

# The DSM University

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# There is a website (www.dsmu.org)

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What is Demand-Side Management (DSM)? In fact, it refers to all kinds of technological changes to the electrical system that originate from the demand side of the market. The purpose of DSM can be multifold, but large scale energy efficiency improvement is certainly a primary goal. The IEA's DSM Program structures its activities into two clusters, depending on the desired impact on the load curve of the energy system.

1. The *Flexibility Cluster* includes tasks that aim to improve the shape of the load curve over short (minutes-hours-days) or longer (days-weeks-seasons) time periods. This will primarily increase the **reliability and operability of the system**, although it can also indirectly improve energy efficiency.
2. The *Energy Efficiency Cluster* includes tasks that aim to lower demand levels or shift the load from one energy system to another. This cluster primarily targets **energy efficiency improvement** and the reduction of Greenhouse Gas emissions, although it can also improve the reliability and operability of the system.

The DSM University (DSMU) is built on 20 years of experience of the IEA DSM Implementing agreement. DSMU provides access to the knowledge developed in the agreement in a structured way. In addition, DSMU aims to be a community of practice on DSM themes.

**DSM - The Logic (0)**

**DSM - Governance (1)**

**DSM - Energy efficiency (3)**

**DSM - Flexibility (2)**

**DSM - Integration (1)**

**DSM - Business models (0)**

# www.dsmu.org

Selected way: in addition, some units will be continuing in process on DSM website.

Course name	Status
△ Impact evaluation of Energy Efficiency and DSM programmes	Launch course <input checked="" type="checkbox"/>

**OR** ...

You must complete one course from "Theme 1 - The logic of DSM" or one course from "Theme 3 - Energy use (load level)" or one course from "Theme 4 - Flexibility (load shape)" or one course from "Theme 5 - Integration"

Course name	Status
△ Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes	Launch course <input type="checkbox"/>
△ ESCo market development: A role for Facilitators to play	Launch course <input type="checkbox"/>

**OR** ...

You must complete one course from "Theme 1 - The logic of DSM" or one course from "Theme 3 - Energy use (load level)" or one course from "Theme 4 - Flexibility (load shape)" or one course from "Theme 5 - Integration"

Course name	Status
△ Using Demand-Side Management to Support Electricity Grids	Launch course <input type="checkbox"/>
△ ISGAN Annex 2 Spotlight on Demand Management	Launch course <input type="checkbox"/>

**OR** ...

You must complete one course from "Theme 1 - The logic of DSM" or one course from "Theme 3 - Energy use (load level)" or one course from "Theme 4 - Flexibility (load shape)" or one course from "Theme 5 - Integration"

Course name	Status
△ Managing Variability, Uncertainty and Flexibility in Power Grids with High Penetration of Renewables	Launch course <input type="checkbox"/>

Sept 4th

May 7th

Feb 4th

June 9th

March 6th

Oct 6th

More details on:

<http://www.leonardo-academy.org/course/index.php?categoryid=53>

**THE WEBINARS IS THE HEARTBEAT OF THE DSM UNIVERSITY**

# There is more

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## Impact evaluation of Energy Efficiency and DSM programmes

By Harry Vreuls (RVO)

The presentation starts combing the well known input-output-impact chain within a preferred evaluation framework dealing with the evaluation questions:

- Effectiveness: To what extents have the expected objectives been achieved?
- Efficiency: Have the objectives been achieved at lowest cost?
- Utility & Sustainability: Do the expected effects contribute to a net increase in energy efficiency and sustainability?

The presentation will give you knowledge and practical examples for 7 key analytic elements of policy measure and energy efficiency programme evaluations:

1. Policy measure theory used in the programme.
2. Specification of indicators for the success of a measure.
3. The baselines for the selected indicators.
4. Assessment of outputs and outcomes.
5. Assessment of energy savings and emissions reductions and other relevant impacts.
6. The calculation of costs, cost-efficiency and cost-effectiveness.
7. The level of evaluation effort.

These 7 key elements will be elaborated for several programmes, based on practical experiences from all over the world including:

- Building codes
- General information, labelling and information centres
- Price reducing policies
- Taxation systems
- Voluntary agreements

The presentation will be finalised with a overview on recent development, among others: Increasing harmonisation and standardisation of energy savings calculations, impact evaluation of behavioural programmes and evaluation of packages of programmes.

The presentation is based on work within the IEA DSM Agreement resulting in an evaluation guidebook, based on national case studies and on national and international experiences.

[News forum](#)

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### Course materials

- [Video lecture](#)
- [View presentation slides](#)
- [Download presentation slides](#)

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### Questions and Answers

- [Q&A on Evaluation](#)

Forum based on the questions asked during the webinar, but open to continual discussion.

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### Further reading materials

- [Briefing Note on the 7 key analytical elements](#)

A 15 page document that goes deeper into the subject, based on the status reports of IEA DSM Task 1.9.

# Webinars coming

**Make it strategic! November 6th**

THEME	TASK
The Logic of DSM, in which motivations and overview is presented in particular to decision makers and people who wants to see how issues connect to each other	24 1/9 - 2
Governance (or DSM Management), in which incentives, cost/benefit, planning, evaluation and regulation are dealt with but also institutional behavioural issues such as barriers and biases.	6 Tech-learning (Wene)
Energy use (Load Level), technologies and measures to promote load level changes including strategic shifts of energy use to reduce carbon emissions.	(3)
Flexibility – (Load shape), technologies and applications in DR systems and as regards customer benefits and participation	23
Integration, putting energy efficiency, storage and RES together to systems	17
Business models, to deliver energy services	25 (16)

# There is a structure (to fill)

ISSUES

SOURCES

1. **The Logic of DSM**, in which motivations and overview is presented in particular to decision makers and people who wants to see how issues connect to each other

- **Strategies for DSM**
- **The role of Efficiency and flexibility in systems (IDSM)**
- **Actors, and their roles/relations, to make DSM a reality**
- **DSM potential and costs (including rebound)**

2. **Governance (or DSM Management)**, in which incentives, cost/benefit, planning, evaluation and regulation are dealt with but also institutional behavioural issues such as barriers and biases.

- **Incentives (carrots and sticks)**
- **Evaluation**
- **The plethora of benefits (and for whom)**
- **Planning and regulation**
- **Barriers and biases**

Issue/Source	Lecturer
The strategy	Chairman (past and present)
Theme chapters from Annual Reports	Chairman (past and present)
WEO 2012 E3 Scenario	Laura Cozzi (or Fatih Birol!)
Task 9 on Municipality issues	Someone from The EU Mayor Initiative or equal
Task 13 on DF principles	Larry Jones (Ahlstom)?
Task 18 on Climate impact and funding opportunities	OA Crossley + someone with insights from latest developments + Anders Wijkman
Task 24 Behavioural issues	On the potential that is "locked-in" when behaviour is not addresses

Issue/Source	Lecturer
Task 1 and 21 Evaluation	OA possibly supported with case person
Task 6 (and 4) measures for DSM	OA Crossley + support with more recent cases e.g. Eric Gudbjerg (DK)
(Task 12) Standards	Siderius 4E? + Top runner (Sophie Attali?)
Task 22 EEO + 14 White certificates	RAP Crossley + OA Capozza (?) + Eoin Lees
Task 24 Behavioural issues	On the how empowerment of customers can be realised
The plethora of benefits (IEA Spreading the net)	Lisa Ryan?
IRP	RAP Moskovitch?
Regulation	RAP Cowart?
Barriers and biases	? (Behavioural economist, maybe from IDEA 42?)

Lecturers: 1) OAs or delegated experts, 2) Other authors, 3) Other IAs or IEA authors, 4) Persons with knowledge and perspectives

# Structure continued

**3. Energy use (Load Level)**, technologies and measures to promote load level changes including strategic shifts of energy use to reduce carbon emissions.

- **Obligations and certificates (applications and practice)**
- **Network and grid issue**
- **Equipment**
- **Calculation**
- **Business models**

**4. Flexibility – (Load shape)**, technologies and applications in DR systems and as regards customer benefits and participation

- **Incentives (Pricing to reflect capacity needs)**
- **Demand response practices and market segments**
- **Technologies**
- **Market models**

Issue/Source	Lecturer
Task 14 White certificates	Experiences from deliveries in Italy Capozza and the regulating authority
Task 15 Networks	OA Crossley + ECI experience on transformers?
Task 22 EEO	Deliveries + ACEEE experience from EE as a resource (Dan York?)
Task 21 Calculating	OA
Task 24 Behavioural issues	On the design of technologies that facilitates use
Equipment and development	4 E
Updating the “McKinsey” curve	???

Issue/Source	Lecturer
Task 8 Bidding + Task 11 ToU Pricing	OA Linda + Case (Norway?) + relevant US case on TOU
Task 13 (and 2)	Linda?
Task 23 (and 19) DSM and smart grids	Linda + ?? + ACEEE experience from EE as a resource (Dan York?)
Task 24 Behavioural issues	On the design of technologies that facilitates use
Equipment and development	ISGAN ??
Updating “Benefits of demand response....”	Ask Larry Mensuetti

# Structure continued

## 5. Integration, putting energy efficiency, storage and RES together to systems

- **Preparing for integration**
- **Practical examples**
- **Incentives**

## 6. Business models, to deliver energy services

- **Empowering users**
- **ESCOs and EPCs**
- **Municipalities**
- **Market Transformation**

Issue/Source	Lecturer
Task 17 Integration	Seppo, Rene and Matthias
Check "Strategies and Decision Support Systems for Integrating Variable Energy Resources in Control Centers for Reliable Grid Operations"	Lawrence Jones Alstom?
IA Wind	?
IA Storage	?
IA Renewables	?
Examples of changing companies	?

Issue/Source	Lecturer
Task 3 Technology Procurement	Hans Nilsson and Nils Borg
Task 5 Marketing and Task 7 Market Transformation + Task 20 Branding	Verney Ryan ? (Now in NZ)
Task 9 Municipalities	?
Task 16 (and 10)	OA Bleyl
Task 14 White certificates	Capozza on how eligible parties have evolved
Task 22 EEO	??
Task 25	Ruth
Utility that has changed	
Customer that has benefited from change	



# DSM-U should be a focal point

## Why?

- Attractive and reliable source with important information on how energy efficiency comes about
- Good identified real examples that serves as models or inspiration

## Who performs?

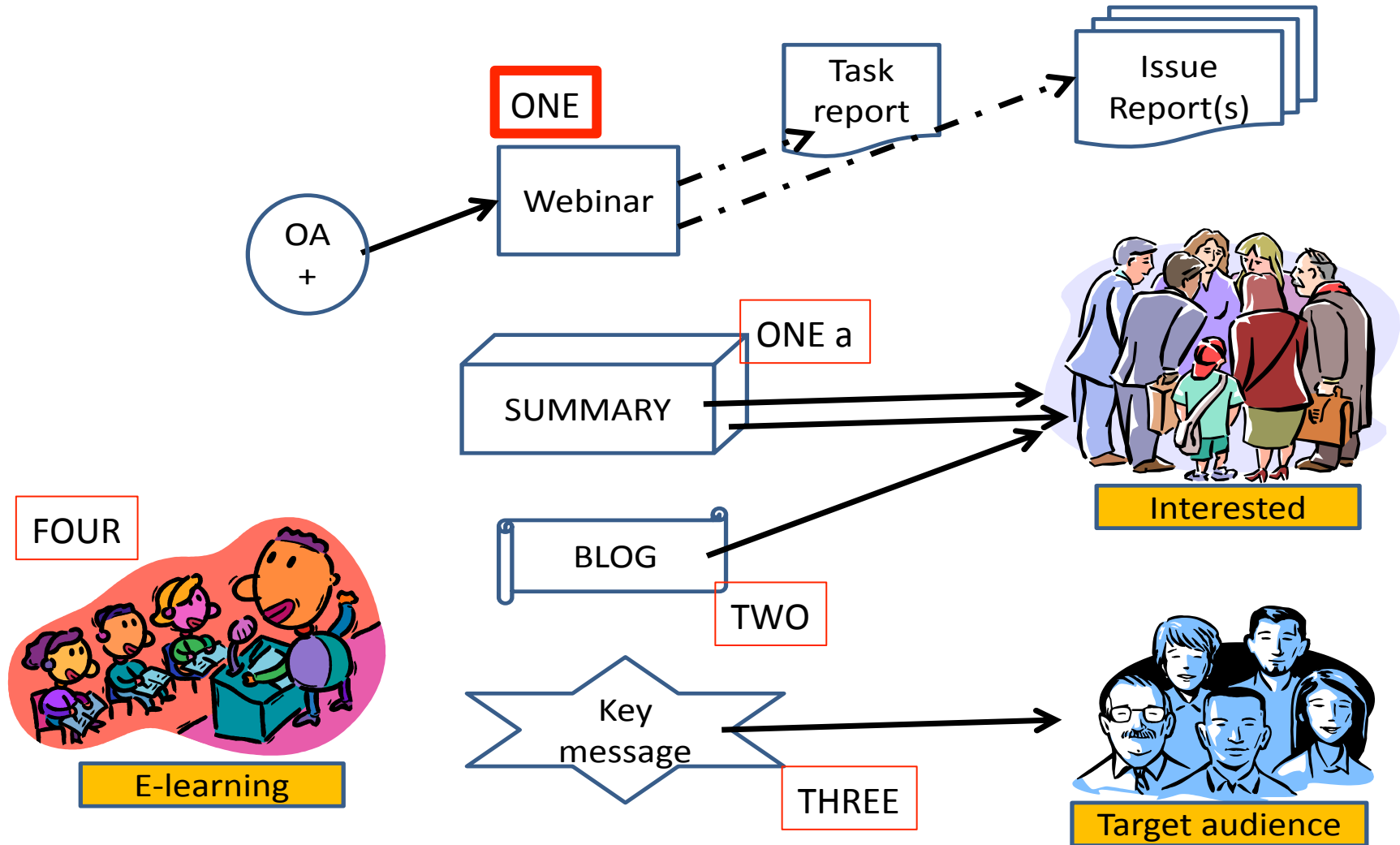
- IEA "family" (IA (e.g. PVPS), committees, secretariat )
- Companies with distinct DSM-profile
- NGOs with business "accreditation"
- Business associations

# Assets

## Assessment of the IEA DSM material and its relevance and applicability for different purposes.

Task	Publications	Relevance
I Subtask 8 - International Database on Demand-Side Management Technologies and Programmes	INDEEP Analysis Report 2004 <a href="http://www.ieadsm.org/Files/Tasks/Task%20I%20Subtask%208%20-%20International%20Database%20on%20Demand-Side%20Management%20Technologies%20and%20Programmes/Archive/indeep%20analysis%202004.pdf">http://www.ieadsm.org/Files/Tasks/Task%20I%20Subtask%208%20-%20International%20Database%20on%20Demand-Side%20Management%20Technologies%20and%20Programmes/Archive/indeep%20analysis%202004.pdf</a>	The INDEEP database started in 1994 as an international tool for: <ul style="list-style-type: none"><li>• inspiring the design and planning of new DSM and energy efficiency activities;</li><li>• comparing the user's own programmes with similar types of programmes and evaluations;</li><li>• providing access to contacts concerning different types of DSM, thus creating a network.</li></ul>

# PRODUCTS



PRODUCT	STATE
<b>A. Webinars.</b>	<b>Up and running</b>
<b>B. 1. Task reports.</b> <b>2. WEB-casts</b> to promote Task Reports	<b>1. Available</b> 2. To be tested
<b>C: Issue reports.</b> Such could be derivate from the task report	Should preferably be a spin-off from webinars
<b>D. Summaries.</b> There should be (a) task report summaries and (b) theme summaries (1-2 pagers).	<b>Some first (a) are available on our web-page</b>
<b>E. Blogs.</b> Should be developed to make a more popular presentation that also laymen can use and be used to attract interest for coming webinars	<b>Some first are available on our web-page</b>
<b>F. Key messages.</b> Shorter appeals to target audiences	Should be considered by the PPC
<b>G. E-learning.</b> The setting for a more formal education. We should eventually be able to deliver courses for more or less formal training	Future opportunity
<b>H. Expert advice.</b> Anyone who have a problem related to DSM should be able to contact us and we will search for an expert	Should be considered in relation to webinars
<b>I. DSM-U Café.</b> We should have the opportunity for chatting and discussions like we have today on facebook and Linked-in. This café should also be used in developing concepts for tasks with webinars and appeals to find new participants.	<b>The forums for the DSM-U café is available</b> , but needs to be 'activated'.
<b>J. Glossary.</b> Noblesse oblige. IEADSM should provide clear definitions for DSM terms in order to help frame the DSM debate.	<b>System available. First terms defined.</b>
<b>K. DSM Community of Practice.</b> Around the webinars, we intend to gradually build a community of practice of DSM practitioners.	For 2015. But registrations for the various webinars are collected in a DSMU mailing list

# Workplan and budget

	3m	6m	9m	12m	15m	18m	21m	24m	Budget (days)
<b>Developing Products</b>									
A. <b>Webinars.</b>	One every month (Scheduling by Chairs and secretary)								Moderation and communication by ECA (32)
B. <b>1. Task reports. 2. WEB-casts</b>	Exists								
			1	1	1	1	1	1	Duty of OAs (6)
C. <b>Issue-reports.</b>		1	1	1	1	1	1	1	Editing (7)
D. <b>Theme-Summaries.</b>			2	2	2	2	2	2	Compilation (12)
E. <b>Blogs.</b>	1	1	1	1	1	1	1	1	Writer (8)
F. <b>Key messages.</b>			1	1	1	1	1	1	Writer (6)
G. <b>E-learning.</b>						x	x	x	-
H. <b>Expert advice.</b>						x	x	X	-
I. <b>DSM-U Café.</b>	1	1	1	1	1	1	1	1	Moderation (8)
Management	2	2	2	2	2	2	2	2	(16)
<u>Reporting</u>	2	2	2	2	2	2	2	2	(16)
<b>SUM</b>									<b>111 days at 1k\$</b>