DSOs working closer to the Customer - Flexibility in Tomorrow’s Energy System

Trondheim, 15 September 2015
Carmen Gimeno, GEODE Secretary General
GEODE - The Voice of local Energy Distribution Companies

GEODE was founded in 1991 – 25 years anniversary soon!

We represent more than 1200 independent Electricity & Gas distribution Companies through single companies and associations

Our Members distribute Energy to more than 100 million people!
Members in 15 Countries!

- Austria
- Andorra
- Bulgaria
- Denmark
- France
- Finland
- Germany
- Hungary
- Italy
- Norway
- Slovenia
- Spain
- Sweden
- The Netherlands
- UK
THINK GLOBAL ACT LOCAL

GEODE - located in the centre of Brussels

GEODE - trusted by Decision-makers as the Voice of local Energy Distributors across Europe!
GEODE Working Groups focus on a specific area to build expertise and to closely follow and comment on new developments.

Smart Grids WG
Retail Market WG
Energy Efficiency WG
Electricity Network Codes WG
Regulation WG
Customers Dialogue WG
Future of Gas WG
Distribution Systems are the Backbone of Europe’s Energy Infrastructure!

2750 Electricity & 810 Gas Distribution Companies in EU - varying in concentration and size significantly across Europe - many of which operate at local level!

Only 195 electricity DSOs are larger than 1000,000 customers
Distribution System Operators working closer to the customer
LOCAL DSOs FOR LOCAL NEEDS

- High Quality of Service
- Energy Efficiency to Homes
- Growth for Businesses
- Supporting your Local Community

DSOs PROVIDE A CUSTOMER-FOCUSED SERVICE

DSOs ARE THE MAIN POINT OF CONTACT IN GRID RELATED ISSUES

DSOs CONNNECT YOU TO THE GRID

LOCAL DSOs WORKING CLOSER TO THE CUSTOMER

DSOs DELIVER GAS SAFELY

DSOs ENSURE DATA SECURITY AND PRIVACY

Stronger links to customers

We make sure your data is safe
THE DECADE OF THE DSOs
FROM DISTRIBUTION NETWORKS TO SMART DISTRIBUTION SYSTEMS

Integrating renewables
Platform for e-vehicle charging stations
Developing new Energy Services
Delivering Market Flexibility
Metering and Data Management
Synergies between energy sources
Facilitating Storage

DSOs as LOCAL MARKET FACILITATORS

Electricity
Gas
Heating & Cooling
CHP
From Traditional Power Systems...
...to Smart Systems!
Distribution System Operators

Energy Distributors

Connecting more than 90% of Renewables to the Distribution Grids!

Leading the way in developing Smart Grids – DSOs as main investors!

200 Mio Smart Meters by 2020!
Smart Energy Framework

Investment trends driven by customer needs
- Customers will invest in local generation and new smart energy equipment & will require cost savings and energy advice in return

Market design and grid planning is being changed through direct participation of customers
- Need for new tariffs, regulation and business models

Technology connects everything to everything

Huge data flows
DSOs are increasingly taking up the role of network optimisers

**DSOs**
- To **ensure system stability** at all times
- To **minimise** the need for **physical investment**

Through
- **the intelligent use of technology**
- **market services** provided by the **demand side - flexibility**!
The DSO is the market facilitator

Ensuring the reliability and stability of the system

While facilitating the commercial activities of other market actors

Above all - safeguarding the interests of customers

✓ Demand Response – Empowering the Customer!
Flexibility in the energy system

1. DSR involves **a reduction in the consumption of electric energy** by customers in response to an increase in the price.

2. DSR is **an effective alternative** to adding new generation and distribution infrastructure.

3. DSR requires **effective mechanism** to initiate DER control actions when needed and to verify that the requested DSR activities have been performed.
Flexibility in the energy system

It's vital to allow DSOs access to flexibility services of customers to handle local congestions

DSOs should have bilateral flexibility contracts with customers - in certain circumstances -

- When grid is put at risk / for mitigating grid constraints
- In their geographical area
- As long as these contracts are transparent and non-discriminatory
- These contracts must not prevent a flexibility market to develop, which is able to deliver flexibility services in that area
Flexibility in the energy system

Coordination between TSOs and DSOs is needed

- to cope with voltage issues in a given region and/or even locally
  - due to the rising numbers of decentralised generators
  - due to new decentralised demand – EVs-

EC has set a **TSO - DSO cooperation platform** - GEODE is participating
There are advantages when DSO is responsible for the entire metering system, including installation, operation, meter reading and data management.

Different solutions in different countries in Europe.

Any restrictions in accessing advanced meter readings should be a barrier for the DSO to fulfill its mission – system stability and billing - but also to undertake new tasks.
EG3: potential relations between actors

Prosumers

- Supplier
  - Aggregator
    - BRP
      - Generator
        - Commercial domain - Supply
          - POWER EXCHANGE MARKET
        - Commercial domain - Flexibility
          - FLEXIBILITY PROCUREMENT
            - BALANCING MARKET and ANCILLARY SERVICES
  - DISTRIBUTION
    - NETWORK CONSTRAINT MANAGEMENT
      - DSO
      - TSO
        - Regulated domain
          - MUTUAL EXCHANGE OF OPERATIONAL AND CONTRACTUAL DATA
DSOs are ready to evolve...

But can’t do so without Coherent, transparent, stable and cost-reflective European & national regulatory framework to invest in smart distribution systems.

Full implementation of the Third Energy Package.

Coherent, transparent, stable and cost-reflective European & national regulatory framework.
DSOs are ready to evolve...

But can’t do so without

A tool box for DSOs for efficient grid management

Smart-Meters roll-out and standard home automation technology

Customer’s Engagement!!!
DSOs are ready to evolve...

But can’t do so without Adequate incentives for DSOs to innovate & provide the necessary investments in smart energy systems

Modification of the DSO’s tariff structure:
- Improve the cost reflectivity
- Ensure fair contribution to network costs
- More capacity-based network tariffs

Price volatility
Reconsidering taxes and levies
NOT TO BE MISSED!

Autumn Seminar 2015

Developing Local Energy Management: Energy Efficiency and CHP

Berlin
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Thank You!

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