



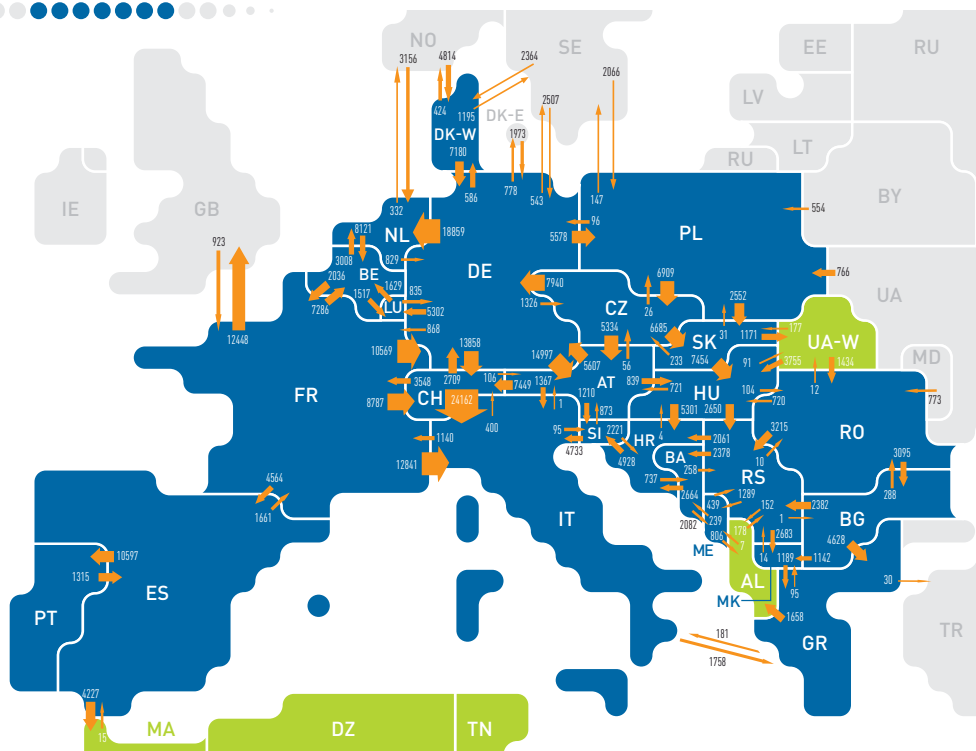
Memo 2008

provisional values as of 14 April 2009

UCTE 

Physical energy flows

2008



	Import	Export
AT	22 033	16 528
BA	3 354	5 004
BE	17 036	6 561
BG	3 096	8 440
CH	30 494	30 525
CZ	8 524	19 986
DE	40 245	62 695
DK_W	7 764	8 799
ES	5 894	16 485
FR	10 176	56 495
GR	7 575	1 964
HR	12 247	5 669
HU	12 772	8 867
IT	43 284	3 394
LU	6 819	2 464
ME	3 378	1 484
MK	3 920	1 203
NL	25 023	9 282
PL	9 021	9 704
PT	10 597	1 315
RO	2 609	7 042
RS	9 136	8 574
SI	6 233	7 827
SK	9 414	8 889
UCTE	310 644	309 196
UA_W	1 274	5 366

Values in GWh

- UCTE region
- Synchronous operation with UCTE region

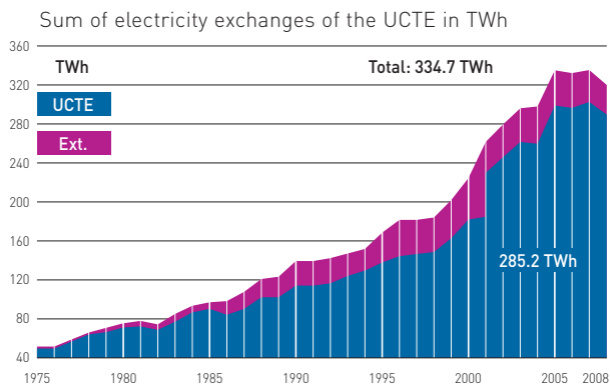
Exchange balance

	AT	BA	BE	BG	CH	CZ	DE	DK_W	ES	FR	GR	HR	HU	IT	LU	ME	MK	NL	PL	PT	RO	RS	SI	SK	UCTE¹	UA_W
2008	5505	-1 650	10 475	-5 344	-31	-11 462	-22 450	-1 035	-10 591	-46 319	5 611	6 578	3905	39 810	4 355	1 894	2 717	15 741	-683	9 282	-4 433	562	-1 594	525	1 448	-4 092
2007	6912	-601	6 660	-4 463	-893	-16 145	-19 115	-1 773	-5 302	-55 105	4 355	6 343	3984	46 153	3 959	2 650	2 483	17 582	-3 555	7 329	-2 086	275	426	1 726	947	-3 949

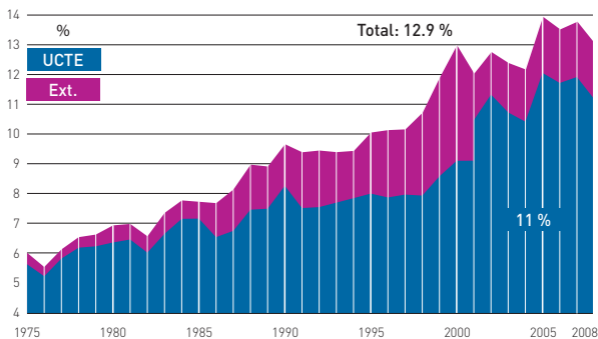
The above values have been harmonized between the countries concerned and may therefore differ from the official national statistics

¹From June 2007 UCTE import, export and balance include DK_W

Development of exchanges



Part of exchanges in the consumption in %



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

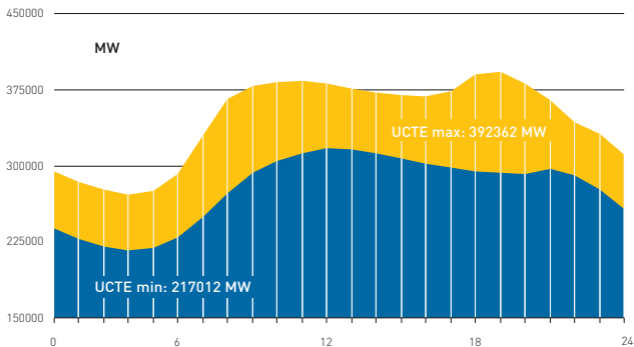
From year 2003 sum of exchanges include RO and BG

From June 2007 sum of exchanges UCTE include DK_W

Ext. = exchanges with third countries

Consumption on the 3rd Wednesday 2008

UCTE min/max load diagrams on 3rd Wednesday 2008¹




Min/Max load of each country on 3rd Wednesday 2008 in MW¹

	lowest value	highest value
AT	4 591	9 205
BA	929	1 894
BE	8 209	13 300
BG	3 040	6 771
CH	4 947	9 858
CZ	5 701	9 804
DE	48 684	82 231
DK_W	1 554	3 664
ES	22 913	42 588
FR	36 824	84 239
GR	4 070	9 007
HR	1 332	2 839
HU	3 356	6 286

	lowest value	highest value
IT	25 997	52 632
LU	501	1 052
ME	346	715
MK	660	1 431
NL	9 127	17 712
PL	12 294	21 901
PT	4 197	8 860
RO	5 176	8 439
RS	2 554	6 520
SI	990	1 918
SK	2 603	4 275
UCTE	217 012	392 362
UA_W	373	944

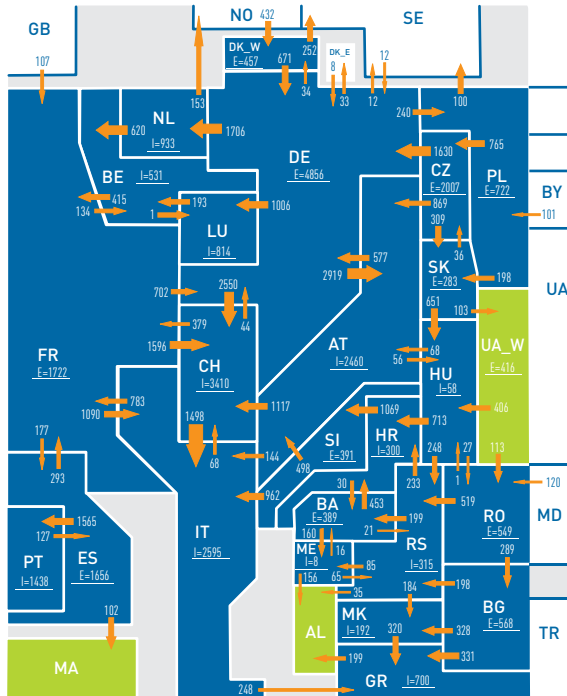
 UCTE min. load on 20.08.2008

 UCTE max. load on 16.01.2008

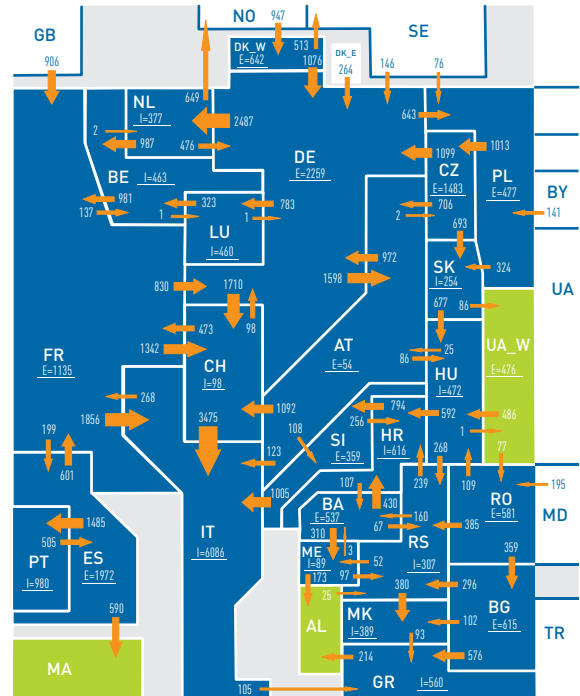
¹ Values are calculated to represent 100 % of the national values

Load flows **night** 17 December 2008, 3.00 h¹

Load flows **day** 17 December 2008, 11.00 h¹



Values in MW



Values in MW

■ UCTE region

■ Synchronous operation with UCTE region

¹ CET (Central European Time)

I = Import balance

E = Export balance

Sum of physical power flows:

UCTE = 32 428 MW
Total = 34 872 MW

Sum of physical power flows:

UCTE = 36 042 MW
Total = 41 531 MW

Austria	TIWAG-Netz	TIWAG-Netz AG
	VERBUND APG	Verbund - Austrian Power Grid AG
	VKW-Netz AG	VKW-Netz AG
Belgium	Elia	Elia System Operator SA/NV
Bosnia-Herzegovina	ISO BiH	Nezavisni operator sustava u Bosni i Hercegovini
Bulgaria	ESO-EAD	Electroenergien Sistemen Operator EAD
Croatia	HEP-OPS	HEP-Operator prijenosnog sustava d.o.o.
Czech Republic	CEPS	CEPS, a.s
Denmark West	Energinet.dk	Energinet.dk
France	RTE	RTE EDF Transport S.A.
FYROM	MEPSO	Macedonian Transmission System Operator
Germany	EnBW TNG	EnBW Transportnetze AG
	E.ON Netz	E.ON Netz GmbH
	RWE TSO	RWE Transportnetz Strom GmbH
	VE Transmission	Vattenfall Europe Transmission GmbH
Greece	HTSO/DESMIE	Hellenic Transmission System Operator/ Diachristis Elinikou Sistimatos Metaforas Ilectrikis Energias
Hungary	MAVIR ZRt.	MAVIR Magyar Villamosenergia-igari Atviteli Rendszerirányító Zártkörűen Működő Részvénytársaság
Italy	Terna S.p.A.	Terna - Rete Elettrica Nazionale SpA
Luxembourg	CEGEDEL Net S.A.	Compagnie Grand Ducale d'Electricité du Luxembourg
The Netherlands	TenneT	TenneT TSO B.V.
Poland	PSE Operator	PSE Operator S.A.
Portugal	REN	Rede Eléctrica Nacional, S.A.
Romania	Transelectrica	C.N. Transelectrica S.A.
Serbia	JP EMS	JP Elektromreža Srbije
Montenegro	EPCG	Elektroprivreda Crne Gore
Slovak Republic	SEPS	Slovenská elektrizačná prenosová sústava, a. s.
Slovenia	ELES	Elektro Slovenija
Spain	REE	Red Eléctrica de España S.A.
Switzerland	swissgrid	swissgrid ag

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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 500 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 **Austria, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, the Czech Republic, the Western part of Denmark, France, the FYROM, Germany, Greece, Hungary, Italy, Luxembourg, Montenegro, The Netherlands, Poland, Portugal, Romania, Serbia, the Slovak Republic, Slovenia, Spain and Switzerland.**

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