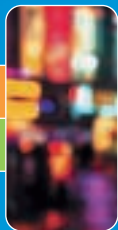
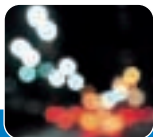


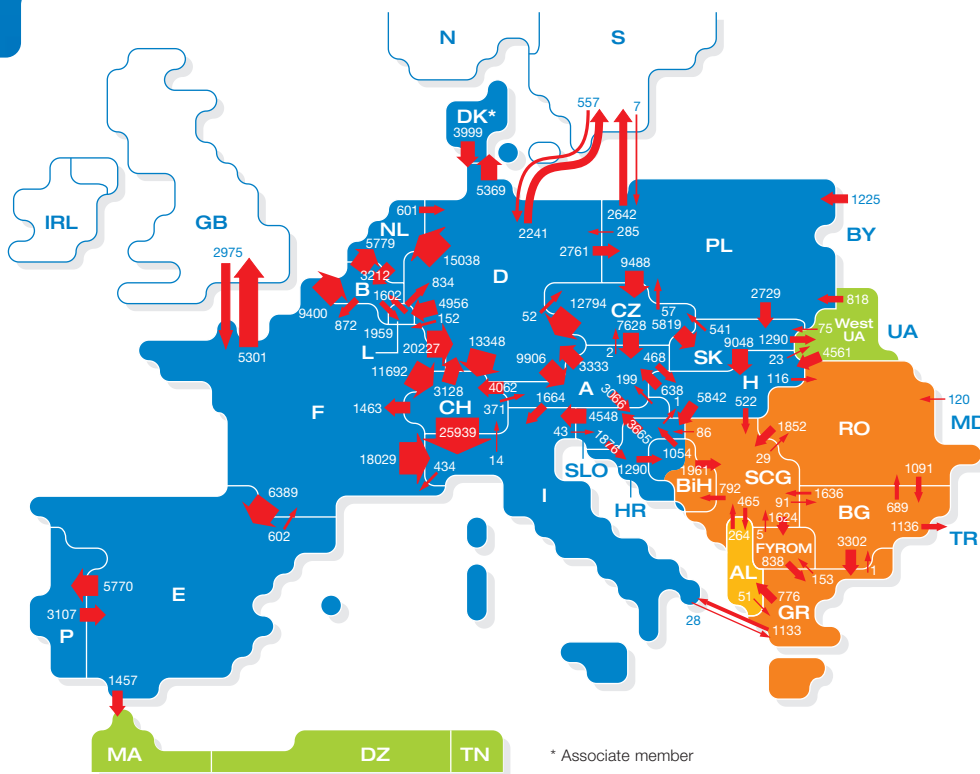
UCTE



provisional values as of 31.03.2004

Memo 2003

union for the co-ordination of transmission of electricity



- 1st synchronous UCTE region
- Synchronous Operation with 1st UCTE region
- 2nd synchronous UCTE region
- Synchronous Operation with 2nd UCTE region

	Import	Export
B	14 571	8 253
D	45 758	53 823
E	9 496	7 829
F	6 498	71 038
GR	4 219	2 063
I	51 313	519
SLO	6 774	6 623
HR	8 858	4 956
BiH	2 082	3 015
FYROM	1 777	843
SCG	6 240	3 087
L	6 558	2 793
NL	20 817	3 813
A	18 742	12 595
P	5 770	3 107
CH	29 116	30 901
CZ	10 083	26 298
H	14 078	7 141
PL	4 868	15 144
SK	8 623	10 879
RO	954	2 943
BG	1 183	6 763
UCTE	278 378	284 426
West UA	1 313	5 454

* Associate member

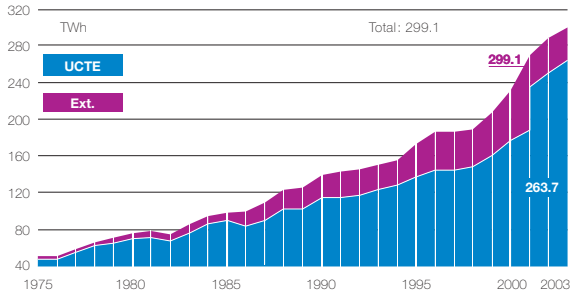
Values in GW/h

Exchange balance	B	D	E	F	GR	I	SLO	HR	BiH	FYROM	SCG	L	NL	A	P	CH	CZ	H	PL	SK	RO	BG	UCTE	West UA
2003	6 318	-8 065	1 667	-64 540	2 156	50 794	151	3 902	-933	934	3 153	3 765	17 004	6 147	2 663	-1 785	-16 215	6 937	-10 276	-2 256	-1 989	-5 580	-6 048	-4 141
2002	7 501	688	5 740	-75 766	2 914	50 660	-1 254	3 523	-1 017	n.a.	4 478*	3 625	16 368	1 760	1 779	-3 247	-11 396	4 258	-7 066	-4 172	n.a.	n.a.	-624	n.a.

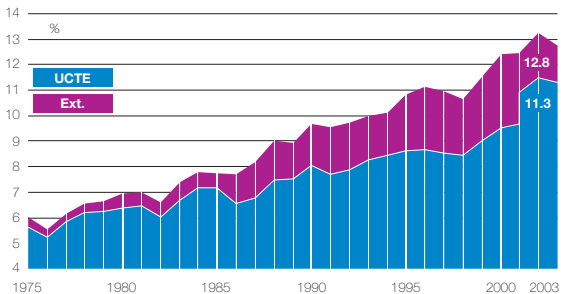
The above values have been harmonized between the countries concerned and may therefore differ from the official national statistics

* Value of 2002 represents data from JIEL system (RFY + FYROM)

Sum of electricity exchanges of the UCTE in TWh



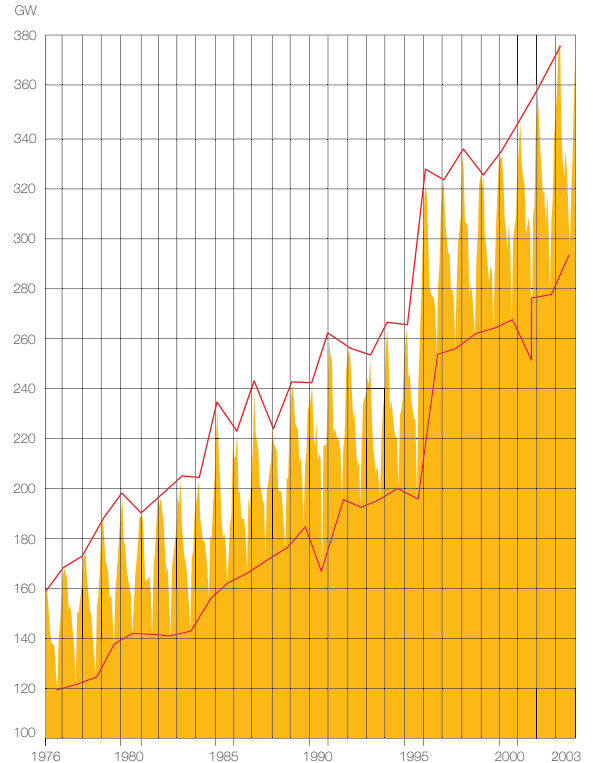
Part of exchanges in the consumption in %



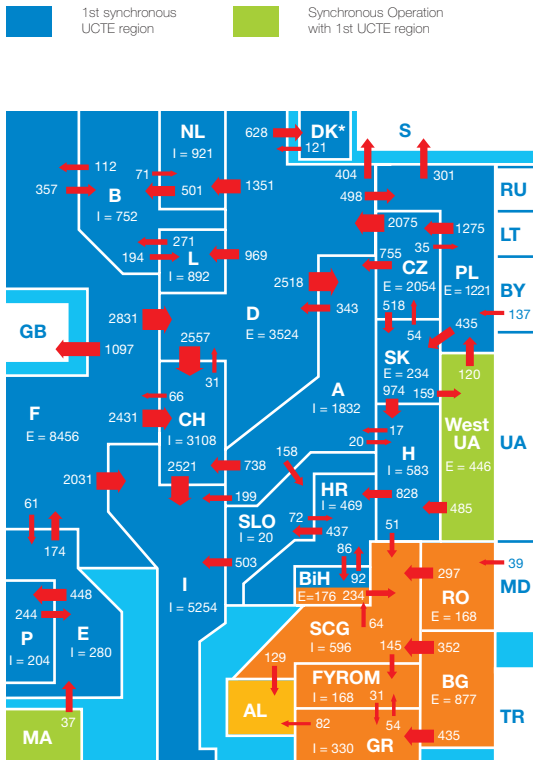
From year 2001 sum of exchanges include CENTREL countries CZ, H, PL, SK

From year 2003 sum of exchanges include RO and BG

Ext. = exchanges with third countries

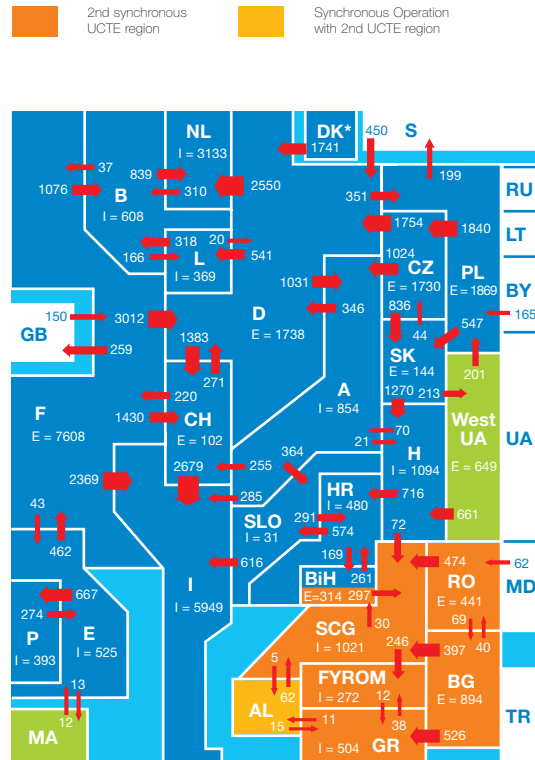


* With CENTREL-countries from 10/1995 on and Denmark from 01/1990 on



Sum of load flows : **UCTE = 31 604 MW**
 Total = 35 343 MW

Values in MW



Sum of load flows : **UCTE = 33 254 MW**
 Total = 37 473 MW

Values in MW

Countries		B	D	E	F	GR	I	SLO	HR	BIH	FYROM	SCG	L	NL	A	P	CH	CZ	H	PL	SK	RO	BG	UCTE	West UA ³	
Net production																										
Hydropower	TWh	1.3	20.4	43.1	58.6	5.2	43.5	2.7	4.9	4.5	1.3	10.7	1.0	0.0	30.5	16.2	36.4	1.8	0.2	3.2	3.5	13.0	3.3	305.2	0.1	
Thermal nuclear	TWh	45.1	155.4	59.2	420.2	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	25.9	24.4	10.4	0.0	16.5	4.9	17.3	788.0	0.0	
Thermal conventional	TWh	33.0	346.8	125.2	44.5	43.3	235.7	4.6	7.0	6.7	5.0	25.8	2.6	89.6	18.2	24.6	2.9	50.5	21.0	147.6	8.9	34.0	22.2	1 299.4	7.3	
Total	TWh	79.4	522.6	227.6	523.4	48.5	279.2	12.2	11.9	11.2	6.3	36.5	3.6	93.4	48.7	40.8	65.3	76.7	31.6	150.8	28.9	51.9	42.8	2 392.6	7.4	
Production representativity ²	%	99	94	94	97	93	100	95	100	99	100	96	98	100	84	91	100	100	100	100	100	100	100	100	100	100
Consumption																										
Consumption	TWh	84.3	506.7	224.1	449.7	49.8	319.6	12.4	15.4	12.5	6.3	39.2	6.1	110.4	51.3	43.1	60.1	59.9	38.4	138.3	26.4	49.7	36.7	2 340.6	4.1	
Cons. representativity ²	%	99	94	94	97	93	100	95	100	0.1	0.1	96	99	100	90	91	100	100	100	100	100	100	100	100	100	100
Δ% ¹	%	0.7	1.6	6.1	4.0	3.8	3.0	5.7	4.8	n.a.	n.a.	n.a.	8.0	2.7	1.3	5.9	2.8	-2.3	3.3	3.3	0.9	n.a.	n.a.	3.0	n.a.	

Peak load on 3rd Wednesday of December 2003

Peak load	MW	12 780	76 600	35 648	74 070	8 063	51 371	1 920	2 602	1 681	1 284	6 699	880	13 941	8 546	7 532	9 181	9 584	5 862	22 139	4 194	7 542	5 999	362 313	851	
Peak load representativity ²	%	100	91	94	97	93	100	95	100	100	100	96	99	90	82	91	100	100	100	100	100	100	100	100	100	100
Δ% ¹	%	-2.6	1.1	5.6	1.6	-10.2	0.9	4.0	-0.8	n.a.	n.a.	n.a.	-1.4	-6.6	-0.5	9.8	-3.0	-1.8	-0.2	-2.2	0.5	n.a.	n.a.	1.9	n.a.	

Maximum output capacity as of 31.12.2003

Hydropower	MW	1 413	8 500	18 001	24 020	3 060	20 527	840	2 063	n.a.	418	3 497	1 128	37	11 700	4 554	13 295	2 128	48	2 192	2 429	5 970	n.a.	125 820	27
Thermal nuclear	MW	5 801	20 100	7 574	63 363	0	0	670	0	n.a.	0	0	0	449	0	0	3 220	3 537	1 755	0	2 640	655	n.a.	109 764	0
Thermal conventional	MW	8 206	67 000	27 838	23 172	7 073	55 280	1 262	1 956	n.a.	907	6 400	474	18 045	5 900	5 723	305	10 526	5 657	29 451	2 290	9 775	n.a.	287 240	2 347
Renewable energy sources	MW	248	4 500	6 023	297	0	1 511	0	0	n.a.	0	0	43	1 228	670	387	290	11	28	73	2.4	0	n.a.	15 311	
Not unambiguously identified energy sources																									
identified energy sources	MW	0	0	0	0	264	0	0	0	n.a.	0	0	0	800	0	0	225	0	510	0	698	0	n.a.	2 497	0
Total	MW	15 668	100 100	59 436	110 852	10 397	77 318	2 772	4 019	n.a.	1 325	9 897	1 645	20 559	18 270	10 664	17 335	16 202	7 998	31 716	8 059.4	16 400	n.a.	540 632	2 374
Representativity of the values	%	99	90	100	97	88	100	100	100	n.a.	100	96	96	100	100	92	100	100	100	100	100	100	100	n.a.	100

Number of 220 kV and 380 kV circuits on cross-frontier transmission lines on 31. December 2003

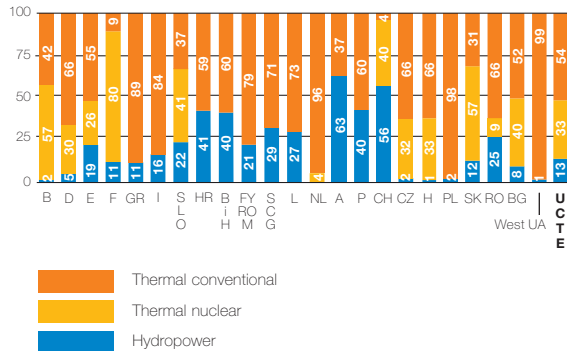
	F	I	SLO	HR	FYROM	BIH	SCG	L	NL	A	P	CH	CZ	H	PL	SK	RO	BG	West UA
B	2/2							2/-	-/4										
D	2/4							8/-	-/6	11/3		5/7	-/4		2/2				
E	2/2										3/2	5/5							
F		3/3																	
GR		-/1			-/1														-/1
I			1/1							1/-		6/2							
SLO				2/3						1/2									
HR					7/2		-/1							-/2					
SCG					2/1	3/1								-/1				-/1	-/1
A											2/2	2/1		2/1					
CZ															2/2	2/3			
H															-/2	-/1			2/1
PL															-/2				1/1
SK																			-/1
RO																			1/3
BG																			-/2

220 kV / 380 kV

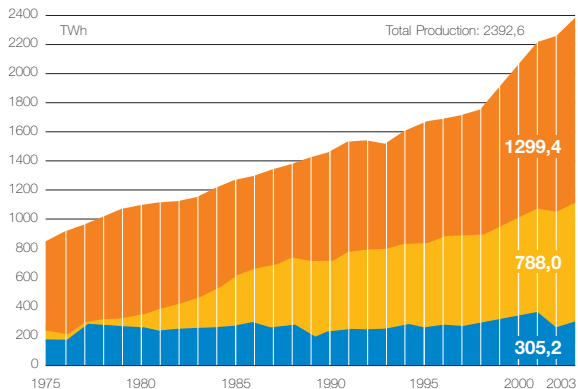
- As compared to last year and representativity 100 %
- Percentage as referred to total values in %
- West UA represents the Burshtyn Island synchronously interconnected with UCTE

Production

Structure of production in each country in %

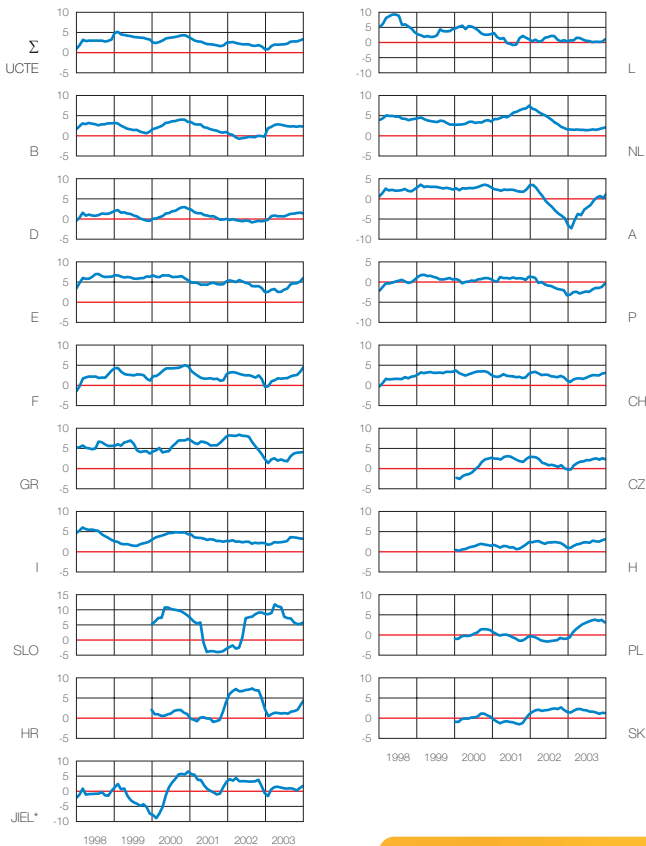


Net production in TWh



Consumption

Variation of the last 12 months' consumption in %



* JIEL = FRY + FYROM (Federal Republic of Yugoslavia and Former Yugoslav Republic of Macedonia)

Austria	TIRAG VERBUND APG VKW UNG	Tiroler Regelzone AG Verbund – Austrian Power Grid VKW-Übertragungsnetz-AG
Belgium	Elia	Elia System Operator SA/NV
Bosnia-Herzegovina	JPCO	Joint Power Coordination Center
Bulgaria	NEK	Natsionalna Elektricheska Kompania EAD
Croatia	HEP	Hrvatska Elektroprivreda d. d.
Czech Republic	CEPS	CEPS, a.s.
France	RTE	Gestionnaire du Réseau de Transport d'Electricité
FYROM	ESM	Elektrostopastvo na Makedonija
Germany	EnBW Transportnetz E.ON Netz RWE Transportnetz Strom VE Transmission	EnBW Transportnetz AG E.ON Netz GmbH RWE Transportnetz Strom AG Vattenfall Europe Transmission GmbH
Greece	HTSO / DESMIE	Hellenic Transmission System Operator / Diachristis Elinikou Sistimatos Metaforas Ilctrikis Energias
Hungary	MAVR Rt.	Magyar Villamosenergia-ipari Rendszerirányító Rt.
Italy	GRTN	Gestore della Rete di Trasmissione Nazionale
Luxembourg	CEGEDEL	Compagnie Grand Ducale d'Electricité du Luxembourg
The Netherlands	TENNET	TenneT bv
Poland	PSE	Polskie Sieci Elektroenergetyczne SA
Portugal	REN	Rede Eléctrica Nacional, S.A.
Romania	Transelectrica	Transelectrica S.A.
Serbia-Montenegro	EPCG EPS	Elektroprivreda Crne Gore Elektroprivreda Srbije
Slovak Republic	SEPS	Slovenská Elektrizačná prenosová sústava a.s.
Slovenia	ELES	Elektro Slovenija
Spain	REE	Red Eléctrica de España S.A.
Switzerland	ATEL BKW UTN EGL Grid EOS ETRANS NOK	Aare-Tessin Ltd. for Electricity BKW Übertragungsnetz AG EGL Grid AG Energie Ouest Suisse ETRANS AG Nordostschweizerische Kraftwerke AG
Denmark	ELTRA *	Eltra

* Associate member

	Assembly	
	33 TSOs from 22 countries Chairman : Martin Fuchs (D)	
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<i>System Development</i> Convener : G. de Montravel (F)	– East of CENTREL – Mediterranean Ring – Turkey – Study Tool	<i>Ad-hoc WG Albania Issues</i> Convener : G. Katsigiannakis (GR)
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* joint Task Force
UCTE/EURELECTRIC

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The »Union for the Co-ordination of Transmission of Electricity« (UCTE) is an association of transmission system operators in continental Europe, providing a reliable market base by efficient and secure electrical »power highways«. The interconnected system ensures the technical condition for the reliable operation, and provides benefit for all market participants because TSOs guarantee market access.

For more than fifty years UCTE has been coordinating by a variety of technical rules and recommendations the international operation of high voltage grids that all work with one »heart beat«: the 50 Hz UCTE frequency. UCTE is committed to the development of the system to meet all new market requirements keeping a high reliability of the system. The UCTE network brings a safe electricity supply for some 450 million people. Therefore UCTE handles one of the biggest electrical synchronous interconnections worldwide. This technical solution provides the possibility of the free market operation.

The members of UCTE are the companies responsible for synchronous frequency system interconnection in *Belgium, Germany, Spain, France, Greece, Italy, Slovenia, Croatia, Serbia and Montenegro, the FYROM, Luxembourg, The Netherlands, Austria, Portugal, Switzerland, Poland, the Slovak Republic, the Czech Republic, Hungary, Romania and Bulgaria*. Since October 2001, the system operator of *Denmark* has been associated member of the UCTE.



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