

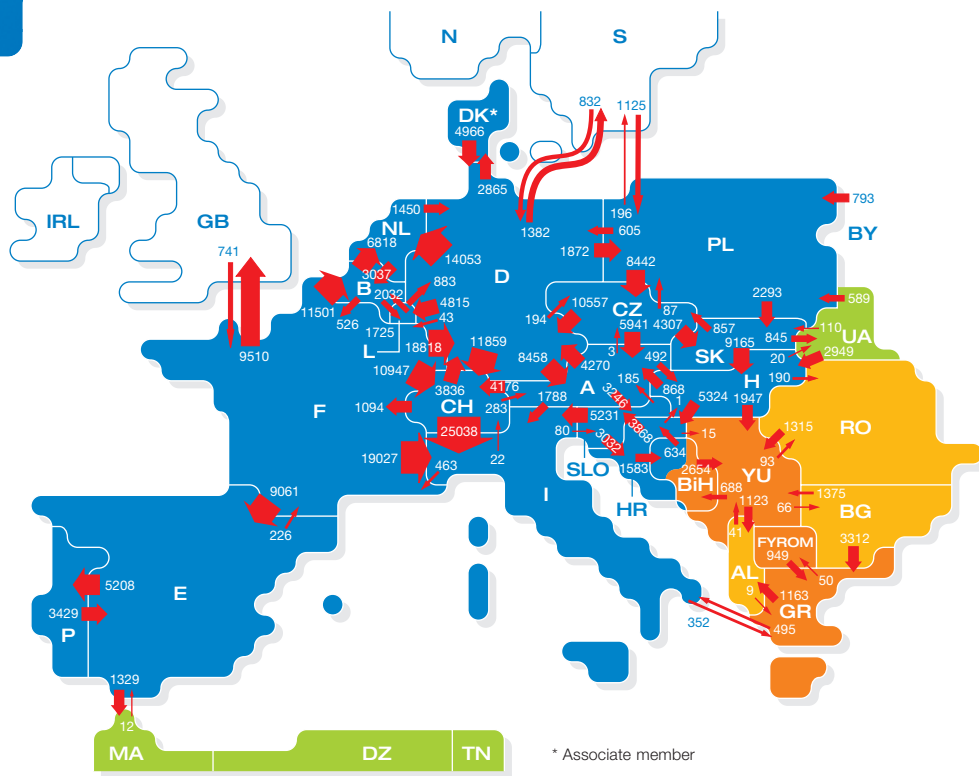
UCTE



provisional values as of 15.03.2003

Memo 2002

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	16570	9069
D	46217	45529
E	12502	6763
F	3093	78864
GR	4622	1708
I	51577	917
SLO	7194	8448
HR	8990	5467
BIH	2271	3288
JIEL*	7397	2919
L	6540	2915
NL	20870	4488
A	15735	13975
P	5208	3429
CH	27004	30251
CZ	9496	20892
H	12607	8349
PL	4466	11538
SK	6710	10867
UCTE	269 069	269 676

Values in GWh

Exchange balance

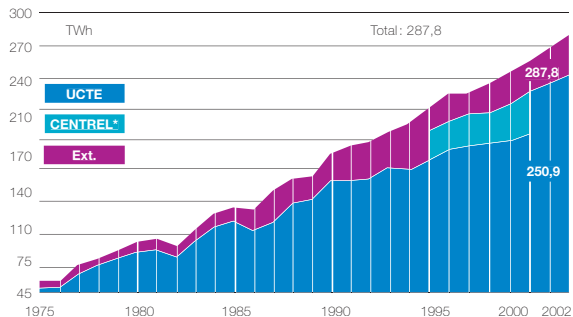
	B	D	E	F	GR	I	SLO	HR	BIH	JIEL*	L	NL	A	P	CH	CZ	H	PL	SK	UCTE
2002	7501	688	5739	-75771	2914	50660	-1254	3523	-1017	4478	3625	16382	1760	1779	-3247	-11396	4258	-7072	-4157	-607
2001	9000	-1280	3818	-67322	2509	48479	-1787	3193	-1559	4231	5465	17284	1480	150	-9401	-9535	3175	-7384	-3681	-3165

Values in GWh

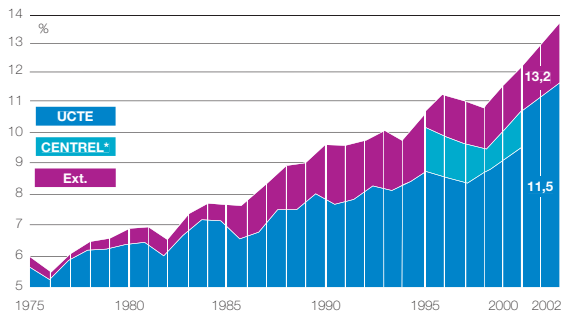
The above values have been harmonized between the countries concerned and may therefore differ from the official national statistics

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

Sum of electricity exchanges of the UCTE in TWh

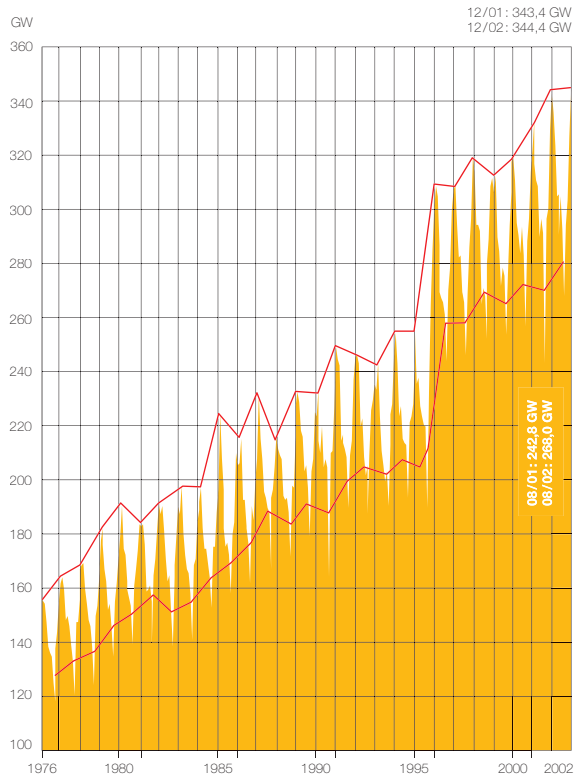


Part of exchanges in the consumption in %



- UCTE = Sum of exchanges between the UCTE countries
- CENTREL = Sum of exchanges between the UCTE countries and CENTREL
- Ext. = Exchanges with third countries

* CENTREL = CZ + H + PL + SK



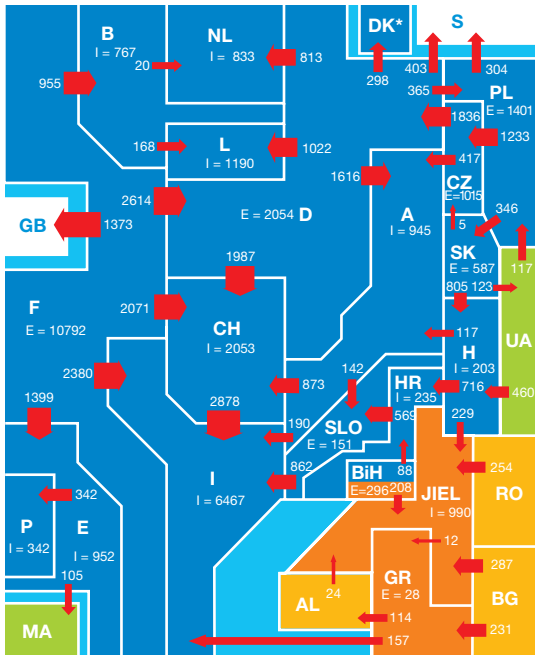
* With CENTREL-countries from 10/1995 on and Denmark from 01/1990 on

1st synchronous UCTE region

Synchronous Operation with 1st UCTE region

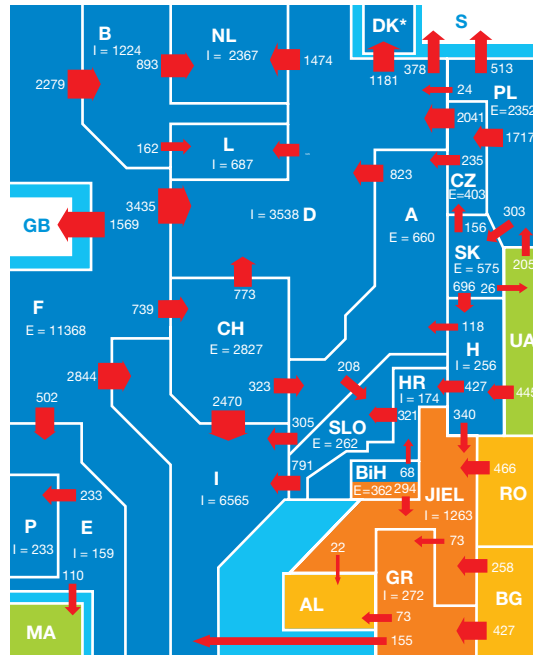
2nd synchronous UCTE region

Synchronous Operation with 2nd UCTE region



Sum of load flows: **UCTE = 27435 MW**
Total = 31528 MW

Values in MW



Sum of load flows: **UCTE = 25747 MW**
Total = 31420 MW

Values in MW

Countries	B	D	E	F	GR	I	SLO	HR	JIEL ⁴	L	NL	A ³	P	CH ³	CZ	H	PL	SK	UCTE	
Net production																				
Hydropower	TWh	1,5	23,8	26,0	60,2	3,4	47,4	3,0	5,4	12,5	1,0	0,0	35,1	8,3	36,6	2,8	0,2	3,4	5,3	275,9
Thermal nuclear	TWh	45,1	155,0	60,3	415,5	0,0	0,0	5,3	0,0	0,0	0,0	3,7	0,0	0,0	25,7	17,6	13,1	0,0	16,5	757,8
Thermal conventional	TWh	30,6	325,1	125,6	40,9	41,6	222,9	4,7	5,9	28,7	2,6	88,5	16,1	31,1	2,6	50,0	19,6	130,0	8,7	1175,2
Total	TWh	77,2	503,9	211,9	516,6	45,0	270,3	13,0	11,3	41,2	3,6	92,2	51,2	39,4	64,9	70,4	32,9	133,4	30,5	2208,9
Production representativity ²	%	100	94	94	97	91	100	95	100	96	98	100	84	91	100	100	100	100	100	97
Consumption																				
Consumption	TWh	83,2	498,6	210,3	432,4	47,0	310,4	11,7	14,7	44,6	6,1	108,5	50,7	40,7	58,5	58,5	37,2	124,1	26,1	2163,3
Consumption representativity ²	%	99	94	94	97	91	100	95	100	96	99	100	90	91	100	100	100	100	100	97
Δ% ¹	%	0,4	0,8	2,3	-1,1	2,0	1,8	8,7	2,3	-0,7	1,9	0,8	-7,0	1,6	1,0	-0,3	1,1	-1,0	1,3	0,4
Peak load on 3rd Wednesday of December 2002																				
Peak load	MW	13128	75800	33187	72873	7480	50789	1846	2463	7763	760	14925	8589	6196	9173	9763	5826	22627	4174	341063
Peak load representativity ²	%	100	91	94	97	91	100	95	100	96	99	90	82	87	100	100	100	100	100	100
Δ% ¹	%	6,9	1,1	-5,7	-2,8	-3,3	-1,0	3,2	-9,2	-6,4	-11,3	8,5	8,5	-11,7	-2,4	5,7	0,5	2,9	-2,1	-0,5
Energy capability factor		-	1,24	-	-	0,72	0,90	1,05	1,05	0,96	-	-	-	0,75	1,05	-	-	-	1,22	0,99
Maximum output capacity as of 31.12.2002																				
Hydropower	MW	1413	8500	18054	23864	3060	20439	774	2075	3893	1128	37	11160	4430	13285	2123	46	2156	2430	118867
Thermal nuclear	MW	5761	20700	7566	63273		0	685	0	0		449		0	3200	2567	1772		2640	108613
Thermal conventional	MW	8226	68200	26355	23533	6776	55100	1074	1631	6753	460	17954	5620	5095	295	10503	5421	31686	2296	276978
Renewable energy sources	MW	223	4000	5259	424	174	1411				20	1101		271		6		59		12948
Not unambiguously identified energy sources																				
Total	MW	15623	101400	57234	111094	10010	76950	2533	3706	10646	1608	20341	16860	9796	17068	15199	7626	33901	8062	519657
Representativity of the values	%	99	90	100	97	91	100	100	100	96	99	100	91	91	100	100	100	100	100	97

Number of 220 kV and 380 kV circuits on cross-frontier transmission lines on 31.12.2002

	F	I	SLO	HR	FYROM	BIH	JIEL ⁴	L	NL	A	P	CH	CZ	H	PL	SK	
B	2/2							2/-	-/4								
D	2/4							8/-	-/6	11/3		5/7	-/4		2/2		
E	2/2										3/2						
F	3/3											5/5					
GR	-/1				-/1												
I		1/1								1/-		6/2					
SLO			2/3							1/2							
HR				7/2		-/1								-/2			
JIEL	2/1		3/1											-/1			
220kV/380kV											A	2/2	2/1				
															CZ	2/2	2/3
															H	-/2	
															PL	-/2	

1 As compared to last year and representativity 100 %

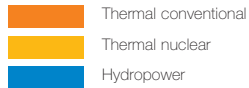
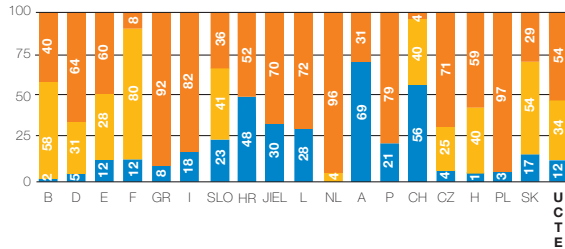
2 Percentage as referred to total values in %

3 Maximum output capacity as of 31.12.2001

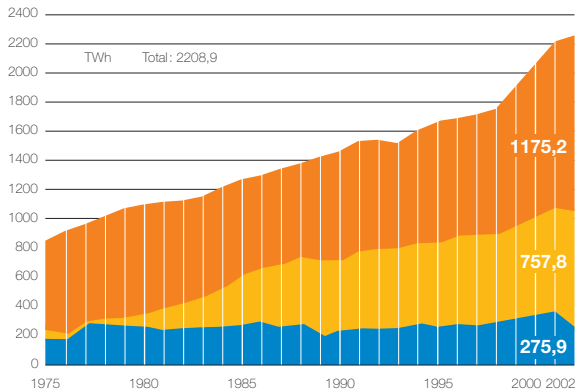
4 JIEL = FRY + FYROM (Federal Republic of Yugoslavia and Former Yugoslav Republic of Macedonia)

Production

Structure of production in each country in %

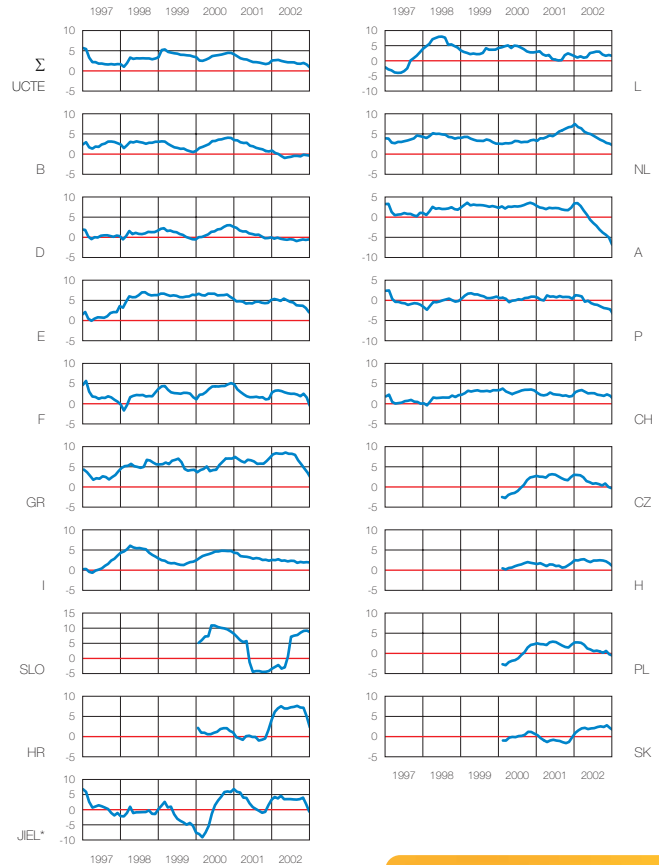


Net production in TWh



Consumption

Variation of the last 12 months' consumption



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

Austria	TIRAG VERBUND APG VKW	<i>Tiroler Regelzone AG Verbund – Austrian Power Grid VKW-Übertragungsnetz-AG</i>
Belgium	Ela	<i>Ela System Operator SA / NV</i>
Bosnia-Herzegovina	JPOC	<i>Joint Power Coordination Center</i>
Croatia	HEP	<i>Hrvatska Elektroprivreda d. d.</i>
Czech Republic	CEPS	<i>CEPS, a.s.</i>
France	RTE	<i>Gestionnaire du Réseau de Transport d'Electricité</i>
FRY	EPCG EPS	<i>Elektroprivreda Crne Gore Elektroprivreda Srbije</i>
FYROM	ESM	<i>Elektroprivreda na Makedonija</i>
Germany	EnBW Transportnetz E.ON Netz RWE Net Vattenfall Europe Transmission	<i>EnBW Transportnetz AG E.ON Netz GmbH RWE Net AG Vattenfall Europe Transmission GmbH</i>
Greece	HTSO / DESMIE	<i>Hellenic Transmission System Operator / Diachristis Elinikou Sistimatos Metaforas Ilektrikis Energias</i>
Hungary	MVM Rt.	<i>Magyar Villamos Művek Rt.</i>
Italy	GRTN	<i>Gestore della Rete di Trasmissione Nazionale</i>
Luxembourg	CEGEDEL	<i>Compagnie Grand Ducale d'Electricité du Luxembourg</i>
The Netherlands	TENNET	<i>TenneT bv</i>
Poland	PSE	<i>Polskie Sieci Elektroenergetyczne SA</i>
Portugal	REN	<i>Rede Eléctrica Nacional, S.A.</i>
Slovak Republic	SEPS	<i>Slovenská Električná prenosová sústava</i>
Slovenia	ELES	<i>Elektro Slovenija</i>
Spain	REE	<i>Red Eléctrica de España S.A.</i>
Switzerland	ATEL BKW FMB Energie EGL Grid EOS ETRANS NOK	<i>Aare-Tessin Ltd. for Electricity BKW FMB Energie AG / BKW FMB Energie S.A. EGL Grid AG Energie Quest Suisse ETRANS AG Nordostschweizerische Kraftwerke AG</i>
Denmark	ELTRA *	<i>Eltra</i>

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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 they 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, but without losses in terms of reliability for the existing system. The UCTE network brings a safe electricity supply for some 400 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, the Federal Republic of Yugoslavia, Bosnia-Herzegovina, the FYROM, Luxembourg, The Netherlands, Austria, Portugal, Switzerland, Poland, the Slovak Republic, the Czech Republic and Hungary*. Since October 2001, the system operator of *Denmark* has been associated member of the UCTE.



UCTE

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