

European Energy Market 5

Customers – TPA

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Third Party Access - TPA

- TPA means the customer has rights to purchase power from any electricity trader
- Producers and Traders can sell electricity to any customer
- Each customer has rights to transmission services. This means that TSO and DSOs have to transfer power to customer's premises.

Groups of electricity users - Poland

- **Group A – high voltage networks**
- **Group B – middle voltage networks**
- **Group C – low voltage – commercial use of electricity**
- **Group G – households**
- **Main four groups are split into subgroups due to the power profiles**

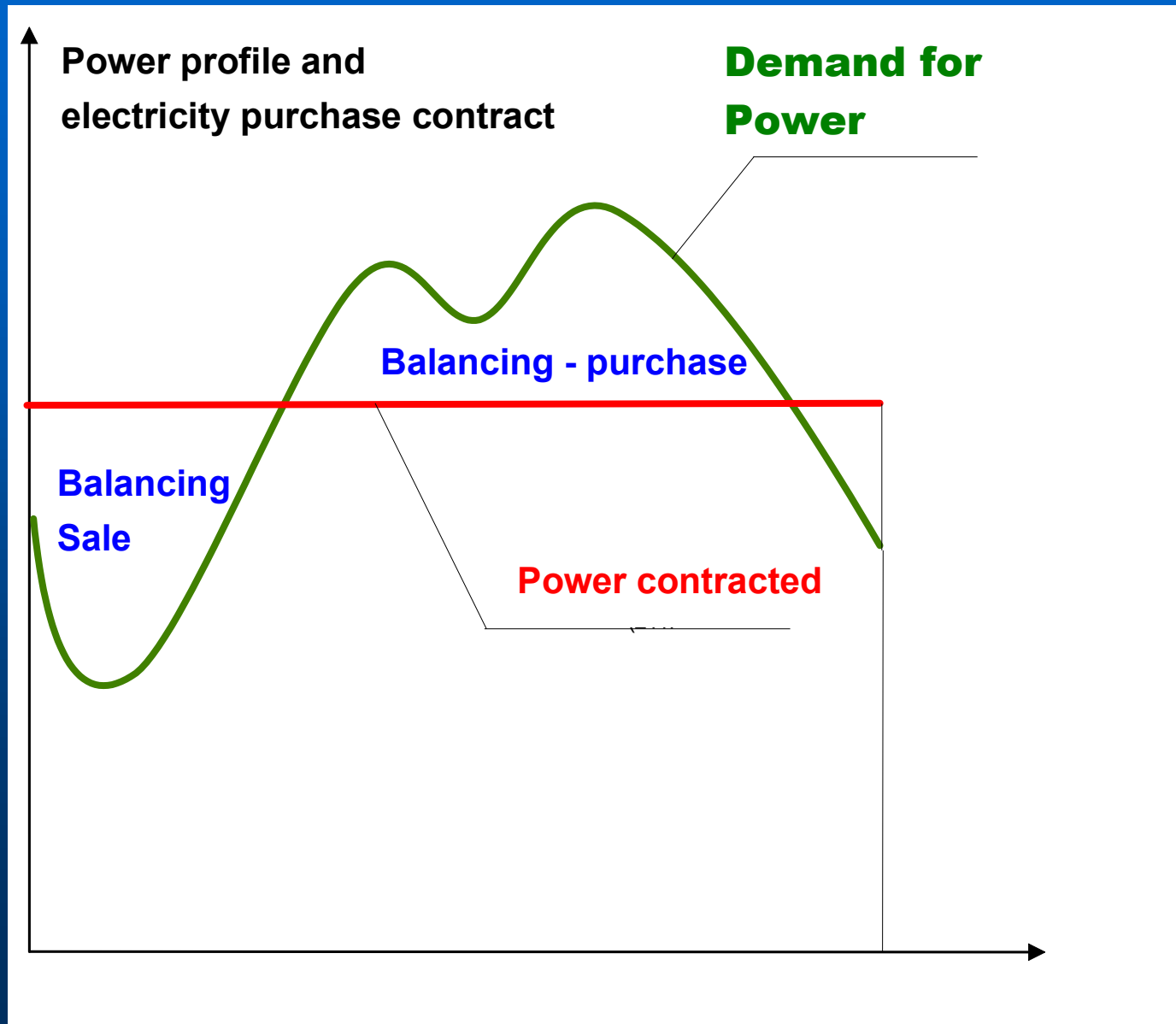
Agreements

- Each customer should have Three agreements.
- Electricity trade agreement with Traders determining conditions of energy purchase.
- Agreement on balancing – usually a part of Trade Agreement
- Electricity delivery agreement with Distribution System Operator (DSO) determining conditions of connection and power delivery.

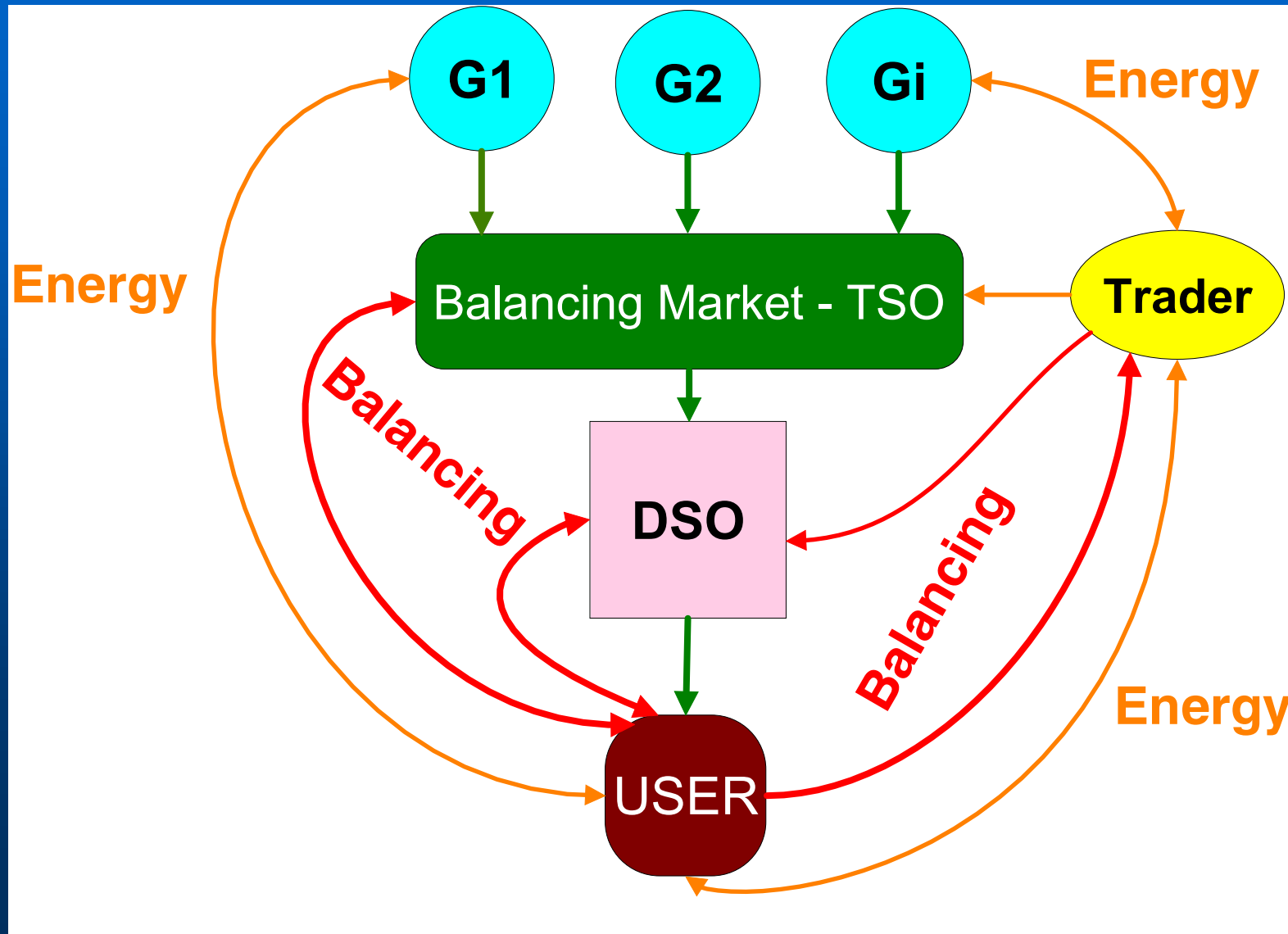
Complex agreement

- Any customer can authorise the energy trader to arrange the delivery agreement for him with the DSO.
- Energy invoice should display separately: cost of energy and cost of delivery.
- Large energy users arrange both agreements by their professional staff

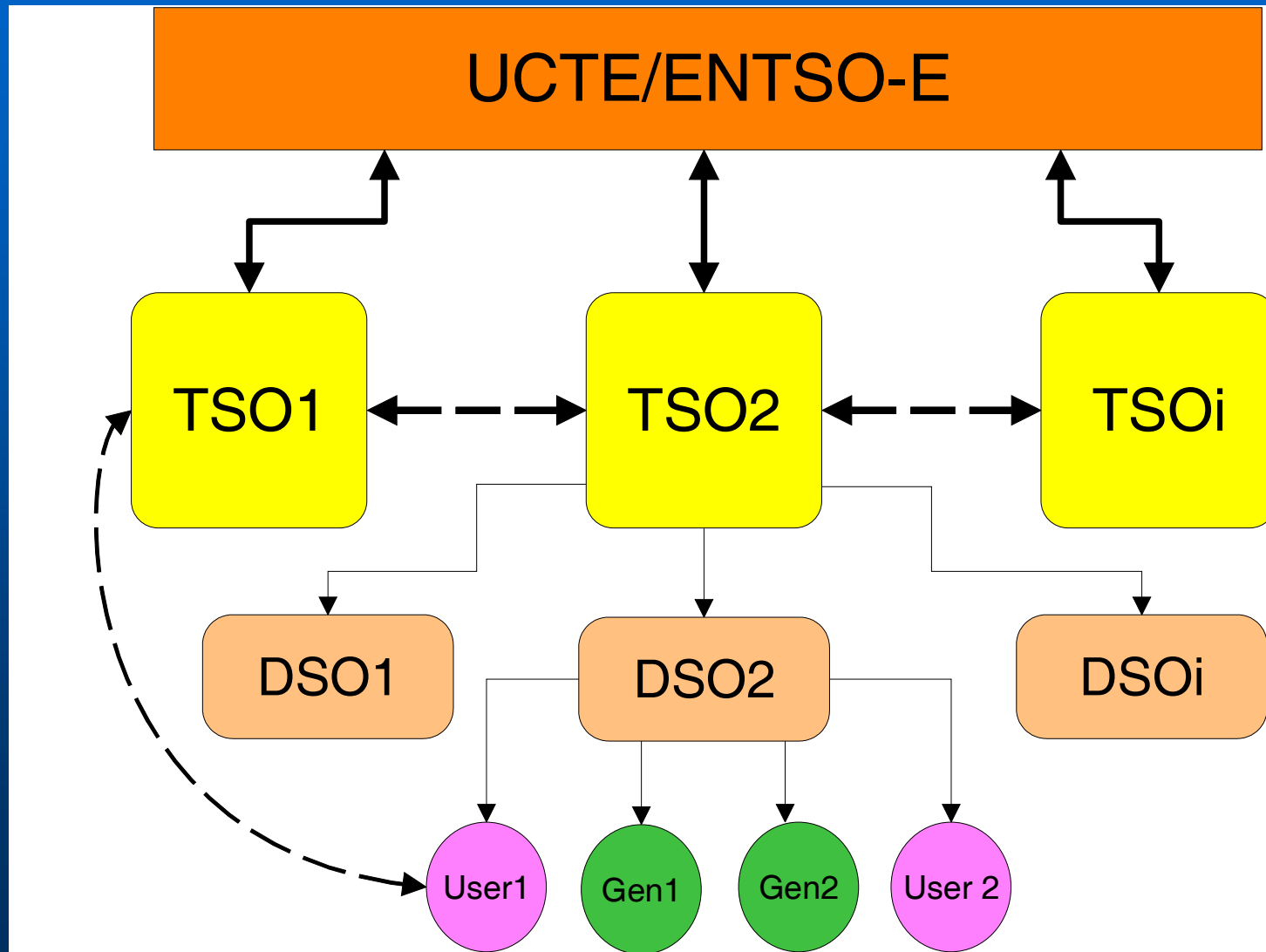
Need for balancing



Energy trade, delivery & balancing



Hierarchical balancing

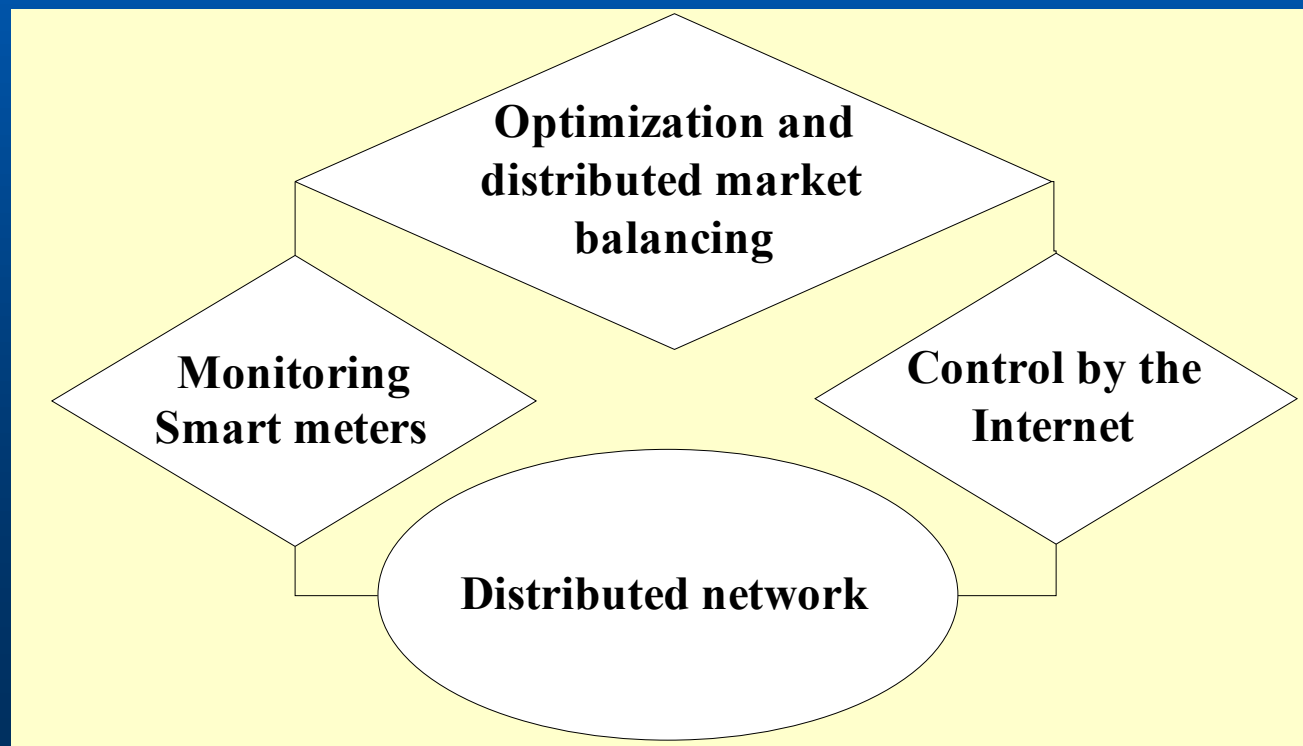


Electronic meters

- Usually meters with mechanical counters are used to measure the energy consumed
- New, electronic meters can measure the electricity in 15 or 5 minute periods.
- Measurements are stored in meter memory and can be read by optical connections or transfer by wires or phones or WiFi to the DSO.

Electronic meters & smart grid

- Electronic meters do not mean smart grid.
- Smart grid requires: measurement, optimisation/management and control



Electricity prices in zł/MWh in 2011

