

Energy Taxation in Western Europe as of 1st January 2004

July 2004

Table of contents

INTRODUCTION	.....	3
COMMENT	.....	4
DEFINITIONS	.....	6
PART ONE: Comparison of Country Data and Figures on Energy Taxation	.....	7
TABLES: Energy Taxation - Residential Sector, 1 January 2004	.....	8
Energy Taxation - Commercial Sector, 1 January 2004	.....	9
Energy Taxation - Industrial Sector (process), 1 January 2004	...	10
Energy Taxation - Power Generating Sector, 1 January 2004	...	11
GRAPHS: VAT Rates, 1 January 2004	.....	12
Energy Taxation - Residential Sector, 1 January 2004	.....	13
Energy Taxation - Commercial Sector, 1 January 2004	.....	14
Energy Taxation - Industrial Sector (process), 1 January 2004	...	15
Energy Taxation - Power Generating Sector, 1 January 2004	....	16
PART TWO: Descriptions of National Energy Taxation Systems	.....	17
Austria	.....	18
Belgium	.....	21
Denmark	.....	23
Finland	.....	25
France	.....	30
Germany	.....	33
Greece	.....	35
Ireland	.....	38
Italy	.....	40
Spain	.....	45
Sweden	.....	46
Switzerland	.....	50
The Netherlands	.....	52
United Kingdom	.....	56
ANNEX: January 2003 EURO Rates used in the Energy Taxation Survey	.....	58

Introduction

This report is issued each year with the intention to provide an up-to-date overview on the national energy taxation systems and the latest fiscal developments in energy in the 14 West European member countries of EUROGAS. It has been prepared by the EUROGAS Taxation Task Force, based on the EUROGAS members' inputs.

The present report provides a factual description of national energy tax systems and taxes in the residential, commercial, industrial and power generating sectors as of 1 January 2004. It consists of two parts. The first part provides an overview and a comparison in tables and graphs of the aggregated factual data on energy taxes applied for the six most important sources of energy in the four main energy sectors in the EUROGAS member countries. The second part contains detailed descriptions of each of the individual national energy taxation systems.

All types of energy taxes (directly levied on the energy sold/consumed) are covered, regardless of their labels and professed objectives, except taxes on motor fuels.

Due to the complexity of the energy fiscality, and limits to available up-to-date statistics, it is difficult to provide a full detailed up-to-date picture of the fiscal situation of each country's energy sector. Therefore, the report contains some relevant information concerning the fiscality applied on undertakings in the different energy sectors, and having an impact on energy prices, such as levies in the form of royalties (charged to oil and gas exploration and production activities) or concession fees (charged to natural gas, electricity and district heat supply undertakings in some countries).

Comment

As stated in previous reports, the level of energy taxation greatly differs from one country to another. When looking at the energy consumption in the residential sector, Italy, Denmark, Sweden and the Netherlands are the countries with the highest energy taxes, whereas Switzerland, Belgium, Spain, France, Ireland, Greece and the UK choose to raise relatively low energy taxes. In contrast, considering the industrial sector, Italy levies energy taxes of average level, and Sweden, Austria, Finland, Germany and Denmark are in the top league. In the power sector, the highest taxes on natural gas are applied by Austria, Sweden, Germany and France. The highest taxes for oil, used in the power generation sector, are levied by Austria and UK.

Behind this are differing national energy tax systems that have been devised according to each country's specific circumstances such as the structural characteristics of natural gas final markets (per-capita consumption, infrastructures, etc.) and specific political choices, such as revenue raising, protection/promotion of national energy production (e.g. domestic coal), protection of the international competitiveness of industry (energy taxes applied in the residential sector are typically higher than energy taxes applied in the commercial and industrial sectors), environment and/or climate protection.

Consequently, not only the taxation levels on the different fuels differ, but so does also the relative tax treatment of competing fuels in every country's energy market.

Natural gas can be substituted by or replace at least one form of energy supply in every market sector. In practice, this creates strong inter-fuel competition, particularly in the industrial and power generation sectors. Thus, for natural gas suppliers, the relative taxation of natural gas against competing energies in the different outlet sectors matters almost more than the absolute level of taxation.

Directive on Energy Taxation

The European Union's Council has been discussing the Commission's proposal from 1997 for a Directive on Taxation of Energy Products for several years. Under pressure of the EU enlargement an extraordinary meeting of the ECOFIN Council was held in March 2003 in which a political agreement was reached.

The Directive is based on minimum taxation levels. Unfortunately the minimum rates do not reflect environmental aspects and favour less environmental energy sources. The Council's Directive on the taxation of energy products shows the wide variation of the existing national energy taxation levels in Europe and it is not sure if tax harmonisation can be achieved.

The Eurogas comments on the Council's common position on the taxation of energy products can be downloaded from the Eurogas web-site: www.eurogas.org

Definitions

- **VAT** (Value Added Tax) is the most general type of tax. VAT does not only apply to energy but to most consumer goods. In principle, VAT applies in most countries to all consumer categories. In practice, however, VAT on energy is recoverable in all Eurogas member countries when used for commercial or industrial purposes. VAT is therefore mainly a tax on energy in the residential sector.
- **Excise Duty** is a general tax charged on energy consumption as such. In most countries (like Finland, Germany, Ireland, Spain, The Netherlands and the UK) excise duties apply across all consumer categories. In other countries (like Belgium and France) some excise taxes are differentiated between different consumer categories whereas industry, in some countries (like Denmark and Sweden), is exempt from excise taxes on energy.
- **Environmental Levies** are tax elements directly related to environmental aspects of energy consumption such as emissions of SO₂ or CO₂.

Other tax elements include, often less significant, fees or charges related to energy supply, storage, clean up etc. Examples of such charges are emergency stock fees, and oil pollution fees. In some cases, these fees are not being charged directly to the end-users but for example to oil suppliers as an extra cost element. In the end, however, these costs are borne by the consumers.

PART ONE

**COMPARISON OF COUNTRY DATA AND FIGURES
ON ENERGY TAXATION AS OF 1st JANUARY 2004**

NATIONAL ENERGY TAXES AS OF 1st JANUARY 2004

RESIDENTIAL SECTOR														
EURO/GJ (NCV)	A	B	CH	D	DK [DK1]	E	F	FIN	GR	I	IRL	NL [NL2]	S	UK
HFO (-1% S)	1,50	not rel.	0,0629	-	8,17	0,348	0,44	1,468		1,57	0,348	not rel.	9,77	1,28
HFO (+1% S)	1,50	not rel.	0,0629	-	not rel.	0,374	0,44			3,19	0,348	not rel.	not rel.	1,28
Gas oil	2,78	0,51	0,0629	1,72	7,93	2,334	1,59	1,411	6,868 [GR1] 0,589	[I5] 11,31	1,302	5,7489 [NL1]	10,22	1,56
LPG	0,94	0,37	0,0315	1,31	7,74	no tax	no tax	no tax	0,282	[I5] 4,12 [I1] 0,41	0,747	3,9648 [NL1]	6,83	-
Natural gas	1,66	0,41	0,0288	1,69	7,60	no tax	0 [F3]	0,529	0,0 [GR2]	[I2] 4,92 [I7] +0,52 [I3] 1,16	-	4,5150 [NL1]	6,14	-
Coal	1,96	no tax	no tax	no tax	8,73	no tax	no tax	1,750	no tax	-	-	0,4190	11,03	-
Electricity	4,17	1,02	-	5,69	22,40	5,113%	2,18 [F2]	2,064	0,0	6,44	-	18,1667 [NL1]	7,32	-
non-deductible VAT (%)	20,00	21,00 [B1]	7,60	16,00	25,00	16,00	19,60 [F1] 5,5	22,00	18,00 [GR3] 8%	20,00	13,00	19,00	25,00	5,00

EURO/MWh (NCV)	A	B	CH	D	DK [DK1]	E	F	FIN	GR	I	IRL	NL [NL2]	S	UK
HFO (-1% S)	5,41	not rel.	0,2264	-	29,40	1,253	1,59	5,28		5,64	1,254	not rel.	35,17	4,61
HFO (+1% S)	5,41	not rel.	0,2264	-	not rel.	1,346	1,59			11,49	1,254	not rel.	not rel.	4,61
Gas oil	10,00	1,83	0,2264	6,21	28,50	8,40	5,73	5,08	24,726 [GR1] 2,119	[I5] 40,71	4,686	20,696 [NL1]	36,79	5,61
LPG	3,39	1,32	0,113	4,73	27,90	no tax	no tax	no tax	1,016	[I5] 14,85 [I1] 1,49	2,691	14,2732 [NL1]	24,59	-
Natural gas	5,96	1,47	0,1	6,09	27,4	no tax	0 [F3]	1,904	0,0 [GR2]	[I2] 17,72 [I3] 4,17	-	16,254 [NL1]	22,10	-
Coal	7,04	no tax	no tax	no tax	31,40	no tax	no tax	6,30	no tax	-	-	1,5083	39,71	-
Electricity	15,00	3,6628	-	20,50	80,8	5,113%	7,84 [F2]	7,43 [FIN1]	0,0	23,18	-	65,4 [NL1]	26,35	-
non-deductible VAT (%)	20,00	21,00 [B1]	7,60	16,00	25,00	16,00	19,60 [F1] 5,5	22,00	18,00 [GR3] 8%	20,00	13,00	19,00	25,00	5,00

[B1] VAT for coal 12%.

[DK1] Tax includes excise tax, CO₂ tax and SO₂ tax. SO₂ tax is indicated for common commercial fuel qualities

[F1] Subscription

[F2] Local taxes (average)

[F3] For district heating 0.37 Euro/GJ

[FIN1] Tax is paid by the owner of the electricity network or power producer who sells the electricity. Tax is not paid for wind power or very small power plants.

In CHP it is assumed that the heat is produced by 100% efficiency.

[GR1] During the heating period and for heating use only.

[GR2] Exemption by law up to 2010

[GR3] VAT: 18% for oil products, 8% for natural gas and electricity

[I1] For industries using cylinders bigger than 10m³

[I2] For cooking and water heating above 250m³ and individual heating in the northern and central regions. Southern region: 3,60 EURO/GJ

[I3] For the first 250m³ of cooking and water heating in the northern and central regions. Southern regions: 1,12 EURO/GJ.

[I5] Considering LPG and gasoil taxation in the residential and commercial sectors there is a different regime in northern provinces and in the mountain areas.

[I7] Additional regional tax can vary between 0,15 and 0,9 EURO/GJ. (0,52 used for calculation)

[NL1] The given figures are not exact, but refer to a typical consumption level for this sector.

[NL2] All consumers with an electricity connection get a refund of Euro 180 per connection per year.

The first 800 m³ or 800 kWh invoiced in 2001.

NATIONAL ENERGY TAXES AS OF 1st JANUARY 2004

COMMERCIAL SECTOR

EURO/GJ (NCV)	A	B	CH	D	DK [DK1]	E	F	FIN	GR	I	IRL	NL [NL2]	S	UK
HFO (-1% S)	1,50	0,32	0,0629	0,61	1,28	0,348	0,44	1,468		1,57	0,348	not rel.	9,77	1,28
HFO (+1% S)	1,50	-	0,0629	0,61	-	0,374	0,44			3,19	0,348	not rel.	not rel.	1,28
Gas oil	2,78	0,51	0,0629	1,72	0,92	2,334	1,59	1,411	3,364 [GR1] 0,589	[I5] 11,31	1,302	5,7489 [NL1]	10,22	1,56
LPG	0,94	0,37	0,0315	1,31	0,79	no tax	no tax	no tax	0,282	[I5] 4,12 [I1] 0,41	0,747	3,9648 [NL1]	6,83	0,27
Natural gas	1,66	0,41	0,0288	1,69	0,67	no tax	0,37 [F4]	0,529	0,0 [GR2]	[I2] 4,92 [I7] +0,52 [I3] 1,16	-	2,2970 [NL1]	6,14	0,6
Coal	1,96	no tax	no tax	no tax	1,75	no tax	no tax	1,750	no tax	-	-	0,4190	11,03	0,6
Electricity	4,17	1,02	-	5,69	3,40	5,113%	0,15 [F2]	2,064	0,0	6,44	-	5,8889 [NL1]	7,32	1,73
non-deductible VAT (%)	0,00	0,00	7,60	16,00	25,00	0,00	19,60 [F1] 5,5	0,00	0,00	20,00	0,00	19,00	25,00	0,00

EURO/MWh (NCV)	A	B	CH	D	DK [DK1]	E	F	FIN	GR	I	IRL	NL [NL2]	S	UK
HFO (-1% S)	5,41	1,15	0,2264	2,19	4,60	1,253	1,59	5,28		5,64	1,254	not rel.	35,17	4,61
HFO (+1% S)	5,41	-	0,2264	2,19	-	1,346	1,59			11,49	1,254	not rel.	not rel.	4,61
Gas oil	10,00	1,83	0,2264	6,21	3,30	8,401	5,73	5,08	12,110 [GR1] 2,119	[I5] 40,71	4,686	20,696 [NL1]	36,79	5,61
LPG	3,39	1,32	0,113	4,73	2,80	no tax	no tax	no tax	1,016	[I5] 14,85 [I1] 1,49	2,691	14,2732 [NL1]	24,59	0,99
Natural gas	5,96	1,47	0,1	6,09	2,4	no tax	1,32 [F4]	1,904	0,0 [GR2]	[I2] 17,72 [I3] 4,17	-	8,2692 [NL1]	22,10	2,15
Coal	7,04	no tax	no tax	no tax	6,30	no tax	no tax	6,30	no tax	-	-	1,5083	39,71	2,15
Electricity	15,00	3,6628	-	20,50	12,1	5,113%	0,55 [F2]	7,43 [FIN1]	0,0	23,18	-	21,2 [NL1]	26,35	6,26
non-deductible VAT (%)	0,00	0,00	7,60	16,00	25,00	0,00	19,60 [F1] 5,5	0,00	0,00	20,00	0,00	19,00	25,00	0,00

[DK1] Tax includes CO₂ tax and SO₂ tax. SO₂ tax is indicated for common commercial fuel qualities

[F1] Subscription

[F2] Local taxes (average)

[F3] For district heating 0.37 Euro/GJ

[F4] For consumption above 5GWh

[FIN1] Tax is paid by the owner of the electricity network or power producer who sells the electricity. Tax is not paid for wind power or very small power plants.

In CHP it is assumed that the heat is produced by 100% efficiency.

[GR1] During the heating period and for heating use only.

[GR2] Exemption by law up to 2010

[I1] For industries using cylinders bigger than 10m³

[I2] For cooking and water heating above 250m³ and individual heating in the northern and central regions. Southern region: 3,60 EURO/GJ

[I3] For the first 250m³ of cooking and water heating in the northern and central regions. Southern regions: 1,12 EURO/GJ.

[I5] Considering LPG and gasoil taxation in the residential and commercial sectors there is a different regime in northern provinces and in the mountain areas.

[I7] Additional regional tax can vary between 0,15 and 0,9 EURO/GJ. (0,52 used for calculation)

[NL1] The given figures are not exact, but refer to a typical consumption level for this sector.

[NL2] Due to a change of the Ecotax all consumers with an electricity connection get a refund of Euro 142/connection/yr irrespective the annual consumption of electricity (or gas).

The first 800 m³ or 800 kWh invoiced in 2001.

NATIONAL ENERGY TAXES AS OF 1st JANUARY 2004

INDUSTRIAL SECTOR														
EURO/GJ (NCV)	A	B	CH	D	DK [DK1]	E	F	FIN	GR	I	IRL	NL [NL2]	S	UK
HFO (-1% S)	1,50	0,32	0,0629	0,61	1,28	0,348	0,44	1,468	0,461	0,77	0,348	0,7843	2,16	1,28
HFO (+1% S)	1,50	-	0,0629	0,61	-	0,374	0,44		[GR4] 0,475	1,59	0,348	not rel	not rel.	1,28
Gas oil	2,78	0,51	0,0629	1,49	0,92	2,334	1,59	1,411	3,364 [GR1] 0,589	11,31	1,302	1,8650 [NL1]	1,67	1,56
LPG	0,94	0,37	0,0315	1,01	0,79	no tax	no tax	no tax	0,006	4,12 [I1] 0,41	0,747	0,3772 [NL1]	1,36	0,27
Natural gas	1,66	0,05	0,0288	1,24	0,67	no tax	0,37 [F4]	0,529	0,0 [GR2]	0,36 [I4] +0,15	-	0,7172 [NL1]	1,15	0,6
Coal	1,96	-	no tax	no tax	1,75	no tax	no tax	1,750	0,0	-	-	0,4190	2,53	0,6
Electricity	4,17	0,49	-	2,83	3,40	5,113%	0,15 [F2]	1,258	0,0	6,44	-	1,8056 [NL1]	-	1,73
non-deductible VAT (%)	0,00	0,00	7,60	16,00	0,00	0,00	19,60 [F1] 5,5	0,00	0,00	0,00	0,00	19,00	0,00	0,00

EURO/MWh (NCV)	A	B	CH	D	DK [DK1]	E	F	FIN	GR	I	IRL	NL [NL2]	S	UK
HFO (-1% S)	5,41	1,15	0,2264	2,19	4,60	1,253	1,59	5,28	1,659	2,75	1,254	2,8235	7,56	4,61
HFO (+1% S)	5,41	-	0,2264	2,19	-	1,346	1,59		[GR4] 1,711	5,71	1,254	not rel.	not rel.	4,61
Gas oil	10,00	1,83	0,2264	5,38	3,30	8,401	5,73	5,08	12,110 [GR1] 2,119	40,71	4,686	6,7139 [NL1]	5,85	5,61
LPG	3,39	1,32	0,113	3,63	2,80	no tax	no tax	no tax	0,023	14,85 [I1] 1,49	2,691	1,3578 [NL1]	4,9	0,99
Natural gas	5,96	0,1851	0,1	4,47	2,4	no tax	1,32 [F4]	1,904	0,0 [GR2]	1,30 [I4] +0,54	-	2,58 [NL1]	4,14	2,15
Coal	7,04	-	no tax	no tax	6,30	no tax	no tax	6,30	no tax	-	-	1,5083	9,11	2,15
Electricity	15,00	1,754	-	10,20	12,1	5,113%	0,55 [F2]	4,53 [FIN1]	0,0	45,10	-	6,5 [NL1]	-	6,26
non-deductible VAT (%)	0,00	0,00	7,60	16,00	0,00	0,00	19,60 [F1] 5,5	0,00	0,00	0,00	0,00	19,00	0,00	0,00

[DK1] Tax includes CO₂ tax and SO₂ tax. SO₂ tax is indicated for common commercial fuel qualities

[F1] Subscription

[F2] Local taxes (average)

[F4] For consumption above 5GWh

[FIN1] Tax is paid by the owner of the electricity network or power producer who sells the electricity. Tax is not paid for wind power or very small power plants. In CHP it is assumed that the heat is produced by 100% efficiency

[GR1] During the heating period and for heating use only.

[GR2] Exemption by law up to 2010

[GR4] Usage prohibited in the Athens region

[I1] For industries using cylinders bigger than 10m³

[I4] Additional regional tax of 0,15 EURO/GJ to 0,18 EURO/GJ.

[NL1] The given figures are not exact, but refer to a typical consumption level for this sector.

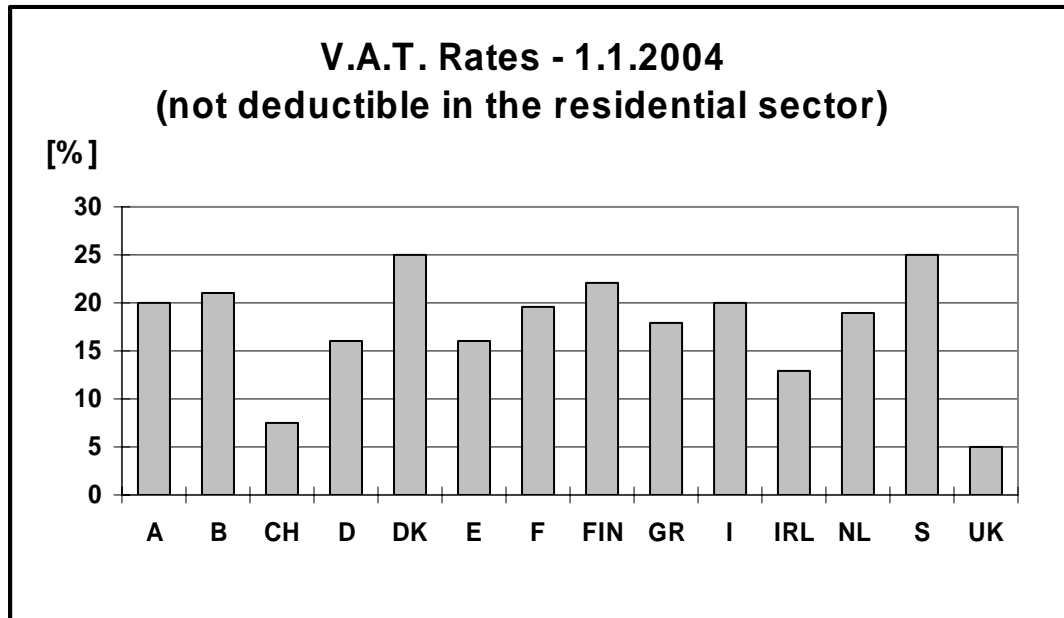
[NL2] Due to a change of the Ecotax all consumers with an electricity connection get a refund of Euro 142/connection/yr irrespective the annual consumption of electricity (or gas). The first 800 m³ or 800 kWh invoiced

NATIONAL ENERGY TAXES AS OF 1st JANUARY 2004

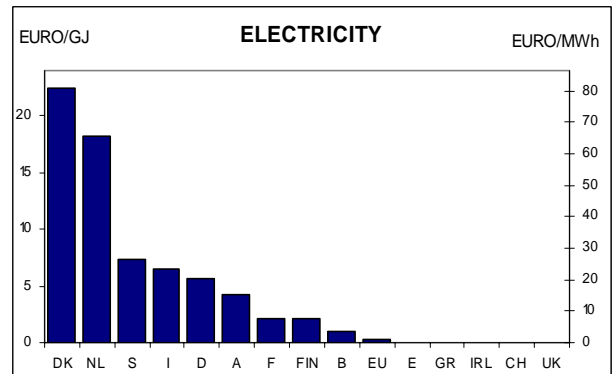
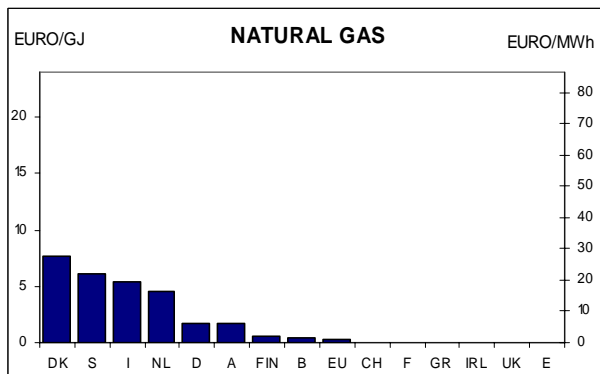
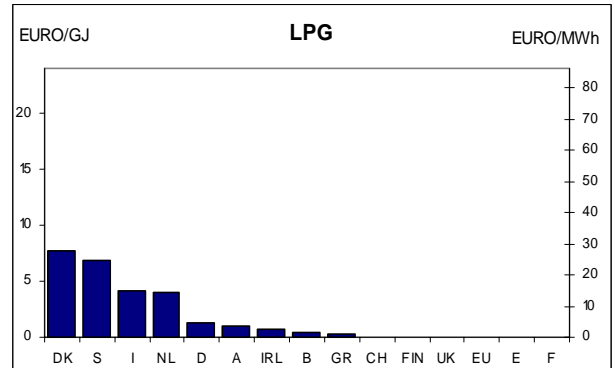
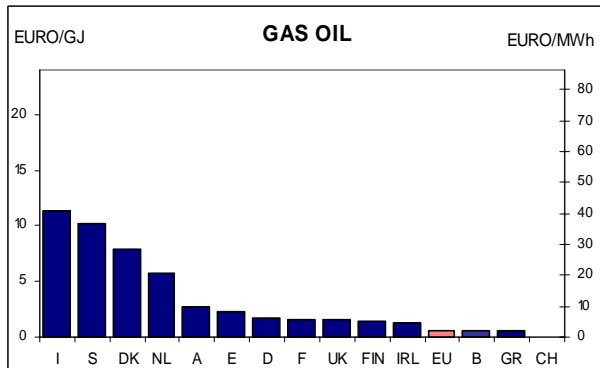
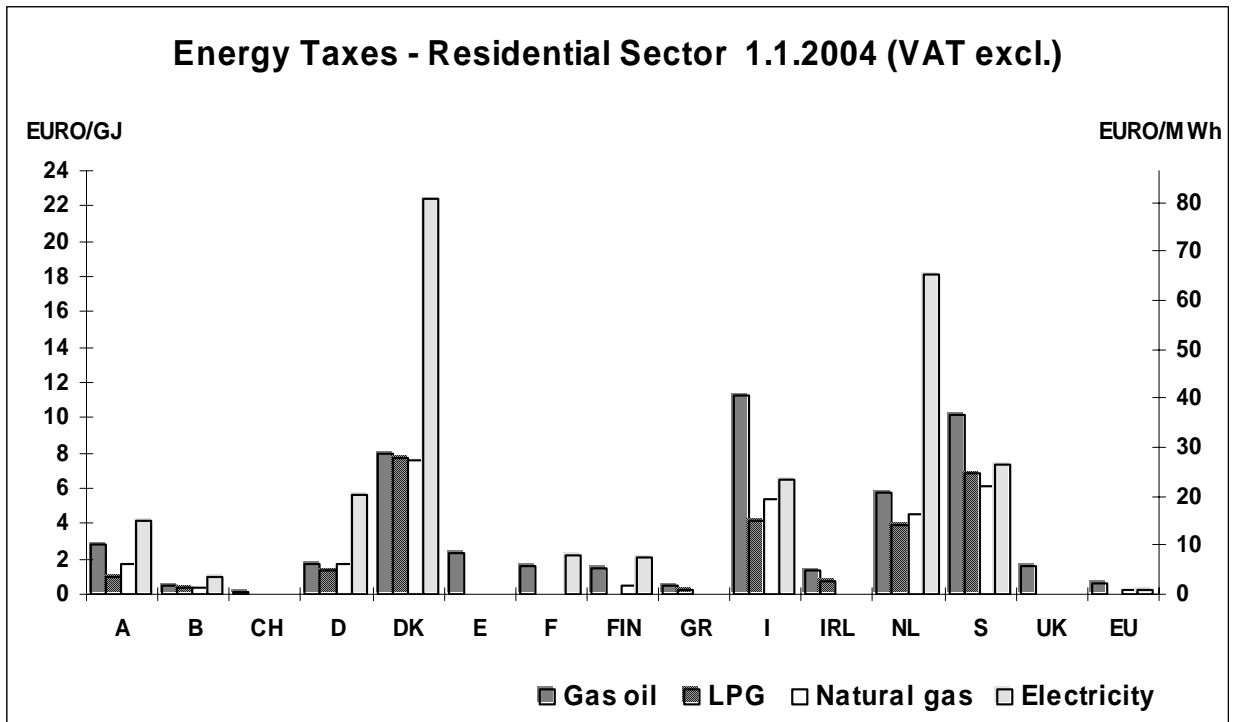
POWER GENERATION														
EURO/GJ (NCV)	A	B	CH	D	DK	E	F	FIN	GR	I [I6]	IRL	NL	S [S1]	UK
HFO (-1% S)	1,50 [A1] [A2]	0,32	0,0629	0,61	-	-	0,44	no tax	0,461	0,37	0,348	0,0000	0,61	1,28
HFO (+1% S)	1,50	-	0,0629	0,61	-	-	0,44	no tax	GR4) 0,475	0,38	0,348	not rel	not rel.	1,28
Gas oil	2,78 [A1] [A3]	0,51	0,0629	-	-	-	1,59	no tax	3,364	0,36	1,302	not rel	no tax	1,56
LPG	0,94 [A1] [A4]	0,37	0,0315	-	-	-	no tax	no tax	0,006	0,01	0,747	not rel	no tax	-
Natural gas	1,66 [A5]	0,05	0,0288	0,57 [D1]	-	-	0,37	no tax	0,0 [GR2]	0,01	-	0,0	no tax	-
Coal	1,96 [A1]	-	no tax	-	-	-	no tax	no tax	0,0	0,10	-	0,0	0,61	-
non-deductible VAT (%)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

EURO/MWh (NCV)	A	B	CH	D	DK	E	F	FIN	GR	I [I6]	IRL	NL	S [S1]	UK
HFO (-1% S)	5,41 [A1] [A2]	1,15	0,2264	2,19	-	-	1,59	no tax	1,659	1,35	1,254	0	2,2	4,61
HFO (+1% S)	5,41	-	0,2264	2,19	-	-	1,59	no tax	GR4) 1,711	1,37	1,254	not rel.	not rel.	4,61
Gas oil	10,00 [A1] [A3]	1,83	0,2264	-	-	-	5,73	no tax	12,110	1,28	4,686	not rel.	no tax	5,61
LPG	3,39 [A1] [A4]	1,32	0,113	-	-	-	no tax	no tax	0,023	0,05	2,691	not rel.	no tax	-
Natural gas	5,96 [A5]	0,1851	0,1	2,04 [D1]	-	-	1,32	no tax	0,0 [GR2]	0,05	-	0,0	no tax	-
Coal	7,04 [A1]	-	no tax	-	-	-	no tax	no tax	no tax	0,36	-	0,0	2,18	-
non-deductible VAT (%)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

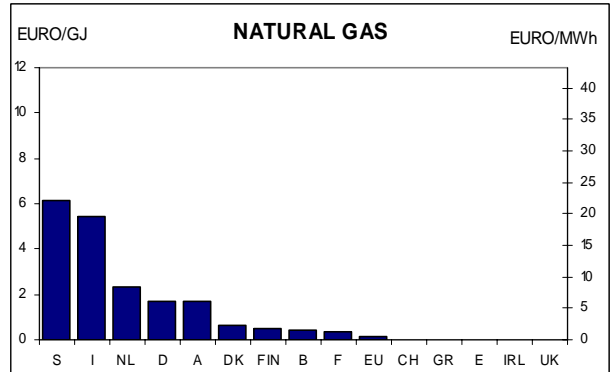
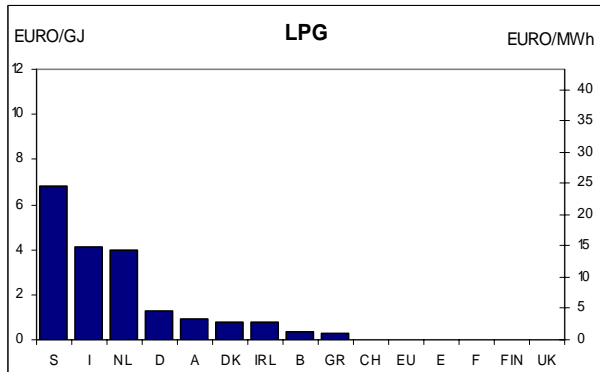
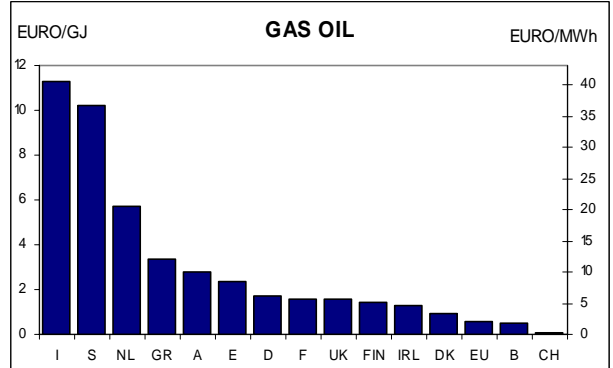
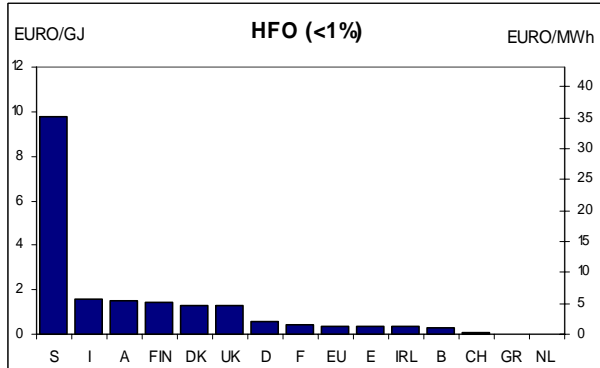
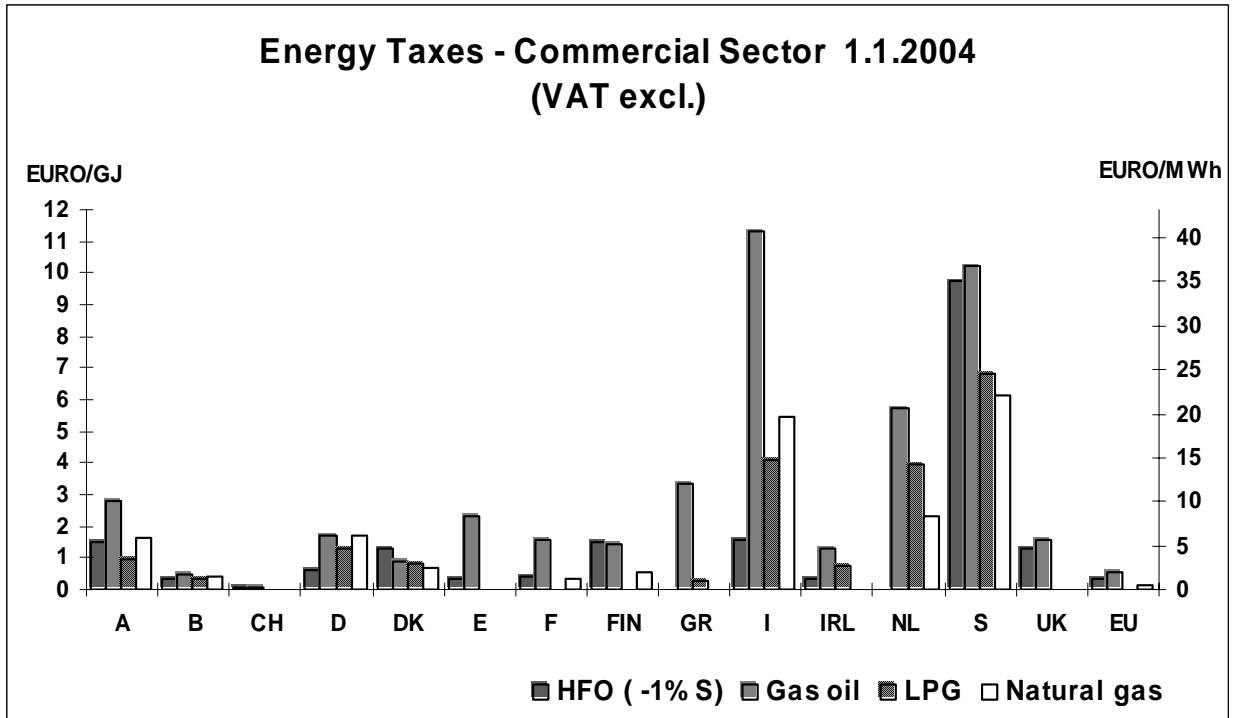
[A1] tax exemption concerning energy input for electricity generation
[A2] for CHP reduced tax: 0,36 EUR/GJ=1,31 €/MWh
[A3] effective tax after refund on input-energy as to CHP plants producing electricity and heat
[A4] reduced tax for CHP: 0,32 EUR/GJ=1,14 EUR/GJ
[A5] complete tax refund for natural gas used in power generation
[D1] no taxation of fuel input to CHP plants with an annual utilisation rate of 70% or more
[GR2] Exemption by law up to 2010
[GR4] Usage prohibited in the Athens region
[I6] applied to fuels used by public utilities and by electricity producers that sell electricity to public utilities.
[S1] also from CHP, taxes for district heating and heat from CHP see main description



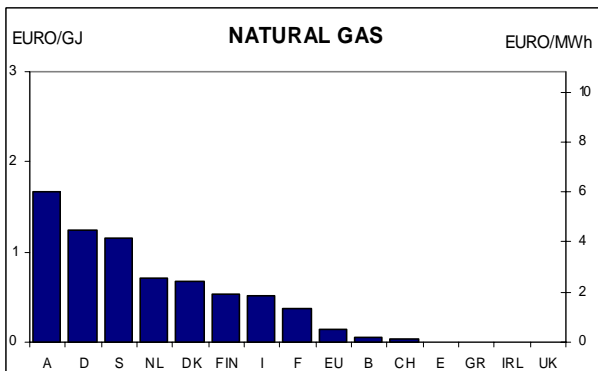
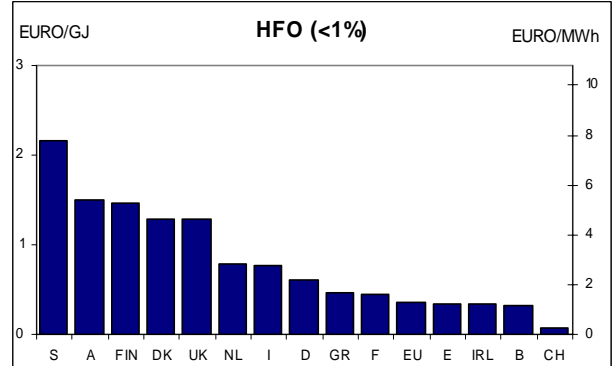
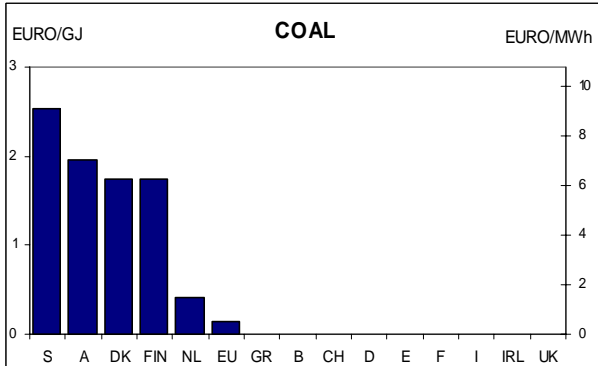
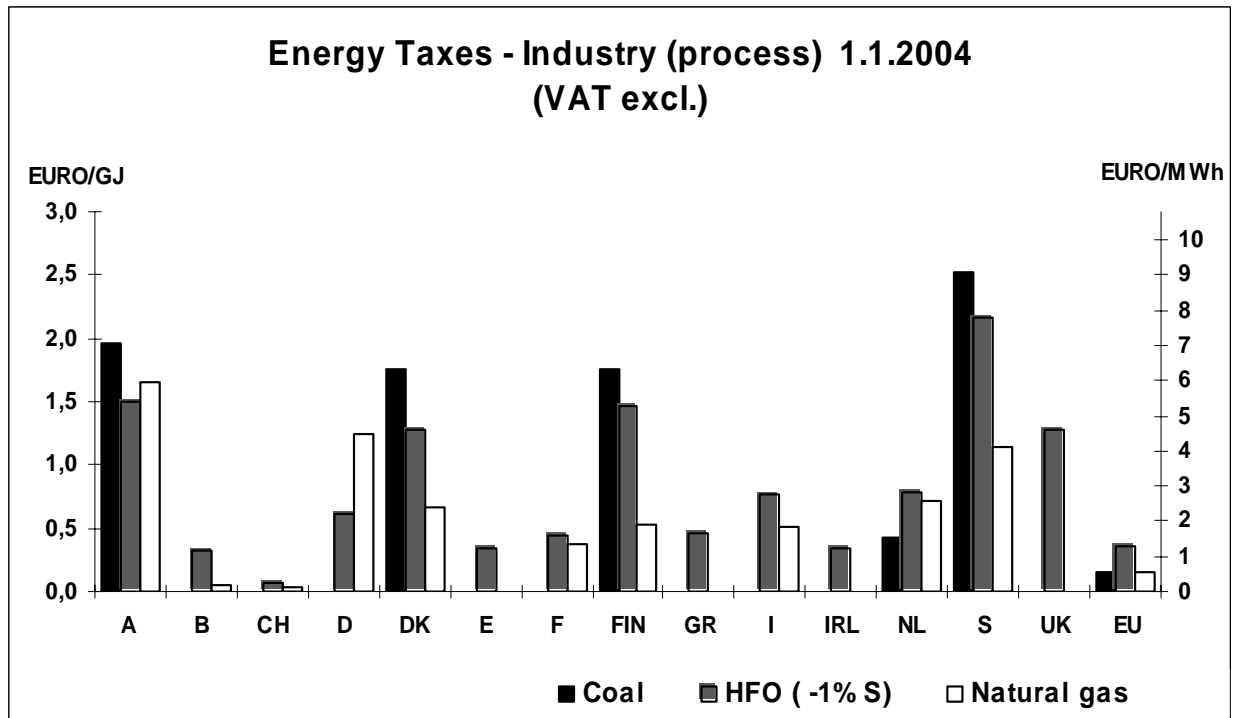
GR: 8% for natural gas and electricity



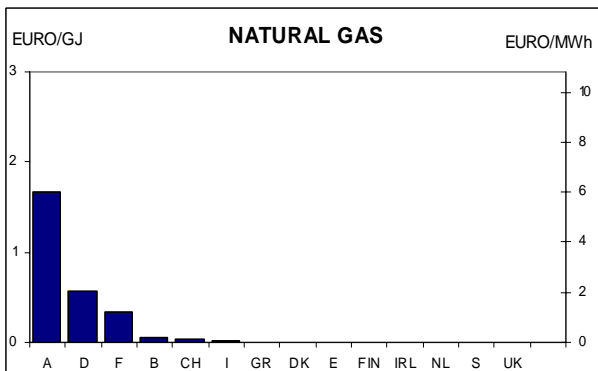
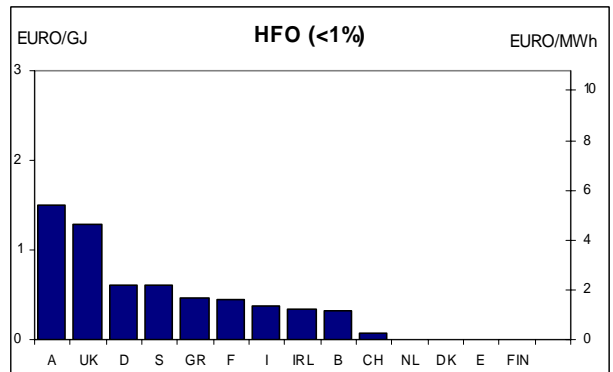
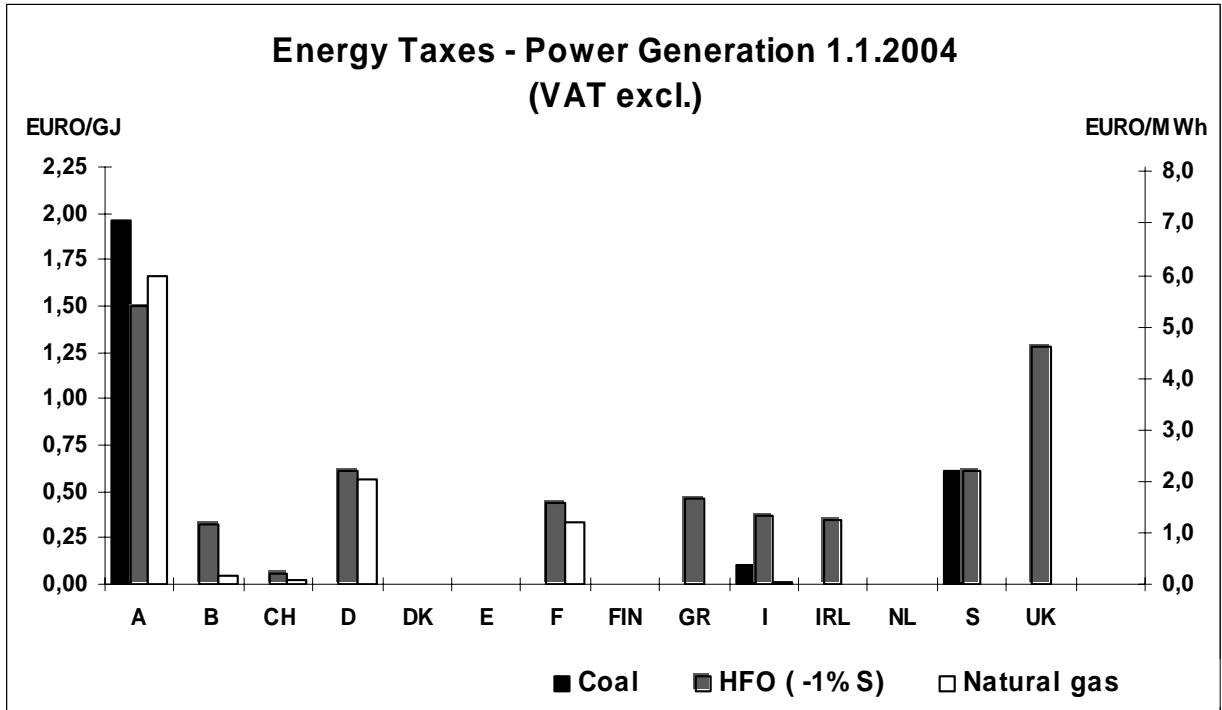
[EU] The values shown for EU are the proposed minimum levels by the European Commission



[EU] The values shown for EU are the proposed minimum levels by the European Commission



[EU] The values shown for EU are the proposed minimum levels by the European Commission



PART TWO

**DESCRIPTION OF NATIONAL ENERGY TAXATION SYSTEMS
IN EUROGAS MEMBER COUNTRIES AS OF 1st JANUARY 2004**

AUSTRIA

Current national energy taxes as of 1 January 2004:

Market sector: RESIDENTIAL 1)	EURO/GJ (NCV) 2) 3)	EURO/MWh (NCV) 2) 3)
HFO – low sulphur (<1% S)		
- high sulphur	1,50	5,41
Gas oil	2,78	10,00
LPG	0,94	3,39
Natural Gas	1,66	5,96
Coal	1,96	7,04
Electricity	4,17	15,00

The following heat contents of the energy units are used:

HFO	11,10kWh/kg	0,03996GJ/kg
Gas oil	9,80kWh/kg	0,03528GJ/kg
LPG	12,70kWh/kg	0,04572GJ/kg
Natural Gas	11,07kWh/m ³	0,03985GJ/m ³
Coal	7,10KWh/kg	0,02556GJ/kg
Electricity	1,00kWh/KWh	0,00360GJ/kWh

On 1st June 1996 the electricity and natural gas taxation system was introduced and was in general maintained since then. With effectiveness of 1st June 2000 the tax-rate for electricity was more than doubled whereas the tax-rate for natural gas was maintained. On 1st January 2004 the tax rate for natural gas was more than doubled (from 0,0436 €/m³ to 0,066 €/m³). The tax rate for electricity was maintained and amounts 0,015 €/kWh.

Furthermore, the process of tax-collection was changed due to the liberalisation of the energy markets. It is now effected by the grid operators. This means that the electricity tax as well as the natural gas tax is paid by the consumers but levied and administrated by the respective grid company in the way of a separated item on the electricity or gas bill.

The taxes on gas (and electricity), which have become effective on June 1st 1996, have clearly shifted the balance to the favour of mineral oil products and coal. The present system is definitely not ecologically-driven and represents a contradiction to the official Austrian energy policy favouring environmental-friendly forms of energy and reduction of emissions. Due to the

above mentioned draft bill concerning the national implementation of the Electricity Directive it is expected that the usage of natural gas is coming under pressure.

The tax system applies to all sectors (residential, commercial, industrial and power generation), although, with some relief provisions for industry and power generation:

However with respect to the Consumption tax, there is a refund system for industrial customers: producers of tangible goods benefit from a special refund system on gas and electricity. Whenever the amount of the taxes on electricity consumption exceeds 0.35% of the so called net production value "Nettoproduktionswert" (defined by turnover minus input costs), this percentage effectively represents a tax ceiling on gas and electricity.

On 8th November 2001, the European Court of Justice decided that this refund system on general has the character of a hidden subsidy. To avoid any negative consequence, the refund system therefore has had to be restructured and is now open for all companies in principle.

The European Commission has notified the energy tax refund system until 2001. That implies, that the applicable regulations are valid from 1st June 1996 until 31st December 2001. Requests from service companies dated before 1st January 2002 have to be repelled, requests for production companies stayed unchanged for this period.

On 20th September 2002, the Austrian Parliament renewed the system and implemented a participation in the refund system for all entities effective from 2002. This new system has also come under survey of the European Commission and has still the state of a subsidy although this system was accepted in summer 2002 from the European Commission authority. However, the clearing of this legal question is still evident.

Actually the Austrian Parliament worked out a draft bill concerning the implementation of the Electricity Directive which contents the regulation of the net production value (an increase from 0,35 % up to 0,50 %) and the involvement of coal tax and Mineral Oil Tax into the tax refund system.

Due to the general output-taxation system there is an input tax exemption for HFO and natural gas as far as electricity production is concerned. For the input of gas oil there is a partial tax-refund in case of electricity production and co-generation of electricity and heat. Because of the output taxation system for energy in Austria, there is no special tax-regime on renewable energy sources.

All taxes are a lump sum without specified elements, especially there is no environmental background.

When the tax on natural gas was introduced natural gas prices were burdened in comparison to competing oil products which were subject to mineral oil tax. Due to market forces meanwhile a certain balance has been reached and therefore currently no major problems are faced. But it have to be mentioned that the present situation will be changed by the planned modification of the tax refund system (see above).

In Vienna City and some other municipalities a duty for the usage of public land is charged by the municipality to the local electricity utility; in economic terms this levy is similar and comparable to a concession fee. The tax-rate is e.g. for the City of Vienna 6 % on electricity revenues in the municipal territory.

In general there are no benefits for a certain user group. Since 1st January 2003 the taxation of coal was introduced which means an increase of tax payments for all users of coal, especially for the households who have no possibility to enter the existing tax refund system. The tax rate for coal amounts 0,05 €/kg.

The VAT-system corresponds to the 6th EU-Directive. The standard VAT-rate is 20%. In principle, VAT is neither an expense nor an income item for most businesses because the input tax paid to suppliers is recoverable from the fiscal authorities.

BELGIUM

On the 31.10.2003 a new European directive was published on the Official Journal of the European Union :

The Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity.

As a consequence, to transpose this Directive, two Royal Decrees dated on the 29 February 2004 were published in Belgium on the 5 March 2004 in the Belgium official journal.

Each energy product described in the Directive is now considered in these Decrees.

The first Decree gives the normal regime. This normal regime involves 4 kinds of taxes ("accise") :

- the right of accise
- the right of special accise
- the control tax on the heating gasoil
- the energy tax.

To reach the levels of the Council Directive, until now, only these four taxes and the federal tax for electricity and gas (which covers the federal regulation costs and the public obligation costs) are considered. Nevertheless, the Authorities are open to consider also other taxes.

The second Decree concerns the total or the partial exemptions or reductions in the level of taxation to

- taxable products used under fiscal control in the field of environmentally-friendly products or in relation to fuels from renewable resources
- products used in the sectors of people and goods transportation.

When transposing the Council Directive for the natural gas in Belgium, it was partially made use of the authorisation of the annex II given to Belgium (reduced rates of taxation and exemptions).

In addition to these federal taxes, some new regional taxes were decided. They apply to the consumption of the eligible customers (free customers i.e. the entire Flemish region and parts of the two other regions).

- Walloon region (AGW 19 June 2003) from the 15 July 2003
For the first 100 kWh : lump sump of 0,0075 EUR/year
For the next kWh :
If < 1 GWh : 0,0075 c/kWh
If <10 GWh : 0,006 c/kWh
If = or > 10 GWh : 0,003 c/kWh
- Brussels region (ORBC 1 April 2004)
maximum of 0,09 c/kWh

For the non-eligible customers (in the Walloon and Brussels regions), the old system is maintained. It consists of an income related tax levied as a withholding tax on income earned by gas companies ("intangible dividends").

Product used as fuel for heating from the 2nd of April 2004

(1) VAT may generally be recovered
(2) VAT may be recovered

	in EUR/MWhs				in EUR/MWhi			
	residential	commercial	industrial	Power gen.	residential	commercial	industrial	Power gen.
Natural gas	in EUR/MWhs				* 1 / 0,902 MWhi/MWhs			
					1,1086			
energy tax	1,1589	1,1589	0	0	1,284812	1,28481153	0	0
VAT on the tax	21,00%	21% (1)	21% (2)	21% (2)	21,00%	21% (1)	21% (2)	21% (2)
federal tax	0,1237	0,1237	0	0	0,1372	0,1372	0	0
VAT on the tax	21,00%	21% (1)	21% (2)	21% (2)	21,00%	21% (1)	21% (2)	21% (2)
tax protected customers	0,0382	0,0382	0	0	0,0423	0,0423	0	0
VAT on the tax	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
total	1,3208	1,3208	0,0000	0,0000	1,4643	1,4643	0,0000	0,0000
mean VAT on the taxes	20,39%	generally 0 %	0,00%	0,00%	20,39%	generally 0 %	0,00%	0,00%
					* 3,6 GJi/MWhi / 36,262 GJi/1000 l			
GASOIL S>50 mg/kg	in EUR/1000 l				0,0993			
energy tax	8,4854	8,4854	8,4854	8,4854	0,8424	0,8424	0,8424	0,8424
VAT on the tax	21,00%	21% (1)	21% (1)	21% (1)	21,00%	21% (1)	21% (1)	21% (1)
control tax	10,0000	10,0000	10,0000	10,0000	0,9928	0,9928	0,9928	0,9928
VAT on the tax	21,00%	21% (1)	21% (1)	21% (1)	21,00%	21% (1)	21% (1)	21% (1)
total	18,4854	18,4854	18,4854	18,4854	1,8352	1,8352	1,8352	1,8352
mean VAT on the taxes	21,00%	generally 0 %	0,00%	0,00%	21,00%	generally 0 %	0,00%	0,00%
					* 3,6 GJi/MWhi / 36,262 GJi/1000 l			
GASOIL S <=50 mg/kg (now)	in EUR/1000 l				0,0993			
energy tax	7,1022	7,1022	7,1022	7,1022	0,7051	0,7051	0,7051	0,7051
VAT on the tax	21,00%	21% (1)	21% (1)	21% (1)	21,00%	21% (1)	21% (1)	21% (1)
control tax	10,0000	10,0000	10,0000	10,0000	0,9928	0,9928	0,9928	0,9928
VAT on the tax	21,00%	21% (1)	21% (1)	21% (1)	21,00%	21% (1)	21% (1)	21% (1)
total	17,1022	17,1022	17,1022	17,1022	1,6979	1,6979	1,6979	1,6979
mean VAT on the taxes	21,00%	generally 0 %	0,00%	0,00%	21,00%	generally 0 %	0,00%	0,00%
					* 3,6 GJi/MWhi / 40,604 GJi/1000 kg			
HFO-low sulfur (<1%S)	in EUR/1000 kg				0,0887			
accise	13	13	13	13	1,1526	1,1526	1,1526	1,1526
VAT on the tax	21,00%	21% (1)	21% (2)	21% (2)	21,00%	21% (1)	21% (2)	21% (2)
special accise	2,0000	2,0000	2,0000	2,0000	0,1773	0,1773	0,1773	0,1773
VAT on the tax	21,00%	21% (1)	21% (2)	21% (2)	21,00%	21% (1)	21% (2)	21% (2)
total	15,0000	15,0000	15,0000	15,0000	1,3299	1,3299	1,3299	1,3299
mean VAT on the taxes	21,00%	generally 0 %	0,00%	0,00%	21,00%	generally 0 %	0,00%	0,00%
					* 3,6 GJi/MWhi / 45,733 GJi/1000			
Butane	in EUR/1000 kg				0,0787			
energy tax	17,1047	17,1047	17,1047	17,1047	1,3464	1,3464	1,3464	1,3464
VAT on the tax	21,00%	21% (1)	21% (2)	21% (2)	21,00%	21% (1)	21% (2)	21% (2)
control tax	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
VAT on the tax	21,00%	21% (1)	21% (2)	21% (2)	21,00%	21% (1)	21% (2)	21% (2)
total	17,1047	17,1047	17,1047	17,1047	1,3464	1,3464	1,3464	1,3464
mean VAT on the taxes	21,00%	generally 0 %	0,00%	0,00%	21,00%	generally 0 %	0,00%	0,00%
					* 3,6 GJi/MWhi / 46,14 GJi/1000 kg			
Propane	in EUR/1000 kg				0,0780			

DENMARK

Since 1 January 1996 energy taxation in Denmark consists of three elements: Excise tax, CO₂ tax and SO₂ tax. The CO₂ tax has been in force since 1992/93 while the SO₂ tax was introduced in 1996, together with certain increases of the CO₂ taxation, as part of a program to emphasise the environmental profile of taxation.

The general level for each of the three tax elements is now a rate of approx. 51 DKK/GJ for the excise tax, 100 DKK/ton CO₂ and 10 DKK/kg SO₂. Present rates of taxation, however, will differ somewhat both according to fuel and end-use. By 1 January 2001 and 2002 excise tax on natural gas was increased to the same level as of HFO, LPG, Gas oil and Coal.

The general principle for energy taxation is that households are subject to the 25% VAT and the excise tax as well as the full amount of CO₂ and SO₂ tax elements, whereas industrial and commercial energy users can recover VAT and the excise tax.

Energy used for space heating in the commercial and industrial sectors is, since 1996, taxed with rates equal to those applied to the residential sector (i.e. both excise and CO₂/SO₂ tax).

As of 1 July 1998 excise taxes on most products were increased as part of general fiscal and environmental policy. Further increases has taken place each year until 1 January 2002.

The CO₂ tax for energy used in normal industrial production is 90 DKK/ton. For energy intensive production the CO₂ tax rate will only be 25 DKK/ton CO₂. This rate can be further reduced to 3 DKK/ton CO₂ if specific measures are carried out that will reduce energy consumption in these industries. EU minimum rates are, however, to be observed.

The SO₂ tax is levied on all fuels with a content of more than 0.05 % sulphur and the rate of 10 DKK/kg SO₂ is now fully applied. The basis for the tax is the sulphur content of the fuel but the tax can be recovered to the extent that SO₂ emission is reduced. For HFO used in energy intensive production the SO₂ tax is only levied on the sulphur content in excess of 0.55 %.

Fuels used as feed-stock are not taxed.

Fuel used for power generation is not taxed as the tax is levied on the output - i.e. electricity delivered - instead.

In co-generation processes the tax is levied on fuel consumed that is considered to have been used for heat production while the amount of fuel considered to have been used for power generation is not taxed. Two different principles are used in this allocation:

- The principle used in allocation of fuel between power and heat production from large power plants is the so-called "marginal principle". Only the additional fuel necessary for heat production in the co-generation process - compared to the fuel estimated to have been used for power production in a conventional power plant - is taxed. In this way, the main share of fuel used is allocated to power generation and thus not taxed. The effective level of taxation of heat produced is thus much lower than in other modes of production.
- In decentralised CHP production the allocation of fuel between heat and power production is for the purpose of taxation proportional to the ratio between the output of heat and power.

Since 1. July 2002 electricity produced in decentralised CHP production, including industrial co-generation, based on natural gas receives a subsidy of 0.08 DKK/kWh for the first 8.000 MWh/year that is being produced. Direct subsidies for capital expenditures in relation to industrial co-generation projects are granted, but the production subsidy is limited to a period of 6 years. These schemes as well as the taxation of CHP is currently under consideration.

The CO₂ tax and SO₂ tax supports the competitive position of natural gas to a certain degree although it is the political intention that this environmental tax advantage of natural gas is to benefit the consumers through comparative lower gas prices.

In general renewable energy sources are being given high priority through subsidies to projects concerning these and exemption from tax. Renewable energy is being given various subsidies if used in the production of electricity.

Current National Energy Taxes

Residential/Commercial/Industry Space Heating	Local currency (DKK)/ Local energy unit 1)				Euro/GJ	Euro/MWh
	Excise tax	CO2-tax	SO2-tax	Total energy taxes	NCV2)	NCV2)
					Total energy taxes	Total energy taxes
HFO, ton - low sulphur (0,5% S)	2060	320	100	2480	8.17	29.4
LPG, ton	2350	300	0	2650	7.74	27.9
Gas oil, 1000 l (0,05% S)	1830	270	0	2100	7.93	28.5
Natural Gas, 1000 Nm ³	2020	220	0	2240	7.6	27.4
Coal, ton (0,6% S)	1280	242	108	1630	8.73	31.4
Electricity, kWh	0.501	0.10	0	0.601	22.4	80.8
VAT-rate	25%					

Note: SO2-tax is indicated for common commercial fuel qualities.

¹⁾ HFO -low: 40.82 GJ/t, LPG: 46 GJ/ton, Gas oil: 35.59 GJ/1000l, Natural gas: 39.6 GJ/1000m³, Coal: 25.1 GJ/t

²⁾ 1 Euro = 7.44 DKK

Commercial/Industry Process Use	Local currency (DKK)/ Local energy unit 1)				Euro/GJ	Euro/MWh
	Excise tax	CO2-tax	SO2-tax	Total energy taxes	NCV2)	NCV2)
					Total energy taxes	Total energy taxes
HFO, ton - low sulphur (0,5% S)	0	288	100	388	1.28	4.6
LPG, ton	0	270	0	270	0.79	2.8
Gas oil, 1000 l (0,05% S)	0	243	0	243	0.92	3.3
Natural Gas, 1000 Nm ³	0	198	0	198	0.67	2.4
Coal, ton (0,6% S)	0	218	108	326	1.75	6.3
Electricity, kWh	0	0.090	0	0.09	3.4	12.1
VAT-rate	25%					

Note: SO2-tax is indicated for common commercial fuel qualities.

¹⁾ HFO -low: 40.82 GJ/t, LPG: 46 GJ/ton, Gas oil: 35.59 GJ/1000l, Natural gas: 39.6 GJ/1000m³, Coal: 25.1 GJ/t

²⁾ 1 Euro = 7.44 DKK

FINLAND

Market sector: _____ *) _____ 1)	EURO/GJ (NCV) 2) 3)	EURO/MWh (NCV) 2) 3)
HFO – low sulphur (<1% S)	5,96 cent/kg = 1,468	5,28
- high sulphur		
Gas oil	7,06 cent/l = 1,411	5,08
LPG	-	-
Natural Gas	1,904 cent/m ³ = 0,529	1,904
Coal	44,7 EUR/t = 1,750	6,3
Electricity households I * *	2,064	7,43
industry II	1,258	4,53
Other– Peat	1,59 EUR/MWh = 0,442	1,59
VAT-rate (%)	22%	

*) Taxes are levied on all market sectors except power generation. Fuels used for power generation are exempted of energy taxes. Taxes are not levied on fuels used as raw materials in industrial processes

** Electricity tax is paid by the owner of the electricity network or the power producer who sells the electricity to the customer. Tax is not paid for wind power or very small power plants. In CHP it is assumed that the heat is produced by 100% efficiency.

Heat content (NCV) of different fuels:

HFO - 40,61 GJ/t

LFO - 42,27 GJ/t, 1000 l = 0,845 t

Natural gas - 36 GJ/1000 m³ (1atm, 0°C)

Coal -25,54 GJ/t

Taxes are not levied on fuels used in power generation, but there is output tax for consumption of electricity. Electricity tax class II is paid by industry and green houses. All other users pay tax class I.

In current tax law applicable since 1.1.2003 there are some tax reliefs for energy intensive industries. Companies can apply reimbursement if paid taxes exceed 3,7% of added value of the company.

Electricity is free of output tax if it is used in transmission of electricity , exported, used in in railways or used in power plants.

If fuel is used in CHP plants, tax base of fuels used in heat production is 90% of produced heat. Fuels used for power generation in CHP plants are free of taxes as mentioned earlier.

If amount of Peat used for Heat Production is less than 25 GWh/a , it is exempted from Tax.

The Finnish energy taxation system consists of three tax components: a basic tax, an additional tax and a security of supply fee. All fossil fuels are being charged with an additional tax, which represents the bulk of the tax burden. All of them, except peat, are subject to security of supply fees. Light fuel oil is charged with a basic tax, which is fiscal.

The additional tax of fossil fuels is based on the CO₂ emissions of the respective fuel, with the exception of peat and natural Gas. They have a lower CO₂ tax rate.

The power generation is subject to an output tax only, consisting mainly of the environmental tax. The environmental tax on electricity is charged to the owner of the electricity network or to the power producer selling its electricity to the customer. Very small hydro, wind, wood or peat power producers do not pay tax. There are two tax classes - I and II - for electricity. Class II is paid by industry and greenhouses, class I by all other users.

Fuel	Basic tax	Additional tax	Security of supply fee
HFO, cent/kg	-	5,68	0,28
LFO, cent /l	1,93	4,78	0,35
Natural Gas, cent/m ³	-	1,82	0,084
Coal, €/tonne	-	43,52	1,18
Peat, €/MWh	-	1,59	-
Electricity, cent/kWh I	-	0,73	0,013
II	-	0,44	0,013

VAT is recoverable for industry and power producers and non-recoverable for households. Energy taxes are mainly non-recoverable for all consumer categories.

The additional tax of fossil fuels is based on CO₂ emissions. There are tax reliefs for natural gas and peat. Wood is considered as green energy with no CO₂ emissions and it has been exempted of energy taxes.

Natural gas has premium due to lower Specific emission of CO₂. CO₂-based additional tax for natural Gas is 50% lower than for other fossil fuel tax.

Very small power plants (40 MVA) which make electricity of wood or peat as well as very small hydro and all wind power plants are free of electricity taxes. Those plants can get also Investment support. Plants using recycled material can also get support.

Natural Gas benefits of lower CO₂-emissions in Taxation of fuels used for Heat Production and this is considered fair. But CO₂-based additional tax for natural gas is 50% lower than for other fossil fuel tax. There has been criticism against this benefit of Natural Gas. On the other hand in Power Generation, there is no advantage of lower emissions of Natural Gas because there are no taxes for fuels.

Natural Gas benefits especially in CHP production of tax differentials, but it is not easy to say who benefits in the Natural Gas chain.

The energy taxation system has changed at the beginning of 1997. The basic idea was to get the competitiveness of indigenous electricity production at the same level as the imported electricity. That is why the production of electricity is not taxed but only the consumption of electricity. After that there have not been any significant changes in taxation system. In the beginning of 1998 taxation level was brought up and then once again in the beginning of September 1998 and in the beginning of 2003.

Finnish Government has committed to Kyoto climate change program to reduce CO₂ emissions. Allocation of emission rights for industrial and energy companies was released in March 2004 and trading will start in January 2005. Emission trading together with energy taxation and subsidies for renewable energy has been considered as an efficient tool to reach CO₂ commitments. Ministry of Trade and Industry appointed a committee in 2003 to study the consolidation of these three tools. The aim of the study was to identify immediate needs to change energy taxation and subsidies in order to fulfil CO₂ -reduction needs.

Current CO₂ –based Energy taxation system and support of renewable energy has been considered as an efficient tool to introduce low emission energy technology. If Energy taxes on fuels used for heat production will be abolished, the competitiveness of natural gas would deteriorate. That would increase use of coal. It is important to see what is the market price of emissions before any decisions concerning emission trading are done.

FRANCE

Taxes on energy consumption

VAT

For all energies and since 1999, the rate of VAT has been at 5.5% on the standing charge and capacity prices. However, it remained at the normal rate (i.e. 19.6% currently) on the part of the bill which is proportional to energy consumption.

Companies and district heating installation can recover VAT. Every three months, they have to repay to the State the difference between their sales cashed VAT and their buying paid VAT. Apart from some export industries, there are no cases of VAT exemption. Final consumers, generally households, can not recover the VAT paid.

Fuel oil and gas oil

In France, the "TIPP" (Taxe Intérieure sur les Produits Pétroliers) are levied on all uses of HFO and LFO.

Once the year, the government establishes the rates for the different taxes (TIPP on petroleum products and TICGN on natural gas).

In 2003, the excise (TIPP factor) on Gas oil corresponds to 5.66 EUROS/hl instead of 4.08 EUROS/hl at the beginning of 2002 (see below). On fuel oil, the level is 18.5 Euros/t regardless of sulphur content. Before this year, the tax levels on high sulphur fuel oil were higher at 24.9 Euros/t. In counterpart, use of high-sulphur fuel oil has been restricted.

At the end of 2000, in order to limit the rise of the consumers' energy bill resulting from the increase of oil prices, tax on gas oil was strongly reduced. The tax on Gas oil was linked to the variation of the VAT component in Gas-oil prices, (the higher the prices, the lower the TIPP). TIPP was revised periodically, with the possibility to adjust its level every 3 months. This last disposition was suppressed in July 2002 but the level of the tax on gas oil remained lower than it was in January 1995.

Tax on fuel oil is a little higher now than in January 1995.

Electricity

A local tax is levied on behalf of the town community and the local district. Users who disposed of more than 250 kVA of power are exempted. The mean level is of 7,8 Euros/MWh for residential user and 0.5 Euros/MWh for companies. This tax has not changed over the last years.

Natural gas

District heating, commercial and industrial uses support a gas tax on the part of their consumption over 5 GWh per year: the TICGN ("taxe intérieure à la consommation de gaz naturel"). As from 1st of January 2002, its rate is at 1,19 EUROS/MWh. Residential heating and industries using the gas as raw material are exempt from this tax. CHP plants are also exempt from this tax for the first five operating years.

Coal, LPG, wood and renewable source energies

These energies are not taxed (only VAT).

Renewable energies received subsidies by means other than taxation.

Taxes on emissions

Waste incineration plants and other combustion installations larger than 20 MW are taxed on their emissions of SO₂, HCl and NO_x which is rate in the range of 38.11 to 57.17 EUROS per tonne of pollutants.

CO₂ emissions are not taxed. Other energy taxes are not directly linked to pollution.

Other taxes

There are other "light" taxes on electricity production and distribution such as high-tension pylons and nuclear or hydroelectric installations.

There are no taxes, royalties or concession fees in France relative to gas storage or distribution.

Position on natural gas

Most part of tax revenues is paid to the national authorities. Nevertheless, in exceptional cases, some local Authorities subsidise the construction of a new communal gas network.

Today, GDF anticipates changes as some blueprint relating to new natural gas taxation is being introduced:

- a new tax on natural gas or an extension of the natural gas tax on the consumption under the 5 GWh per year threshold,
- a new tax on all energies which might be proportional with CO2 emissions,
- increase of the taxes on pollutants.

These measures could have a negative impact on the competitiveness of natural gas.

If natural gas is taxed without increasing the taxes on the other energies (electricity, LPG and gas oil), natural gas will loose market shares in residential and commercial sector.

In industrial sector, an increase of taxation on natural gas can reduce the competitiveness of CHP.

GERMANY

The fiscal burden on natural gas (mineral oil tax on natural gas, concession fees on natural gas, production levies) in 2003 amounted to a net figure (i.e. following deduction of tax credits, refunds and similar) of approx. 4.3 billion Euro. The rise of over 1 billion Euro compared with the previous year is due to the sharp increase in the tax rate for natural gas, and the run-down of tax breaks for the manufacturing industry and the agricultural and forestry sector under further legislation on ecological tax reform that came into effect at the beginning of 2003.

Taxation levels for natural gas, liquid gas, heavy heating oil and light heating oil when used as a heating fuel

The tax rate for natural gas when used as a heating fuel is 5.50 Euro/MWh, the tax rate for light heating oil is 61.35 Euro/1000 l, the tax rate for heavy heating oil is 25 Euro/1000 kg, the tax rate for liquid gas is 60.60 Euro/1000 kg.

Tax reductions for the manufacturing sector

The manufacturing industry in Germany has been granted a special tax reduction, namely 40% tax relief for ecological tax, i.e. for natural gas, this means 40 % of 3.66 Euro/MWh. The figure of 3.66 Euro/MWh is made up of the increases in the tax on natural gas since 1 April 1999. Referred to the tax rate for natural gas (5.50 Euro/MWh) tax relief amounts to 1.464 Euro/MWh. This tax reduction also affects gas, water, power and district heat suppliers as undertakings in the manufacturing sector. Undertakings in the manufacturing sector also have the opportunity to benefit from further tax relief under what is known as "peak adjustment".

Tax relief rates for combined heat and power plants and gas-steam power plants

Combined heat and power plants with a utilization rate of 70% or more and gas-steam power plants with an electric efficiency of at least 57.5 % are credited the natural gas tax of 5.50 Euro/MWh in full. Combined heat and power plants with a utilization rate of between 60 % and 70 % and plants solely producing power or heat receive 100% reimbursement of the ecological tax, i.e. 3.66 Euro/MWh.

Tax reduction for natural gas as a motor fuel

Tax reduction for natural gas as a motor fuel has been extended until 2020. However, the reduced rate of 12.40 €/MWh for natural gas used as a motor fuel was raised to 13.50 Euro/MWh with effect from 1 April 2004 under the general dismantling of subsidies. There were no changes to the taxation system.

Implementation of the EU Directive restructuring the Community framework for the taxation of energy products and electricity

Beyond the minimum tax rates – all of which are already applicable in Germany – the Directive still has to be implemented under national law. According to the Federal Ministry of Finance (March 2004), the necessary political opinion-forming process and the required experts analyses have not yet been completed.

Climate protection undertaking of the German gas industry

In 1995, the German gas industry undertook to reduce the level of CO₂ emissions in 2005 by approx. 30 million tonnes CO₂ per year referred to 1990 levels. In November 2000, this commitment was replaced by a new climate protection undertaking. The objective of the new undertaking for 2012 is to achieve a reduction in emissions of climate-relevant gases generated by natural gas used in households, commerce and transport and through modernisation of natural gas pipelines to an amount of approx. 45 million tonnes of CO₂ equivalent per year referred to 1990 levels. In 2001, emissions of climate-relevant gases generated by natural gas used in households, commerce and transport and through modernisation of natural gas pipelines had already been reduced by approx. 34.4 million tonnes CO₂ equivalent per year referred to 1990 levels.

GREECE

There are different energy taxes for different end users as far as Gas oil and LPG are concerned.

Gas oil has three excise taxes :

for heating purposes during the heating period (~ Oct. to Apr.) and for agricultural usage

for power generation, for industrial and for commercial usage
for automotive usage

LPG has also three excise taxes :

for general purposes

for automotive usage

for industrial usage

Total energy tax consists almost exclusively in general excise duty.

VAT on energy products is recoverable by all users subject to accounting regulation (i.e. excluding private users) with the exception of transportation fuel where VAT of fuel used by personal cars (even owned by companies) may not be recovered.

Energy taxes are not presently linked to pollution.

Natural gas is by law exempted from excise tax in Greece until the end of 2010 (Law 2364, Article 7). The excise tax of competing fuels thus constitutes an indirect subsidy to the project of introduction of natural gas in Greece. The reduction of the heating oil and fuel oil excise tax in the recent years drastically reduced this benefit for natural gas.

As from 01.01.2003 the tax incentives for the support of the penetration of natural gas in the residential sector (reduction of taxable income) were removed.

Tax differential between natural gas and competitive fuel benefits to the natural gas distributor. Other differentials benefit to consumers.

Heating Gas oil excise tax was, since Jan. '95, set at the following levels :

Jan. '95	39	GRD/lt
Jan. '96	42	GRD/lt
Oct. '96	33,5	GRD/lt
Nov. '97	28	GRD/lt
Nov. '98	20	GRD/lt
Nov. '99	6,15	GRD/lt
Jan. '02	18	€/1000lt
Oct. '03	21	€/1000lt

Starting from October 2003 the agricultural uses of gas oil, previously subject to the excise tax of gas oil for the automotive sector, are subject to the above excise tax of 21 €/1000lt.

Fuel oil excise tax was, since Jan. '95 set at the following levels :

Jan. '95	12	GRD/kg
Jan. '96	13	GRD/kg
Jan. '02	19	€/MT

Gas oil excise tax for purposes other than heating or outside the heating period (~ Oct. to Apr.) was, since Jan. '95, set at the following levels.

Jan. '95	72	GRD/lt
Jan. '96	77	GRD/lt
Oct. '96	75,5	GRD/lt
Mar. '97	77	GRD/lt
Dec. '98	83	GRD/lt
Jan. '02	245	€/1000lt

At the end of 1999 a new category was introduced for the gas oil used exclusively for power generation and the excise tax was fixed at 41 GRD/lt.

Jan. '02	120	€/1000lt
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Starting from October 2003 the industrial and commercial uses of gas oil, previously subject to the excise tax of gas oil for the automotive sector, are subject to the above (reduced) excise tax.

The main changes concern :

- the reduction of the excise tax applied on heating Gas oil since 1996 and on Gas oil used for power generation since end 1999, both for inflation reduction purpose
- the drastic reduction of excise tax for gas oil used in the agricultural sector in October 2003 (from 245 €/1000lt to 21 €/1000lt)
- the reduction of excise tax for gas oil used in the industrial and commercial sector (for purposes other than space heating) (from 245 €/1000lt to 120 €/1000lt)

Excise tax levels as of 01.01.2004 are as follows :

Excise Tax as of 01.01.2004

HFO	19	€/MT
Gas oil		
for heating purposes during the heating period (~ Oct. to Apr.) and for agricultural usage	21	€/1000lt
for power generation, for industrial and for commercial usage	120	€/1000lt
for automotive usage	245	€/1000lt
LPG		
for general purposes	13	€/MT
for automotive usage	100	€/MT

for industrial usage	0,29	€/MT
Natural gas	0	

There is no open discussion on a change in the energy tax system.

Note: Currency rate: 1 Euro = 340,75 GRD

IRELAND

Jan 1 2004		LPG	HFO	Gasoil	Kerosene
		Jan 1	Jan 1	Jan 1	Jan 1
Duty - Cents Per Litre		1.816	1.346	4.736	2.50
Litres Per Tonne		1933	1045	1190	1190
Cents Per Tonne		3510	1406	5636	2975
Therms Per Tonne	GCV	473	403	432	432
Gigajoules Per Tonne	GCV	49.9	42.5	45.6	45.6
kWh Per Tonne	GCV	13,862	11,811	12,661	12,661
Cents Per Therm	GCV	7.42	3.49	13.05	6.89
Cents Per Gigajoule	GCV	70.33	33.08	123.65	65.27
Cents Per kWh	GCV	0.253	0.119	0.445	0.235
kWh/Therm		29.31	29.31	29.31	29.31
Gj/Therm		0.105506	0.105506	0.105506	0.105506
Cents Per Gj	GCV	70.331	33.079	123.654	65.272
Net To Gross Ratio		0.941	0.950	0.950	0.950
Cents Per Gigajoule	NCV	74.740	34.820	130.162	68.707
Euro Per Gigajoule	NCV	0.747	0.348	1.302	0.687
Euro Per MWh	NCV	2.691	1.254	4.686	2.473

Taxation is the same for all end user sections, with the exception of the level of Value Added Tax. This is applied at a reduced rate of 13% to the household sector. (v. 21% for the other sectors) VAT rates revised from January 1 2003.

In his Budget Speech on 4 December, 2002, the Minister for Finance made specific reference to the introduction of carbon energy taxation in Ireland. He noted that Ireland had international obligations under the Kyoto Protocol to limit emissions of greenhouse gases here and that, accordingly, the Government was asking the relevant Departments concerned to bring forward plans for a carbon energy tax with a target date of end – 2004 for its introduction.

The Minister for Finance indicated that because of the many and varied implications of such a tax, there would be full consultation with interested parties on the design of the tax and there would be a reasonable lead-in period to its introduction. In this regard the Government issued a consultation paper on the matter during 2003 and received many submissions from interested parties.

Due to the high level of economic growth since 1990 (the Kyoto Base Year) it will now be very difficult for Ireland to meet Kyoto targets. An announcement on the taxation levels is expected in late 2004 as part of the Annual Budget. It is expected that the taxation will be proportionate to the level of carbon in each fuel. Obviously any taxation changes that are agreed at EU level would also be implemented. Arguably the favourable treatment of natural gas encourages the growth of the gas industry and has had a positive environmental impact heretofore. A change in the relative treatment of natural gas would impact growth in a developing market. There is still significant competition in Ireland between heating oil and natural gas, both being successful in displacing solid fuel (coal etc..) in the household sector.

Differential taxes are currently only applied in the case of transport fuels. VAT is set at 13% for the household sector (or rather to certain product categories such as food, medicine and energy products for households) The tax is not recoverable. The general level of VAT is currently 21% and is recoverable by the commercial and industrial sectors.

Other than for road transport fuels, there is no differential applied to fuels in relation to SO₂ or CO₂ content. There are no excise duties applied to natural gas. There are no explicit taxes on renewable energy.

Given that there are no excise duty or other charges on natural gas, it is given favourable treatment. Therefore the regime is favourable from a competitive perspective.

The main tax differences are between the mineral fuel oils and natural gas. These differentials are favourable to the gas industry, which is the beneficiary to the degree that it is in a more favourable competitive market position.

In general, there have been no significant changes to energy taxation since 1995. Therefore the introduction of carbon based taxes will be a significant issue for the natural gas industry.

ITALY

Energy taxation differs widely among sectors (residential, industrial, power generation) and among regions: taxes on fuels for industrial uses are lower than taxes in the residential sector, but higher than those for electricity generation. Moreover a tax incentive is given to autoproducers of electricity.

The Government introduced in 2000 a temporary reform for taxation on energy products aimed at reducing the inflationary tendency deriving from the international trend of the oil quotations. This reform stopped the second step provided for 2000 in order to achieve the target tax rate by January the 1st of 2005 introduced by the carbon tax law in 1999.

The temporary reform was extended with some limited variations, consequently excise tax rates on energy products have been extended until November 2001. From November the 1st of 2001 the Government decided to increase excise taxes on fuels used for Residential and Commercial Uses (in particular Natural Gas, Gasoil, LPG, and LSFO), used for Industrial uses (in particular LSFO, Gasoil and GPL). The Government with a decree in march 2002 decided to decrease excise on natural gas used for Residential and Commercial uses in the Northern Regions; the reduction is retroactive from January the 1st of 2002. A decree in July 2002 and The Budget for 2003 (Legge Finanziaria 2003) extend the previous level of the excises on natural gas until June 2003.

Except for two tariffs regarding high gas consumption in Northern Regions for residential sector, tariffs T3 and T2 for consumption higher than 250 m³ on an annual basis, (see the table in the next page), the same levels of excise tariffs have been confirmed until December 2004.

		Residential & Commercial uses		Industrial uses	
		EURO/GJ	EURO/MWh	EURO/GJ	EURO/MWh
HSFO					
9600	kcal/kg	3,19	11,49	1,59	5,71
LSFO					
9800	kcal/kg	1,57	5,64	0,77	2,75
Gasoil (***)					
10200	kcal/kg	11,31	40,71	11,31	40,71
LPG (***)					
11000	kcal/kg	4,12	14,85	4,12	14,85
	(**)	0,41	1,49	0,41	1,49

		Power Generation			
		public plants (*)		self consumption	
		EURO/GJ	EURO/MWh	EURO/GJ	EURO/MWh
HSFO					
9600	kcal/kg	0,38	1,37	0,11	0,41
LSFO					
9800	kcal/kg	0,37	1,35	0,11	0,40
Gasoil (***)					
10200	kcal/kg	0,36	1,28	0,11	0,39
LPG (***)					
11000	kcal/kg	0,01	0,05	0,0044	0,0160
	(**)				
Coal		0,10	0,36		

(*) applied to fuels used by public utilities and by electricity producers that sell electricity to public utilities

(**) for industries using cylinders bigger than 10 m³

(***) considering LPG and gasoil taxation in the residential and commercial sectors there is a different regime in some northern provinces (Aosta, Trento, Bolzano and Belluno) and in the mountain areas, which are characterized by rigid climate and by being not reached by the natural gas net: in these areas an allowance is provided on the final price of gasoil of 299 Lit/kg (3,62 EURO/GJ; 13,4 EURO/MWh); and, on the final price of LPG of 308 Lit/kg (3,45 EURO/GJ; 12,44 EURO MWh).

Considering natural gas, taxes differ between sectors, with the lowest taxes in the industrial one where an excise tax amounting to 0,36 EURO/GJ (1,30 EURO/MWh) plus a regional tax of 0,15 EURO/GJ (0,54 EURO/MWh)- 0,18 EURO/GJ (0,65 EURO/MWh) are applied. The reform introduced by the Budget for 2001 (Legge Finanziaria 2001) for excise tax on natural gas for industrial uses that introduced a discount of 40% of the excise tax for the industrial user consuming more than 1.200.000 m³ on an annual basis has been extended with three different Government act until January the 1st of 2002; the Budget 2003 (Legge finanziaria 2003) extended this reform until the end of June 2003.

The discount is actually in force until the end of 2004 (prevision of legislative decree n°269, 30 september 2003).

In this case the excise tax on natural gas for industrial uses is reduced at 0,22 EURO/GJ (0,78 EURO/MWh); the regional tax on natural gas for industrial uses is, in this case, reduced at a maximum rate of 0,15 EURO/GJ (0,54 EURO/MWh).

Gas used for power generation (production) is subjected to an excise tax of 0,01 EURO/GJ (0,05 EURO/MWh); in case of self production natural gas used for power generation is

subjected to an excise tax of 0,004 EURO/GJ (0,01 EURO/MWh); in refining processes and gas used as raw material in chemical plants are exempted.

Gas used in the residential sector, which was interested by the temporary changes is subject to different excise taxes, to regional taxes and to value added tax; the level of these taxes differs among uses and regions (northern and central regions versus southern regions known as “Cassa del Mezzogiorno”).

In this sector gas can be sold under three kinds of contract:

- T1 cooking and water heating
- T2 cooking, water heating and individual heating
- T3 all other uses

The following table shows the present level of excise tax for the different contracts:

Excise taxes	Northern and Central regions	Southern Regions
T1 first 250 m3 of T2	1,16 EURO/GJ (4,17 EURO/MWH)	1,12 EURO/GJ (4,03 EURO/MWH)
T3 and the rest of consumption of T2	5,01 EURO/GJ (18,05 EURO/MWH)	3,60 EURO/GJ (12,95 EURO/MWH)

(*) The budget for 2001 (Legge Finanziaria 2001) introduced a reduction to 1,18 EURO/GJ (4,24 EURO/MWh): for some provinces (Aosta, Belluno, Trento e Bolzano).

(**) The budget for 2001 (Legge Finanziaria 2001) introduced a reduction to 3,91 EURO/GJ (14,08 EURO/MWh): for some provinces (Aosta, Belluno, Trento e Bolzano).

Throughout Italy there are furthermore different regional taxes whose level can vary between 0,15 and 0,90 EURO/GJ (0,54 and 3,23 EURO/MWh), but cannot exceed 50% of the level of the corresponding national excise.

The Independent Authority (Autorità per l'energia elettrica e il gas) is going to reform the tariffs for non eligible customers (domestic users); the excise taxes on natural gas for residential uses will be adapted to the new tariff structure not based on different uses.

The VAT regime on natural gas is also differentiated by sectors. VAT rate is now at two different level: 10% and 20% (see table).

For all fuels, VAT is recoverable for industrial and commercial uses.

VAT rates on energy products:

	Power generation	All other uses
<i>HSFO & LSFO</i>	10%	10%
<i>Gasoil</i>	10%	20%
<i>Coal</i>	10%	10%
<i>LPG</i>	10%	20% (*)

(*) 10% for cooking and water heating using cylinders of 10/20 kg.

	Industry	Power generation	
<i>Natural gas</i>	10%	20%	
	Cooking & water heating	Heating	Commercial
<i>Natural gas</i>	10%	20%	20%

At the beginning of 2003 Region Toscana fixed the level of the regional tax above the maximum level allowed (50% of the level of the corresponding national excise) and declared that the Region didn't accept the discount of 40% of the excise tax on natural gas for industrial users consuming more than 1.200.000 mc on an annual basis (introduced by the Budget 2001, Legge Finanziaria 2001). Consequently in 2003 the price of natural gas for industrial users consuming more than 1.200.000 mc was more expensive than 2002 (L 1,63/mc more) and higher than the level fixed by State Law (legislative decree 398/90).

The Region Toscana introduced these changes on the basis of the Constitutional Reform that extended the legislative powers of the Regions, but the consistency of the measure with the limits of regional tax power is doubtful. At the beginning of 2004 Region Toscana reintroduced the discount of 40% on the excise tax for industrial users consuming more than 1.200.000 mc.

Tax differential

The analysis of competitiveness between natural gas and gasoil in the residential and commercial sectors needs to take into account the different situation of the Italian regions as to climate (which is reflected into the specific consumption of each region) and as to the presence of numerous levels of excise tax applied to natural gas.

The combined effect of this two factors is a differentiated level of competitiveness throughout the national territory, and normally natural gas is competitive in comparison with alternative fuels.

Generally speaking, a relevant share of the benefits of tax differential between gasoil and natural gas is transferred to final consumers.

In the industrial sector, tax differentials between natural gas and heavy fuel oils are not substantial; some remarkable exceptions to this set-up are worth noting:

- 1) Power generation, the carbon tax does not change significantly the actual competitiveness ratios between natural gas and fuel oil.
- 2) The Gasoil and LPG allowances for users in some northern provinces (Aosta, Trento, Bolzano and Belluno) and in the mountain areas, which are characterized by rigid climate and by being not reached by the natural gas net have strongly reduced the competitiveness of natural gas in these areas.
- 3) The previous structure of taxation on natural gas for domestic uses shows a reduction in the differences between Northern and Southern regions.

Recent measures

The law 17 april 2003 n° 80 delegated government to reform actual tax system taking into account following main criteria:

- Health and environment safety through the use of ecological energy products.
- Coordination between tax on thermoelectric energy products and tax on electricity
- Gradual reduction in the differences between excises in Northern and Southern regions.

SPAIN

The taxation system and the tax rates are the same than on January 1st. 2003.

All end-users sectors have the same tax rates.

There are not environmental taxes or excise duties linked to pollutant emissions.

VAT is the same for all fuels and uses, even for bottled LPG.

VAT is a recoverable tax except for residential consumers.

Electricity utilities are charged a rate of 5,113% over the official electricity tariffs.

There is no taxation on fuels used for power generation.

SWEDEN

Energy tax changes 1st of January 2004

The energy taxes and the CO₂ tax were increased with 1,65 % according to the development of the consumer price index.

The tax burden on the emission of CO₂ was increased with another 16 % according to the tax change policy resulting in a total increase of 18 %. The industry sector has been compensated by increasing the tax reduction for CO₂ from 75 % to 79 %. Also the transportation sector has been compensated to maintain the tax burden unchanged, except for a minor tax increase on diesel fuel.

In order to promote CHP, the tax on fuel used for heat production in a CHP plant is reduced. No energy tax is applied and the CO₂ tax is reduced to the industry level of 21 %.

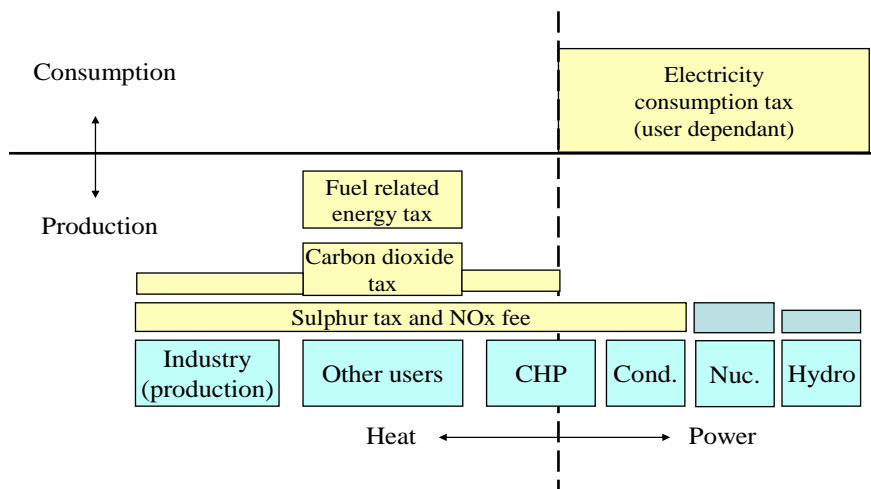
The electricity consumption tax has been raised with 6,2 %.

From the 1st of July the industry shall pay an energy tax of 5 SEK/MWh for the consumption of electricity. The tax is applied to fulfil the minimum level of the EU energy tax directive.

The exchange rate this year is 9,14 SEK/Euro. (Last year 9,18 SEK/Euro)

Existing energy tax system

Energy taxes in Sweden 2004



The Swedish energy tax system includes fuel taxes, nuclear power production taxes, hydro power property tax, electricity consumption taxes and VAT. Renewable energy is not taxed.

The fuel taxes comprise:

- a fuel related energy tax
- a carbon dioxide tax at a level of 100 Euro/ton CO₂
- a sulphur tax at a level of 3,28 Euro/kg S

The fuel taxes at normal level (100 %) are presented in the following table.

	<u>Energy</u> SEK/MWh	<u>CO₂</u> SEK/MWh	<u>Sulphur</u> SEK/MWh	<u>Total</u> SEK/MWh	<u>Total</u> Euro/GJ	<u>Total</u> Euro/MWh
HFO - low sulphur 0,4% S	68,4	242,8	10,1	321,3	9,77	35,15
HFO - high sulphur 0,8% S	68,4	242,8	20,2	331,4	10,07	36,26
Gas oil - max. 0,05 % S	73,9	262,4	0,0	336,4	10,22	36,80
LPG	11,2	213,4	0,0	224,6	6,83	24,57
Natural Gas	21,9	180,2	0,0	202,1	6,14	22,11
Coal 0,5% S	41,6	301,3	20,0	362,9	11,03	39,71
Electricity (consumption)	241,0	0,0	0,0	241,0	7,32	26,37
VAT-rate				25 %	25 %	25 %

The fuel tax levels for different categories of users are:

<u>Sector</u>	<u>Energy tax</u>	<u>CO₂ tax</u>	<u>Sulphur tax</u>
Residential	100 %	100 %	100 %
Commercial	100 %	100 %	100 %
Industry	0	21 %	100 %
Electricity production *)	0	0	100 %
Heat production in CHP	0	21 %	100 %
District heating	100 %	100 %	100 %

*) 5 % of the fuel for electricity from condensing power and 1,5 % of the fuel for electricity from CHP production is defined as auxiliary fuel and taxed at normal level.

The transportation sector is taxed with 100 % CO₂ tax and a considerably higher energy tax. To promote the alternative fuel development for vehicles a lower tax level is applied on methane, natural gas and LPG.

VAT is recoverable for enterprises but not for household customers.

The energy tax and the carbon dioxide tax are revised each year in relation to the development of the consumer's price index.

Apart from specified energy tax, carbon dioxide tax and sulphur tax there is a NO_x fee for units producing useful energy of minimum 25 GWh per year. The NO_x fee (reduced with administration costs) is paid back to the energy producers in relation to the net energy produced. The NO_x fee level is 4,38 Euro/kg NO₂ equivalent.

The carbon dioxide tax, the sulphur tax and the NO_x fee are directly related to the pollution.

The previous subsidy system for electricity produced from renewable energy sources is replaced by a "green certificate" quota system. The intention is to increase the electricity production from renewable energy sources with 10 TWh in the period up to 2010 by increasing the quota each year. Electricity qualified to the certificate system is produced by wind, solar energy, small scale hydro power and biomass and the certificates are traded in a market system. The costs for the certificates are financed by a separate fee on the consumers electricity bill (energy intensive industries are excluded).

The fuels used in combined heat and power plants have got a new tax regime. Each fuel is split in two parts according to the electricity and heat ratio and taxed accordingly. The reduced tax level makes the CHP plants more competitive in the market.

The tax system is in favour of natural gas compared to other fossil fuels in the residential, commercial and district heating sector where the energy taxes and the environmental taxes are applied with their full value.

The continuo increase of the energy tax and the carbon dioxide tax has decreased the competitiveness for natural gas compared to heat production by electricity and by fuels without taxes or with lower taxes. No tax revenues are used to support natural gas.

The energy-suppliers benefit economically by the tax differentials as the market price for fuels include taxes. The customers benefit by the environmental advantages of the tax system.

Previous tax changes

Since 1 January 1995 the following changes in the fuel tax system has been carried through.

1 July 1997 the CO₂ tax level for industry was raised from 25 % to 50 % of the normal level. This was done mainly for increasing the environmental fuel tax profile of the industry sector.

A tax change policy to increase energy taxes and reduce taxes on labour and employment was decided in year 2000. In 10 years the intention is that 3 billion Euro per year shall be exchanged and the first step was taken in January 2001 when a sharp increase of the CO₂ taxes was introduced. In order to compensate the industry, the CO₂ tax level for this sector was reduced to 35 %. The further CO₂ tax increase in 2002, 2003 and 2004 has been compensated for the industry by reducing the CO₂ tax level further to 30 %, 25 % and 21 % respectively.

Proposed changes of the energy tax system

An overview of the entire energy tax system started in 1997 and is still on the agenda. The main intention is to introduce a more stable and reliable taxation framework, to make a clearer split between fiscal taxes and environmental taxes and to promote a stronger environmental profile. A harmonisation with the taxes in other EU countries is also considered important. In January 2001 a report was presented analysing the consequences of a tax change in accordance with this structure where governing environmental taxes are introduced on the production side and fiscal taxes on the consumption side. The work is now focused on the investigation of the consequences for different sectors in a competitive situation to the foreign market, the need for these sectors to obtain a limited tax burden and how this can be implemented according to the EU rules. The proposal for taxes according to this model has been analysed and a new tax system is planned to be introduced in 2006.

The trading system for the emissions of CO₂ according to the EU directive is studied and the objective is a market opening for CO₂ trade in 2005.

Another trading system with so called "white certificates" concerning energy efficiency is also a proposal for further studies.

Industry contracted to increase the energy efficiency will be rewarded with lower energy taxes according to a 5 year plan from the 1st of July 2004.

SWITZERLAND

Current national energy taxes as of 1 January 2004:

Market sector: same taxes for all sectors	EURO/GJ (NCV) 2) 3)	EURO/MWh (NCV) 2) 3)
HFO – low sulphur (<1% S)	0.0629	
- high sulphur	0.0629	
Gas oil	0.0629	
LPG	0.0315	
Natural Gas	0.0288	
Coal		
Electricity		
Other		
VAT-rate (%)	7.6	

Euro-conversion rate for January 2004: 1 EURO = 1.566 CHF

VAT is recoverable for commercial and industrial users, but non recoverable for households.

In addition to the above tax an **emergency stock fee** is charged to heating oil (0.001 CHF/kWh = 0.197 EURO/GJ) and natural gas (0.0002 CHF/kWh = 0.039 EURO/GJ).

General Comments on Current and Foreseen Energy Taxes

Reduction of the sulphur content of petroleum products

A **SO₂ tax** on 'highly' sulphurous heating oil (S content > 0.1%) had been introduced in 1998. The goal was to reduce the sulphur content of heating oil sold in Switzerland. This goal is achieved.

The next step is the introduction of 'sulphur-free' gasoline and diesel fuel. An incentive tax has been introduced on 1 January 2004 in order to promote this switch. The tax amounts to 0.05 CHF/litre and is charged to gasoline and diesel with a sulphur content of more than 10 ppm.

Reduction of CO₂-emissions

The Swiss CO₂ law has been in effect since May 2000. According to it, the CO₂ -emissions must be reduced by 10% (compared to 1990) until the year 2010. Voluntary measures play an important role. In case the goal cannot be met with these measures, a **CO₂ tax** could be introduced in 2004 at the earliest; probable tax rates are:

heating oil: 0.0079 CHF/kWh = 1.557 EURO/GJ (NCV)

natural gas: 0.0059 CHF/kWh = 1.163 EURO/GJ (NCV)

For motor fuels, the tax rates could be as high as:

heating oil: 0.056 CHF/kWh = 11.037 EURO/GJ (NCV)

natural gas: 0.042 CHF/kWh = 8.278 EURO/GJ (NCV)

The CO₂-tax would have to give the correct ecological incentives, not generate public revenue. Thus the revenue would be redistributed to economy and population.

The oil industry and other stakeholders want to prevent the CO₂-tax on motor fuels from being introduced. To that end, they plan to introduce, as a voluntary measure, a '**climate-cent**' (0.01 CHF/litre): This fee would be charged on every litre of gasoline and diesel. 80% of the revenue would be spent for domestic measures to reduce CO₂-emissions. The remaining part would be allocated to the purchase of international CO₂-certificates.

THE NETHERLANDS

- Current National Energy Taxes as of January 1st 2004

Energy:	Euro per energy unit	EURO/GJ (NCV)	EURO/MWh (NCV)
HFO - 1% S)*	0.03251	0.7843	2.8235
Gas Oil**			
0 - 153000 l	0.20650	5.7489	20.6960
>153000 l	0.06699	1.8650	6.7139
LPG**			
0 - 119000 kg	0.18238	3.9648	14.2732
>119000 kg	0.01735	0.3772	1.3578
Natural gas**/**			
0 - 5000 m ³	0.14290	4.5150	16.2540
5001 - 170000 m ³	0.07270	2.2970	8.2692
170001 - 1000000 m ³	0.02270	0.7172	2.5820
1000001 - 10000000 m ³	0.01130	0.3570	1.2853
> 10000000 m ³	0.00750	0.2370	0.8531
Coal	0.01228	0.4190	1.5083
Electricity**/**			
0 - 10000 kWh	0.06540	18.1667	65.4000
10001 - 50000 kWh	0.02120	5.8889	21.2000
50001 - 10000000 kWh	0.00650	1.8056	6.5000
> 10000000 kWh	0.00050	0.1389	0.5000
VAT-rate	19.0%	19.0%	19.0%

* HFO sulphur >1% is no longer in use in the Netherlands.

** Taxes/consumption levels based on annual consumption.

*** All consumers with an electricity connection get a refund of Euro 181.— per connection per year.

Local energy units and calorific values (NCV):

- HFO in terms of florins/kilogram (1 kilogram = 41.45 MJ)
- Gasoil in terms of florins/litre (1 litre = 35.92 MJ)
- LPG in terms of florins/kilogram (1 kilogram = 46 MJ)
- Natural gas in terms of florins/cubic meter (1 cubic meter = 31.65 MJ)
- Coal in terms of florins/kilogram (1 kilogram = 29.31 MJ)
- Electricity in terms of florins/kWh (1 kWh = 3.6 MJ)

- Description/Break down of the total energy taxes as of January 1st 2004

Energy:	Excise duty	Environmental levy	Storage tax	Energy tax
HFO – 1% S)	100.0%	0.0%	0.0%	0.0%
Gas Oil				
0 - 153000 l	22.5%	0.0%	2.9%	74.6%
> 153000 l	69.5%	0.0%	8.8%	21.7%
LPG				
0 - 119000 kg	0.0%	0.0%	0.0%	100.0%
> 119000 kg	0.0%	0.0%	0.0%	100.0%
Natural gas				
0 - 5000 m ³	0.0%	0.0%	0.0%	100.0%
5001 - 170000 m ³	0.0%	0.0%	0.0%	100.0%
170001 - 1000000 m ³	0.0%	0.0%	0.0%	100.0%
1000001 - 10000000 m ³	0.0%	0.0%	0.0%	100.0%
> 10000000 m ³	0.0%	0.0%	0.0%	100.0%
Coal	0.0%	100.0%	0.0%	0.0%
Electricity				
0 - 10000 kWh	0.0%	0.0%	0.0%	100.0%
10001 - 50000 kWh	0.0%	0.0%	0.0%	100.0%
50001 - 10000000 kWh	0.0%	0.0%	0.0%	100.0%
> 10000000 kWh	0.0%	0.0%	0.0%	100.0%

- Different energy taxes for different end-use sectors

Generally spoken there are no different energy taxes for different end-use sectors except for

green house horticulture, power- and co-generation.

Natural gas for horticultural use was exempted from tax up to the end of 1999.

Starting from January 1st 2000 the Government also introduced a tax for this sector, but it is much lower than the normal tax rates. Rates for 2004 see table below:

Natural gas for Horticulture use	Energy tax €/m ³
0 - 5000 m ³	0,01295
5000 - 170000 m ³	0,01207
170000 - 1000000 m ³	0,01144
1000000 - >10000000 m ³	0,01130
>10000000 m ³	0,00750

Power generation and co-generation above 20 MW is exempted from all taxes.

- Description of the VAT-regime; fiscality-regime

The general VAT-rate for energy is 19%. For horticultural uses the VAT-rate is 6%. In The Netherlands the VAT is recoverable for all the business community.

The fiscality applied on undertakings in the energy sector has no impact on energy prices.

- Taxes directly linked to pollution

Energy taxes are not directly linked to pollution. There is no tax premium for natural gas.

Renewable energy sources were not taxed in The Netherlands up to the end of 2003.

January 1st 2004 renewable energy is taxed for about 50%. It is the intention to fully tax all renewables at the beginning of 2005.

- Tax system fair to natural gas/Tax revenues for the promotion of natural gas

In The Netherlands nearly all energy users are connected to the gas grid so it is of no need to

promote natural gas. The tax system also does not really encourages the use of other energy sources.

- Changes in taxes since 1 January 1995

Since 1995 an Ecotax has been introduced in The Netherlands. For natural gas and electricity the first 800 m³/ 800 kWh were free of Ecotax.

January 1st 2001 the Ecotax system on natural gas and electricity changed. Up to the end of 2000 there was a (first) free part of 800 m³ and 800 kWh's per customer/connection per year.

January 1st 2001 these free parts were cancelled and were replaced by an annual refund of € 142.-- per connection per year. For 2004 this refund amounts € 181.-- per year. This refund has no link with the annual consumption of a customer.

January 1st 2004 the so called "Ecotax" has been renamed into "Energy tax". This Energy tax includes the Environmental levy and the Ecotax. Only for coal there still is an Environmental levy.

For HFO the Environmental levy and Excise duty are joined together.

The VAT rate for 2001 went up from 17.5% to 19.0% (January 1st) .

- Changes in taxes foreseen in the near future

No changes in taxation are foreseen in the near future. If increases of taxes will take place they will have no effect on the market position of natural gas.

UNITED KINGDOM

Excise duties are levied on HFO and gas oil. The duties apply uniformly to all market sectors.

VAT is levied at 5% on supplies of fuel and power sold for qualifying use (domestic use and charity non-business use), on small quantities of fuel and power supplied not exceeding prescribed de minimis limits, and on certain mixed use supplies (where there is a dual use of business and qualifying use). All other supplies of fuel and power are subject to VAT at 17.5%. In practice most VAT charged in the commercial and industrial sectors can be reclaimed. VAT is levied on top of the duty and the Climate Change Levy where applied.

It is widely accepted that the measure to introduce, as from 1 April 1994, VAT on domestic fuel was taken primarily to raise revenue although the Government did state that higher taxes discourage consumption and were therefore environmentally desirable.

As part of its commitment under Kyoto, the UK introduced a new environmental measure, Climate Change Levy ("CCL"), with effect from 1st April 2001. CCL is chargeable on the industrial and commercial use of certain taxable commodities for lighting, heating and power purposes at the rates overleaf, and is charged to consumers in the following sectors: Industry, Commerce, Agriculture, Public Administration and Other Services. Taxable commodities are Electricity, Natural Gas (as supplied by a gas utility), Petroleum and Hydrocarbon gas in a liquid state, Coke, and semi-coke of coal or lignite, and Petroleum Coke. CCL is a single-stage tax and is non-recoverable by the consumer/user. It therefore represents a cost to business.

CCL does not apply to the domestic use of energy (or in general on other supplies qualifying for the reduced rate of VAT). In addition, electricity produced in good quality heat and power plants as well as that generated from 'new' forms of renewable sources such as wind and power is exempt from CCL. Certain other types of supplies, such as supplies not used as fuel and supplies used to produce taxable commodities other than electricity are also exempt from CCL. As CCL is consumption based, wholesale supplies fall outside the scope of the levy.

Energy intensive sectors, which have concluded climate change agreements that meet the Government's criteria, are subject to a reduced rate of CCL. This rate is equivalent to 20 per cent of the standard rate (rates shown below). A rate of 50% of the standard rate is also chargeable on certain supplies to eligible horticultural producers.

In order to ensure that domestic consumption of energy is not subject to CCL, the levy is imposed at the time of supply to commercial and industrial consumers.

CCL was designed to be revenue neutral, and, on introduction, was offset by a reduction in employer national insurance contributions. Since its introduction, however, increases to both employer and employee national insurance contributions have been announced (2002 Budget).

Taxable Commodity Supplied	Rate at which levy payable if supply is not a reduced-rate-supply
Electricity	£0.0043 per KWh
Gas supplied by a gas utility or any gas supplied in a gaseous state that is of a kind supplied by a gas utility	£0.0015 per kWh
Any petroleum gas or other gaseous hydrocarbon, supplied in a liquid state	£0.0096 per kilogram
Any other taxable commodity	£0.0117 per kilogram

The rate applied to coal is the same as for gas. This is seen as being anti-competitive given the environmental differences between the two sources of fuel. Natural gas is coming under pressure, although there are no imminent changes expected.

UK oil and gas production is subject to Petroleum Revenue Tax ("PRT") of 50% and ring fence corporation tax ("CT") of 40%. PRT is deductible in computing ring fence CT. There are special rules regarding the valuation of non-arm's length sales. Fields which obtained development consent after 16 March 1993 are not subject to PRT.

North Sea royalties were abolished with effect from 31 December 2002.

EURO Rates used in the Energy Taxation Survey

January 2003 monthly average

COUNTRY:	1 EURO =	National Currency Unit:
DENMARK	7,44	DKK
SWEDEN	9,14	SEK
SWITZERLAND	1,566	CHF
UNITED KINGDOM	0,65711	GBP