be altered to allow for greater use of fuel switching
United Kingdom	11.7 Mt (60 days of consumption)	Stockholding obligation imposed on the industry (refiners and importers)	Stocks to be released through the reduction of the stockholding obligation; stocks will be expected to be drawn down within an agreed timeframe	The UK has a clearly defined demand restraint programme set out in the National Emergency Plan for Fuel which focuses on prioritising supply to critical users and filling stations while restricting the purchases of the general public (maximum purchase scheme)	Fuels can be prioritised to critical users (e.g. emergency services, utilities) through designated filling stations	As oil-fired electricity generation is minimal, the scope for fuel switching is limited	Not available, production is assumed to be operating at maximum economic rates	

The information in this table is primarily based on the findings of the IEA Emergency Response Reviews carried out in 2008-2013 and the national laws transposing Council Directive 2009/119/EC; in some cases the information could be incomplete and/or not entirely up-to-date