



Renewable

Directive

(recast)

ACER

Regulation



Electricity Directive (recast)

2009 Directive, plus rules on:

- · reinforcing competitive energy markets
- · consumer rights, including billing, metering, dynamic pricing, switching, using aggregators, comparison tools and addressing energy poverty
- · framework for DSR and aggregation
- · assessing alternatives (eg. DSR, storage) to new generation capacity
- enhanced role of DSOs, particularly in procurement of ancillary services, flexibility, data management and integration of electric vehicles
- "active customers/consumers" and "citizens'★ energy communities"
- · reinforcement of NRA roles, including in regulation of ENTSO-E, EU-DSO and RCCs*



EU toolkit for renewable electricity support schemes:

- must not distort markets, must incentivise RES-E producers to respond to market price signals
- subject to limited exceptions, support schemes must be market-based (generally through premiums), must involve open, transparent and non- discriminatory tenders and must be technology-neutral
- must be open to cross-border participation by RES-E in directly interconnected Member States, subject to cooperation agreement

ACER Regulation (recast)

Greater role for ACER – as Regulation 713, plus:

- · supervision of ENTSO-E, EU-DSO, RCCs and NEMOs
- · developing and approving network codes, guidelines and methodologies
- decisions approving resource adequacy
- · decisions on cross-border participation in CRMs
- · Board of Appeal to have 4 rather than 2 months for deciding appeals against ACER decisions

Risk preparedness Regulation

National authorities to cooperate in developing and implementing plans for electricity crises on the basis of methodologies developed by ENTSO-E



Governance Regulation

Development of integrated national energy and

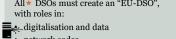
Market principles

Competitive energy markets:

- € · market-based prices
- equal treatment of generation, demand-side response (DSR) and storage; aggregation of consumers, generators and demand response
- enhance development of more flexible generation
- · measures to enhance independence of NRAs★

New roles of DSOs

All★ DSOs must create an "EU-DSO", with roles in:



- network codes · cooperation with ENTSO-E
- · coordination of TSO and DSO networks
- · integration of RES-E and DSR

Locational issues (network access and congestion)

Capacity allocation and congestion More robust rules:

- review of bidding zones , plans for remedial action★
- · reinforced principles on capacity allocation
- TSOs to make max capacity available considered to comply if at least 70% ★ capacity made available
- · payment for non-use/loss of capacity rights
- · restated and reinforced rules on using congestion income to maintain/develop/optimise interconnection, applying ACER methodology
- · costs of remedying congestion caused by internal transactions to be borne by TSOs of the bidding

Tariffs and charges

Use and connection charges to be:

- · transparent and non-discriminatory
- · not applied to cross-border trade; locational
- · subject of a recommendation on convergence by
- · extended to DSOs

Network codes (NCs) and guidelines (GLs)

Refinements to existing NC and GL development process (now to be adopted as implementing acts★), plus new NCs for:

- · non-frequency ancillary services (important reinforcement of IEM in this area)
- · DSR, storage, curtailment and redispatch
- cyber security and data



Dispatching, redispatching and curtailment

Dispatching (moved from *Renewable energy Directive)*

Dispatching principles:

- · non-discriminatory and market-based
- · priority dispatch for demonstration projects, and RES-E and high-efficiency cogen < 400 ★ kW (from 2026, only for RES-E < 200 ★ kW); Member States may decide not to apply priority dispatch in accessible and high RES-E markets
- · existing priority dispatch for RES-E remains until plant modified/new connection agreement/capacity
- · priority dispatch not grounds for curtailment of cross-border capacities except in emergency

Curtailment and redispatching

Capacity remuneration

· remove regulatory distortions

Toolkit for "energy-first" market

Before introducing CRM, Member States must:

· consult directly interconnected Member States

· CRMs to be last resort only, following adequacy

assessment, with preference for strategic reserves

limit of 550g CO2/kWh and total 350 kg/installed

kw/year ★ – immediately for new generation and

participation rules proposed by ENTSO-E, approved

participation, subject to calculation of entry capacity

by RCCs (existing CRMs may allow interconnector

reliability standard set by NRAs, following ENTSO-

· open to all types of resource, subject to emission

· market-based, non-discriminatory, harmonised

E methodology, using VOLL and CONE

CRMs to be open to direct cross-border

· interconnected TSOs to verify eligibility and

· existing CRMs to be adapted on entry into force

participation for initial period) *

develop interconnection, DSR and storage

mechanisms (CRMs)

• enable scarcity pricing

after 2030 for existing

CRM design

Key principles

Curtailment (not running) and redispatching (instructing generators/DSR to change their schedule):

- non- discriminatory and market-based (ie. based on bids by generators/DSR providers) only subject to specific conditions
- new definitions ★ of redispatch and countertrade
- · curtailment/redispatch of RES-E to be minimised
- · balancing energy bids for redispatching not to set the balancing energy price
- · if non-market-based, then compensation to be paid

Balancing

Balance responsibility

All market participants to be balance responsible or to delegate balance responsibility (exceptions for demonstration projects, RES-E below 400 ★ kW – reducing to 200 ★ kW for plant commissioned from 2026 - and for existing recipients of feed-in tariff)

Balancing capacity

Capacity must be procured:

- · separately from balancing energy
- by TSOs may be facilitated on a regional basis · separately for upward and downward capacity
- (unless NRA exempts)* · a maximum of one day ahead, for one-day
- contracting periods, for at least 30% of balancing

Balancing energy/imbalances

Key principles:

- · imbalance pricing not determined in contract for balancing capacity; must reflect the "real-time value" of energy (at least marginal, could include
- balancing energy to be settled at marginal price
- · bids as close to real time as possible, and at least after gate closure for intraday cross-zonal market
- 15-minute imbalance settlement period by 2021★

Wholesale markets

Short-term markets

Day-ahead (DA) and intraday (ID) markets:

· harmonised gate closure times

- consistent products, volumes (min ≤ 500 kW * to permit participation by all market participants), market times (≤ imbalance settlement period), and non-discriminatory access/trading principles
- reliable price signals

Forward markets

· Long-term transmission rights to allow cross-border hedging by 2021★

TSOs to create RCCs by 1 July 2022.★

under plans approved by NRAs, ★ to replace RSCs and to coordinate:

- · supporting security and restoration
- procurement of balancing capacity
- interconnector entry capacity for cross-border

Costs approved by NRAs recovered in TSO tariffs★

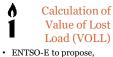
Commission proposal

short-term and balancing markets

floors★, although NEMOs may apply harmonised min and max DA and ID prices, that

· No price caps or price

- take VOLL into account, provided they adjust automatically if reached (cf. CACM methodology)
- · Member States to eliminate obstacles to market-based pricing



- ACER to approve methodology · Member States to
- calculate VOLL using ENTSO-E methodology
- · VOLL used in a number of applications in new market design



- Interoperability of energy
- · TSOs and DSOs to develop data formats and protocols
- · TSOs to be responsible for digitalisation of transmission systems
- · TSOs and DSOs to ensure cyber security



Focus on flexibility · No DSO/TSO ownership

- of storage (limited exceptions★) · Demand response -
- active customers and aggregators to be able to act without consent of suppliers, to be balance responsible and to compensate suppliers
- NRAs, TSOs, DSOs to ensure that DSR can participate fully
- · Member States to incentivise DSOs to procure flexibility

Acronyms not defined in the text IEM: Internal Energy Market RES-E: Renewable electricity s

Note: this is intended to provide a summary of some of the key features of the wholesale electricity market design introduced by the Clean Energy Package. It is not an exhaustive list, nor a substitute for legal advice. It is based on the compromise texts nber 2018/January 2019 which are still subject to amendr



- · capacity calculation
- · adequacy forecasting
- risk preparedness

Liability to TSOs established in plans★

★ Notable changes since the November 2016

