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Topics

- Interconnected power systems
- Control zones
- Generation capacity
- Power reserve
- Power exchanges
- Production technologies
- The largest power companies
Interconnected power systems

UK

NORDEL

UCTE

RAO „UES of Russia
Control zones

Source: UCTE/ENTSO-E
Synchronisation of a new zone

Source: UCTE/ENTSO-E
Frequency during synchronisation

Source: UCTE/ENTSO-E
Production of electric energy

Source: European Commission
Electricity production (2)

Source: European Commission
Gross energy consumption

Source: European Commission
Power reserves in Europe

RC = Remaining Capacity; ARM = Adequacy Reliability Margin

Source: UCTE/ENTSO-E
Power reserves in Europe

RC = Remaining Capacity; ARM = Adequacy Reliability Margin

Source: UCTE/ENTSO-E
Generating capacity

- **generating capacity** – suma mocy zainstalowanych
- **non-usuable capacity** – moce nieosiągalne
- **Overhauls** – moce pozostające w remontach
- **Outages** – prognozowane ubytki mocy na awarie
- **system service reserve** – moce potrzebne na regulację systemu
- **guaranteed capacity** – moc zainstalowana pomniejszona o moce nieosiągalne, remonty, awarie i regulację systemu
European Power Exchanges
The largest power companies
Major European regulation

- The first market Directive EC/92/1996
- The second market Directive EC/54/2003, concerning the common rules for the internal market in electricity. New 2009/72/EC
- The regulation 1228/2003, imposing the trade of cross border capacities, opens electricity markets to international trade.
Implementing Directives into national laws

- The member states have to ensure that the power companies operate in accordance with the principles of this Directive.
- This means that the member states have to adopt the principles of the Directive to their national regulations, such as Energy Laws and ordinances and other regulations.