EED ENERGY SAVINGS SCHEME – IMPLEMENTATION IN DENMARK

Birger Lauersen
Manager International Affairs
Danish District Heating Association

DANISH DISTRICT HEATING ASSOCIATION

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An association for 396 members, which deliver 98 % of Danish district heating to 63 % of the Danish house holds.

38 public suppliers

- Supplies 49 % of all district heating

353 cooperatives/privates

- Supplies 51 % of all district heating

Other members

- 3 transmission companies
- 11 associate members

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- Lobbying organisation towards
  - Governmental bodies
  - Other organisations
  - Internationally
- Organizing co-operation between members
  - Common guidelines
  - Know-how groups
  - Communication
- Service to members
- Promoting district heating

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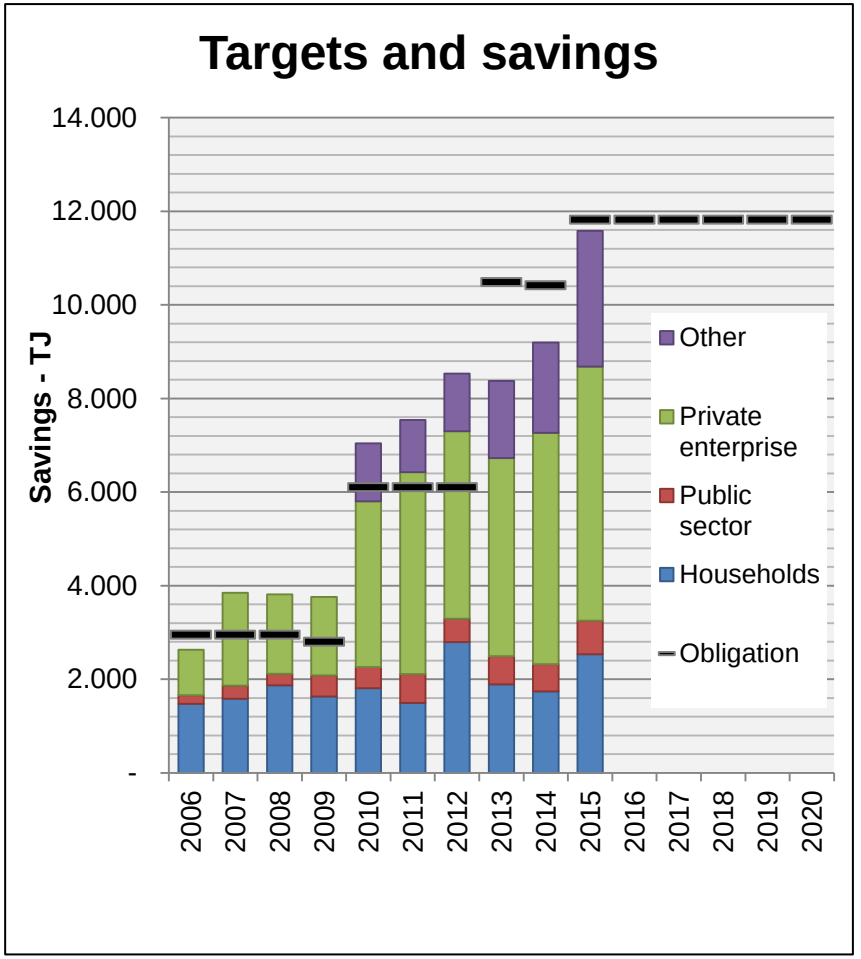
DANISH ENERGY SAVINGS OBLIGATION SCHEME

- **Establish before EED**
  - Introduced in 2006
- **Designed to deliver on the Danish energy objective**
  - Be independent of fossil fuels in 2050
- **Energy efficiency improvements**
  - Reduction of end-use consumption
  - Conversion from fossil fuels to RES and electrification
- **Have been running in 3-4 year cycles**
  - Voluntary agreement
  - Independent evaluation
  - Revisions implement experience

MAIN PRINCIPLES AND TARGET TRAJECTORY

Who?
- Distributors,
- All sectors (electricity, N-gas, district heating, oil)

Annual saving target
- Free choice of methods to deliver savings
- Trade before implementation (not certificates)
- Clear rules for documentation of all projects
- Targets only set at branch level
- Targets have increased
- 60% of savings in industry/private enterprises



SAVINGS – WHERE AND WHAT?

- **Final energy consumption in all sectors**
  - All end-uses and sectors √
  - Also consumers covered by ETS √
  - Energy saving lighting and most households appliances are not accepted ÷
  - Local boilers & heat pumps count √
  - Not biomass, not PV, ÷
  - Some savings in transport included from 2013 (√)
  - Some savings are reduced (additionality) √ - √
  - Savings in (district heating) grids √
  - Solar thermal plants for district heating counts (until June 2018) and local solar collectors √
  - Not all savings count towards EED target √ / ÷

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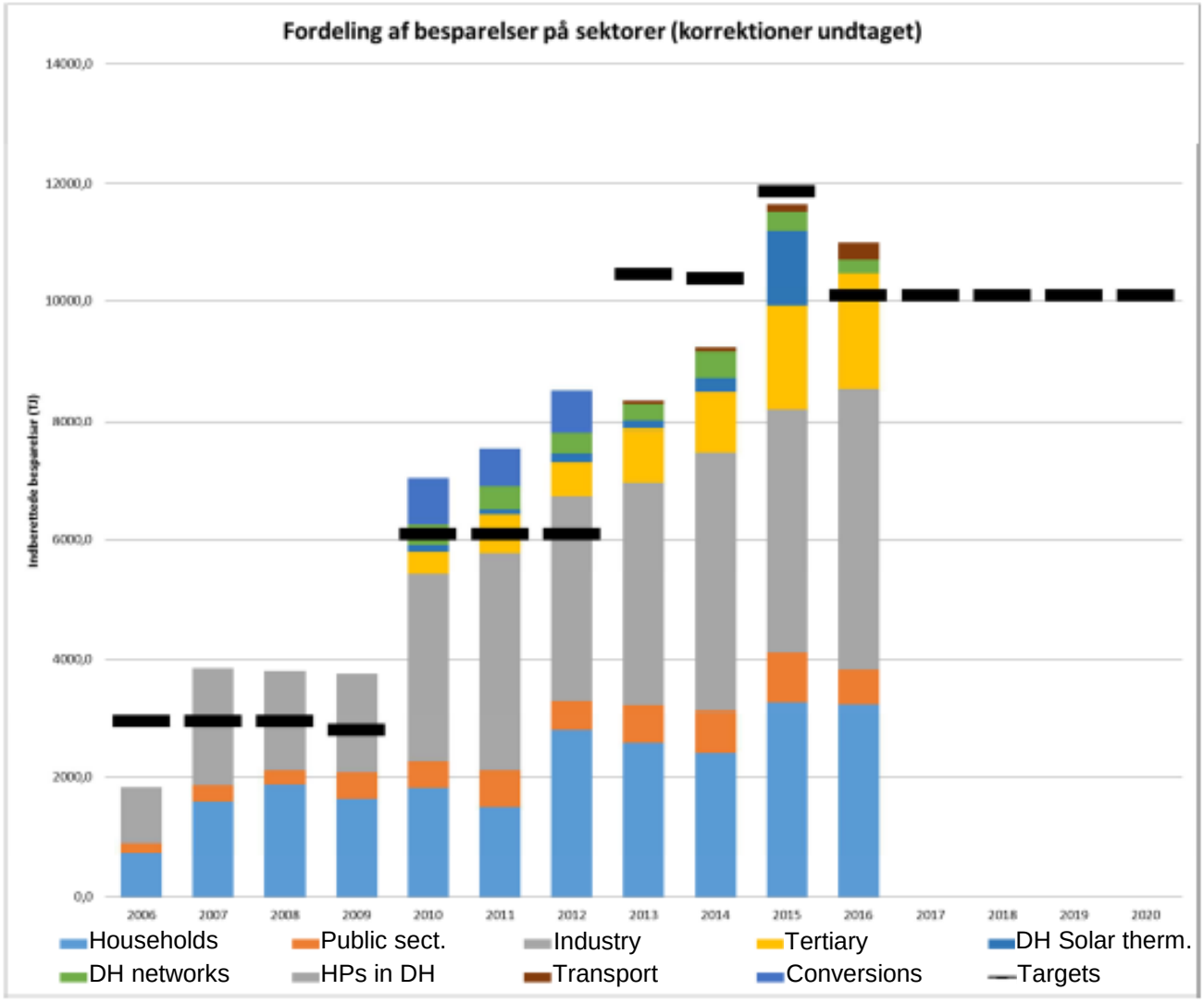
SAVINGS BY SECTORS



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CALCULATING SAVINGS

The main principle

- First year savings – not cumulative
- Difference between consumption before and after
- Simple weighting factor was introduced from 2011

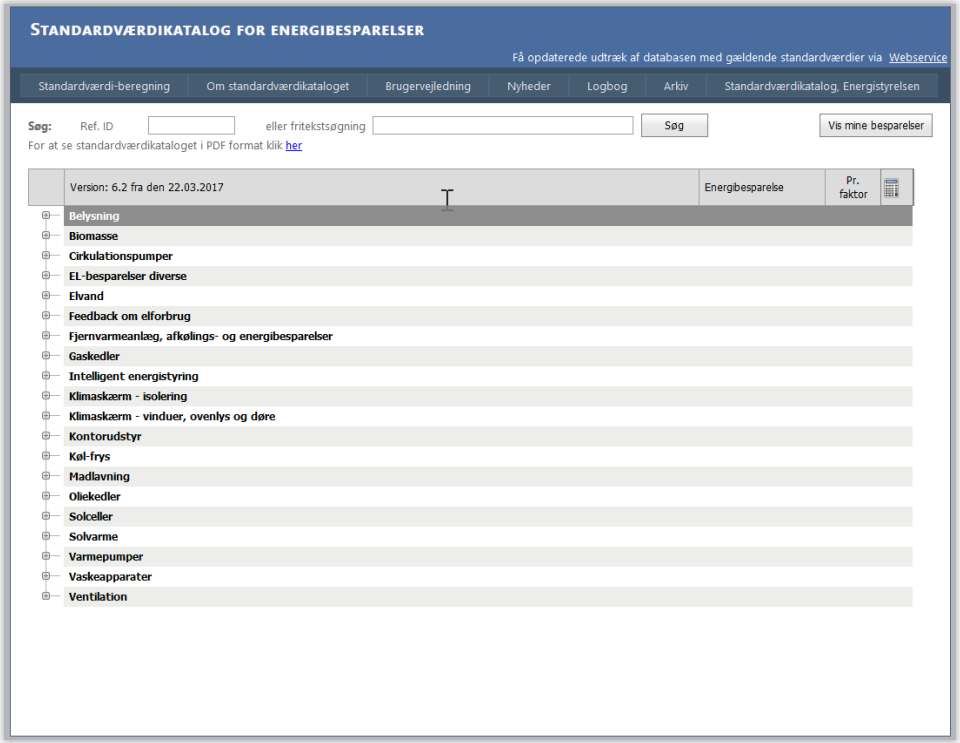
Methods:

- **Standard value savings (Mainly households)**
  - Average saving for standard activities
  - Developed by experts. Approved by DEA

- **Specific calculation/scaled savings (Most savings, industry etc.)**
  - Used for all big project, Especially industries, public sector etc.
  - Utilities are responsible for specific calculations

- **Market transformation (Discontinued)**

STANDARD VALUES AND SOLUTIONS



STANDARDVÆRDIKATALOG FOR ENERGIBESPARELSER

Få opdaterede udtræk af databasen med gældende standardværdier via Webservice

Standardværdi-beregning | Om standardværdikataloget | Brugervejledning | Nyheder | Logbog | Arkiv | Standardværdikatalog, Energistyrelsen

Søg: Ref. ID eller fritekstsøgning Søg Vis mine besparelser

For at se standardværdikataloget i PDF format klik her

Version: 6.2 fra den 22.03.2017	Energibesparelse	Pr. faktor
Belysning		
Biomasse		
Cirkulationspumper		
EL-besparelser diverse		
Elvand		
Feedback om elforbrug		
Fjernvarmeanlæg, afkølings- og energibesparelser		
Gaskedler		
Intelligent energistyring		
Klimaskærm - isolering		
Klimaskærm - vinduer, ovenlys og døre		
Kontorudstyr		
Køl-frys		
Madlavning		
Oliekedler		
Solceller		
Solvarme		
Varmepumper		
Vaskeapparater		
Ventilation		

Standardløsninger er en betegnelse for bestemte anvendelsesmetoder og fremgangsmåder, som bruges ved specifikke opgørelser i Energispareaftalen. Standardløsninger er udarbejdet af Teknisk Arbejdsgruppe.

Nedenstående er en oversigt over nuværende standardløsninger, der alle **skal** anvendes i forhold til den aktuelle teknologi.

Standardløsninger for udskiftning af traktorer

- Excel-beregner - traktorer

Standardløsninger for udskiftning af biomasse- og anden fastbrændselskedel

- Vejledning - biomasse- og anden fastbrændselskedel
- Excel-beregner – biomasse- og anden fastbrændselskedel

Standardløsninger for busser

- Notat om medregning af besparelser ved energieffektive busser (PDF)

Standardløsninger for forbedret afkøling

- Opgørelse af energibesparelser ved forbedret afkøling

Standardløsninger for transporttiltag

- Opgørelsesmetoder for transporttiltag

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WHO DO THE JOB?

- **The distribution companies are not allowed execute very much by themselves**
  - Regulated monopoly companies

- **Have to involve an actor**
  - Can be subsidiary
  - But is very often a private engineering company or a plumber, construction company, etc.

- **There can be several links from the utility to the consumer**
- **Agreement between customer and obligated utility must be in place before implementation start**

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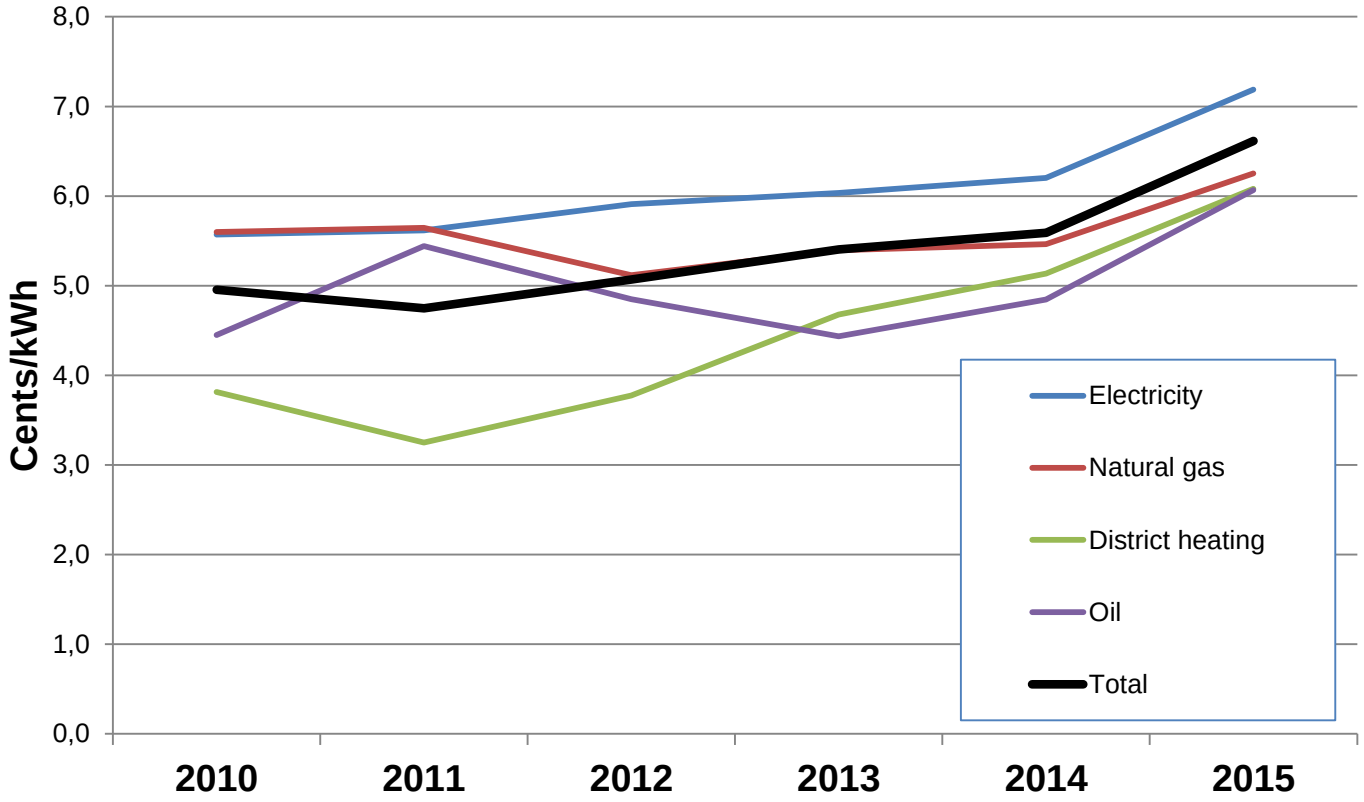
DOCUMENTATION AND VERIFICATION

- **The obligated parties are responsible for**
  - Verification, documentation and reporting
  - Quality control systems and independent annual audits
- **Annual random control by DEA**
  - Quality control systems
  - Documentation of actual cases/projects
  - Small sample – but different every year
  - Only very small correction of savings (3-6%)
- **Independent evaluation every third year**

SAVINGS COSTS



- 6-7 Eurocents per kWh first year savings
- 0,6-0,7 Eurocent per kWh with an average lifetime on 10 years

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FOR FURTHER INFORMATION

Birger Lauersen
Telefone: +45 4028 3020
E-mail bl@danskfjernvarme.dk

Dansk Fjernvarme
Fjernvarmens Hus
Merkurvej 7
6000 Kolding
Tlf. 76 30 80 00
Fax 75 52 89 62
mail@danskfjernvarme.dk

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