

## **Smart Energy Demand Coalition**

## January 23, 2013



Response to the Demand Connection Code







# **Our Membership**



Smart Energy Demand Coalition

The SEDC is an not-for-profit industry group, representing the requirements of programs involving Smart Energy Demand

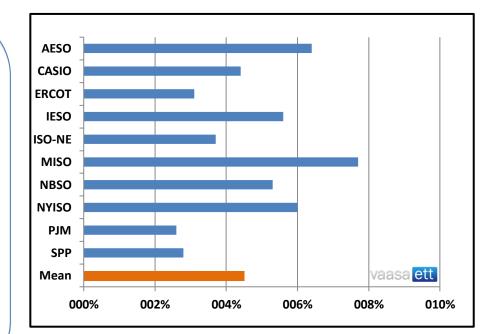
in order to support the 2020 objectives, further the development of the Smart Grid and ensure improved end-consumer benefits



#### Demand Response = Growing Potential Globally

#### Why Care? \$ billions in annual turnover after only 6 years market access USA.

- USA Multi Billion \$ Business Direct Revenue
- + avoided investments Generation, T&D
- Demand Response "took off" in 2005 with Demand Side access to capacity markets
- Average estimate peak clipping 8-11% US
- Average estimate possible peak clipping 6-13% Europe
- Developing nations looking at Demand Response for peak clipping purposes. India, Brazil, China, etc.



Actual Peak Clipping USA 2010 C&I + Residential Demand Response. Source: FERC



#### **ENTSO-E Network Codes**

- SEDC believes the ENTSO-E Network codes are a historic opportunity to create a **positive**, **unified** framework within which demand and supply side resources can compete on an equal footing for the first time
- This will provide balancing resources at the lowest possible cost and increase security of supply



## The DCC

#### Steps to make this happen:

The SEDC appreciates the recent changes made in the DCC by ENTSO-E and their recognition of the role and importance of the aggregator

## However, to complete this work and allow consumer participation, the DCC will need to be made <u>consistent</u> and allow for the <u>aggregation</u> of information, communication and consumer load

#### 2 areas of concern

- 1) Consumer barriers to market access
  - Aggregation entails that loads are <u>pooled</u> into a <u>single resource</u>
  - And treated as a single resource by the relevant network operator
- 2) Mandatory participation of temperature controlled devices in Systems Frequency and mandatory voltage disconnection for those in DSR



# DCC – Positive Example Aggregation

## Art 22.1.l

"A Demand Facility or Closed Distribution Network providing one or more type of DSR shall not ignore or interrupt the full execution of an order issued by the Relevant Network Operator, Aggregator or the Relevant TSO to modify its power consumption with respect to that type of DSR, unless a contractually agreed method with the Relevant Network Operator or Relevant TSO for the replacement of their contribution is in place (including but not restricted to grouped Demand Facilities contribution via an Aggregator)."

Allows for the aggregator to take the legal responsibility in the place of the Demand Facility Owner. The Consumer no longer holds 100% legal responsibility for compliance.

Article 22.I enables the full role of the aggregator



## **DCC: Issue of consumer access**

# Art 19:a Regulations which are difficult for consumers to fulfill and misunderstands the role of aggregation

"A Demand Facility Owner or Distribution Network Operator intending to modernize and replace the equipment of the Existing Demand Facility or Existing Distribution Network **in a way that may have an impact on its performance** and ability to meet the requirements of this Network Code shall notify to the Relevant Network Operator **directly or indirectly** (including but not restricted to **via** an Aggregator)."

#### **Problem:**

- Consumers may communicate through a telephone call, sms, web service.... It is unrealistic for the TSO to ask for constant updates on changes in communication technology etc. Constitutes an arbitrary market access barrier for small-medium consumers
- Does the TSO want a report on equipment changes per 1kW of load?

#### **Solution = Aggregation:**

To aggregate information for the Network Operator To inform when changes are made in the total ability of the **total load offered by the aggregator.** 



access

Art 28.1-2 Regulations which are difficult for consumers to fulfill and does not use the role of the aggregator

"The operational notification procedure for a new Demand Unit with DSR, within a Demand Facility connected at or below 1000V, shall comprise an Installation Document.....

Based on an Installation Document, the Demand Facility Owner shall fill in the required information and submit it, **either directly or indirectly** (via an Aggregator), to the Relevant Network Operator.....The content of the Installation Document of individual Demand Units may be aggregated (including but not restricted to via an Aggregator) ...



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## Art 28: Regulations which are difficult for consumers to fulfill and does not use the role of the aggregator

The Installation Document shall contain the following items:

a) the location at which the Demand Unit with DSR is connected to the Network;

- b) the maximum capacity of the DSR installation in kW;
- c) the type of DSR services provided as defined in Article 21;
- d) for equipment used information shall be provided as directed by the Relevant Network Operator (an Equipment Certificate may be used); and
- e) the contact details of the Demand Facility Owner.

The Relevant Network Operator may define, while respecting the provisions of Article 9 (3), additional items to be included in the Installation Document.



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## Art 28: Regulations which are difficult for consumers to fulfill and does not use the role of the aggregator

#### **Requiring the installation documents for each consumer creates several issues:**

- Installation document for behavioural change?
- Consumers will not know where they sit on a network.
- Not know their maximum capacity (only the aggregator will know this)
- Technical details equipment is an unnecessary constraint for loads which may only be 1-2 kW.
- TSOs with detailed descriptions of over 1 million loads. Arbitrary barrier to consumer partipation which would increase cost of DSR for TSOs and consumers.

#### Solution = Aggregation:

- To aggregate information for the Network Operator
- To inform total ability of the total load offered by the aggregator
- To inform of its location on the network



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These types of barriers remain throughout the code.

ENTSO-E has allowed for the 'Aggregator' to pass on information but not for the information, communication, load... *to be aggregated* 

Aggregation means that loads are <u>pooled</u> into a <u>single resource</u> And <u>treated</u> as a <u>single resource</u> by the relevant network operator

Currently the Aggregator will act as the TSO's postman – passing on forms and data

To enable consumer participation in the balancing markets The code must consistently treat aggregated loads as a single resource





## **Mandatory participation**

#### Art 21.5

"Demand Side Response System Frequency Control shall **mandatorily apply** to Temperature Controlled Devices, identified as significant, as a result of the following procedure"

#### **ISSUES:**

#### •The free distribution of goods:

- Frequency settings differ between countries and can be changed.
- Appliances requirements country dependent
- Hinders the free distribution of a wide range of consumer goods within Europe.

•Inadequate cost/benefit analysis: The cost benefit analysis of this provision is narrow and inadequate.

- Ignored impact on surrounding markets volumes and values
- Cost-benefit analysis focuses on particular cases, i.e. UK and Ireland,
- The cost of consumer backlash is also not counted or considered.
- Positive cost/benefit assumes free or little payment for consumers



## **Mandatory participation**

#### **Equal treatment of resources:**

- cost/benefit analysis is based on requiring consumers to participate without full compensation.
- prejudiced treatment of one resource over the other.
- direct conflict with Article 15 of the Energy Efficiency Directive.

**Consumer rights:** The SEDC considers the mandatory use of consumer's goods without their knowledge and consent **unjustifiable in this context**.

- No consideration of property ownership rights is acknowledged or protected within these codes
- No consideration of consumer information rights is acknowledged or protected within these codes
- The historical and limited practice of Demand Side Management in selected regions, mandated by local governments, cannot be taken as a green light for the expediential expansion of mandatory programs on a European level.
- Article 22.5 goes directly against the spirit and principle of Demand Response, which enables the voluntary, informed and paid participation of citizens in the energy markets.

# **Thank You!**

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