energy efficiency

The DSM University

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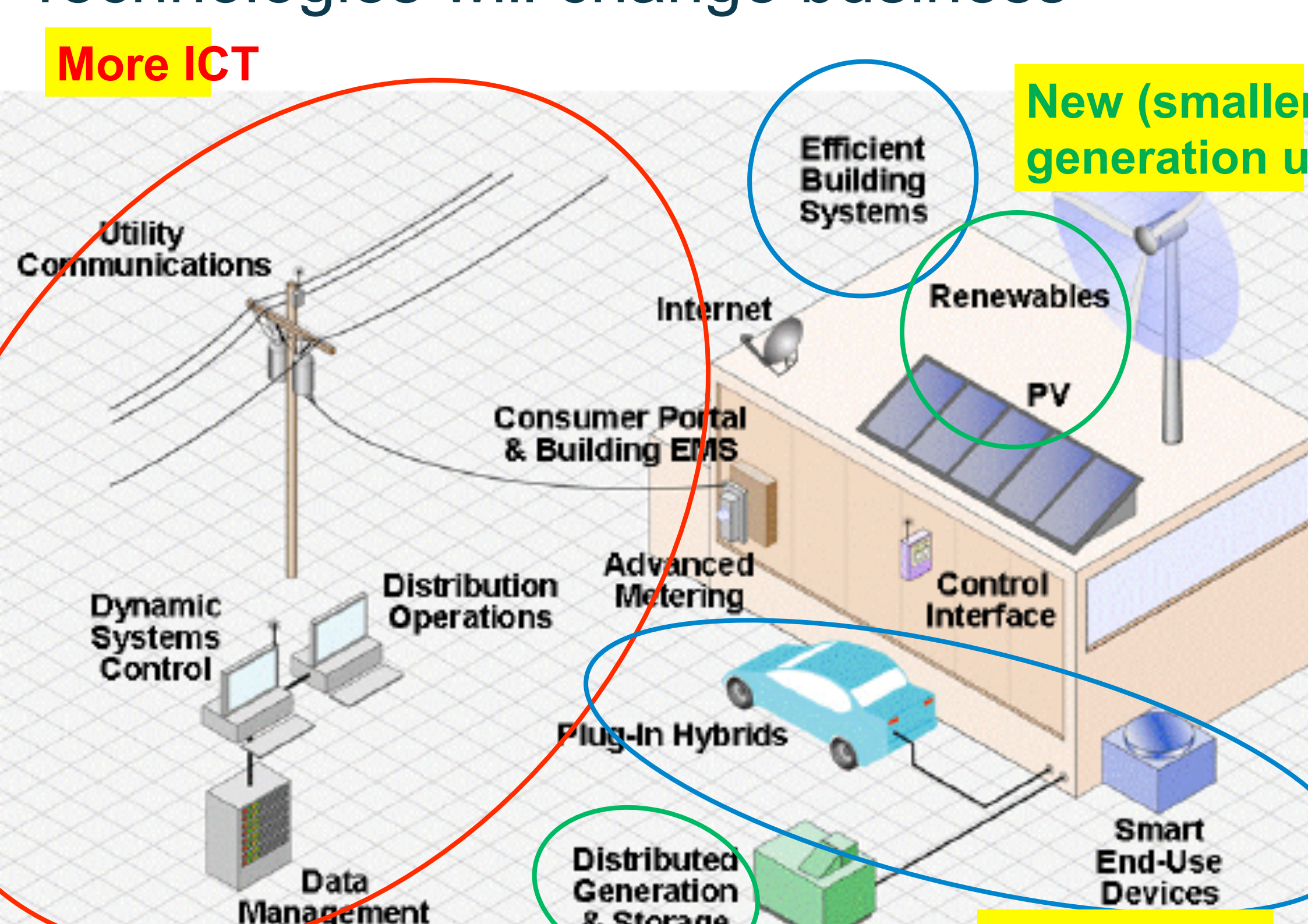
iea

We live in a period of profound changes

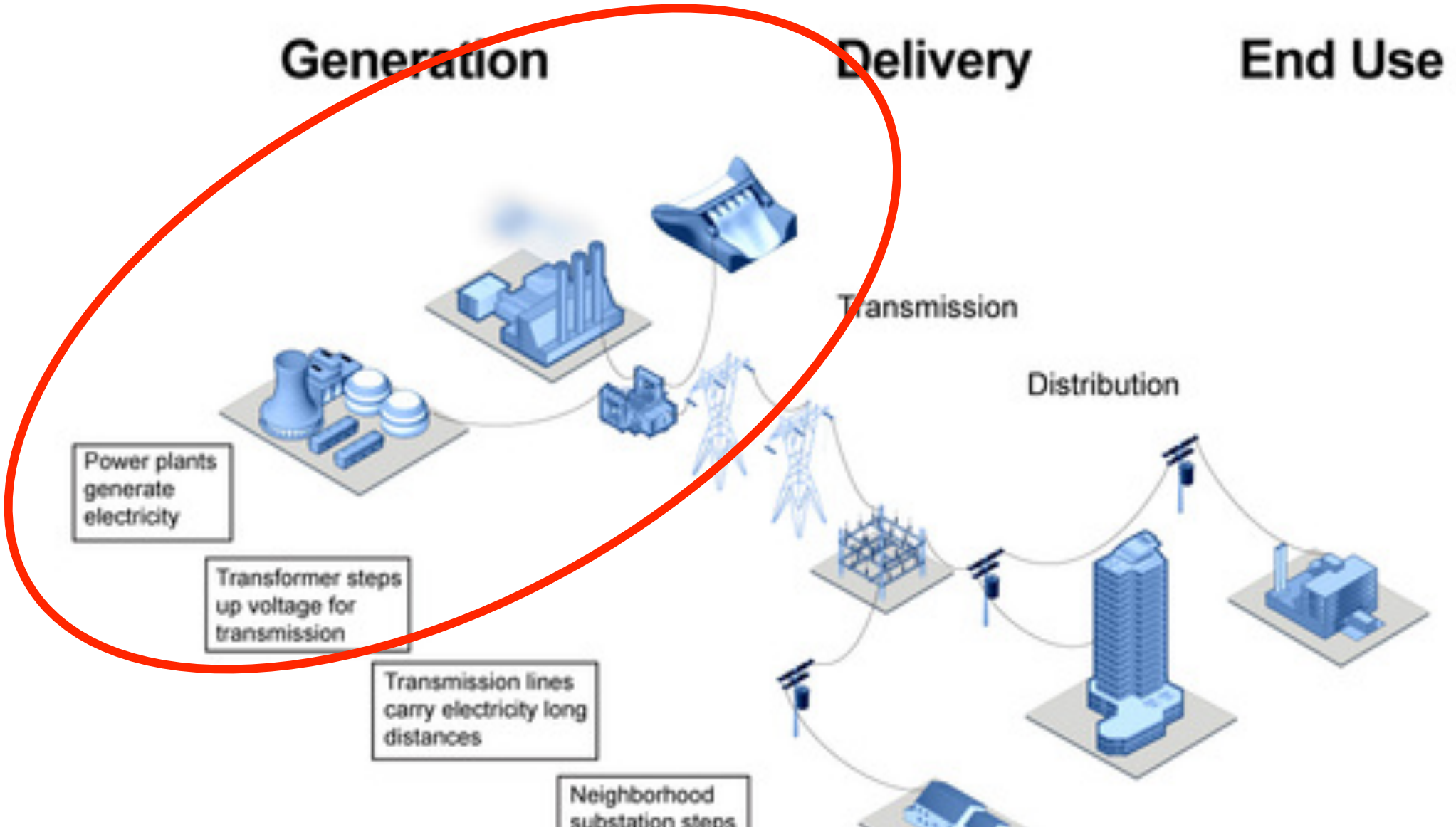
1. Technologies will allow greater participation and more choices.

2. The energy system will change from being composed from single supply units to a multitude connected in a mesh

technologies will change business

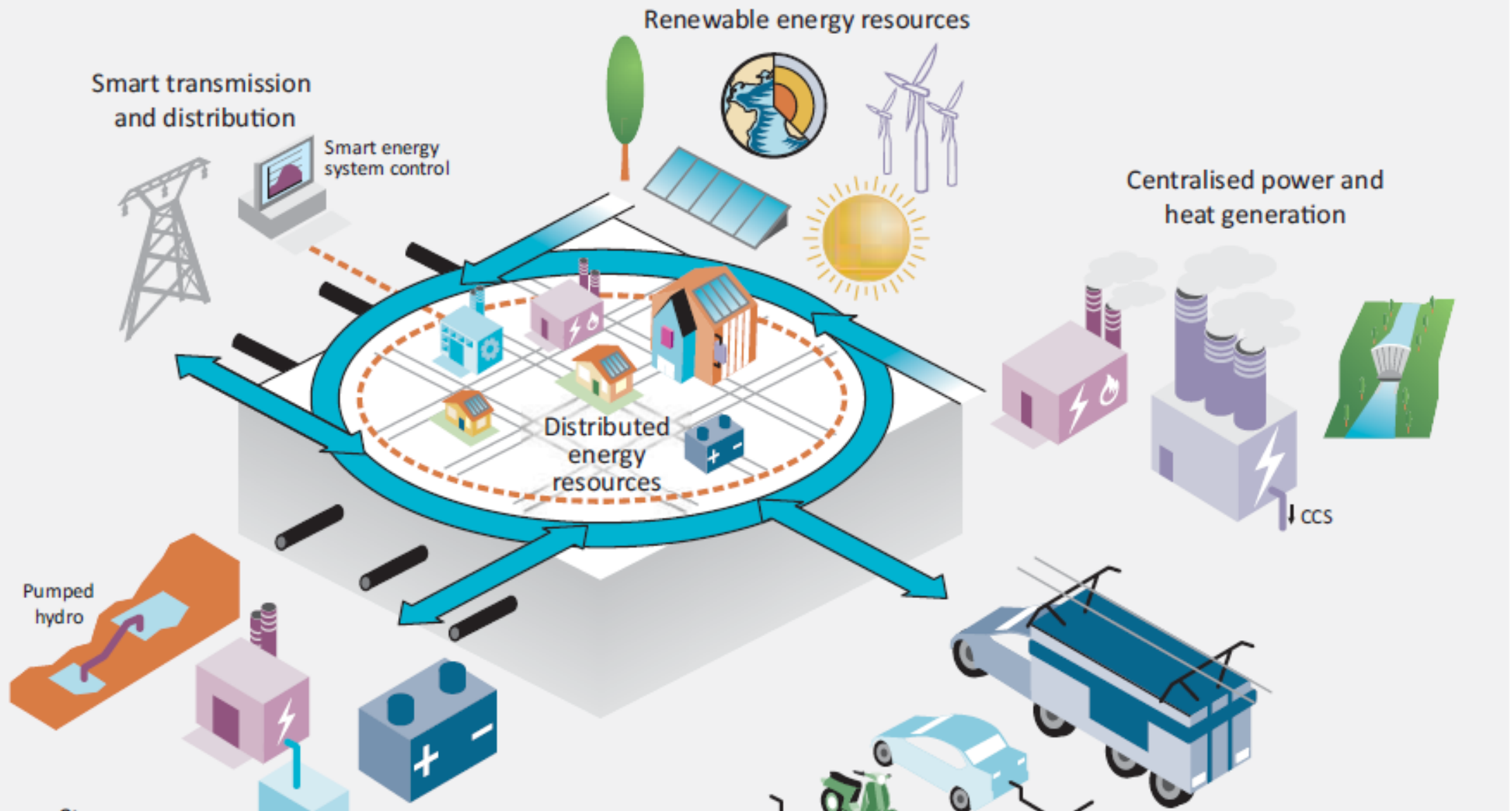


The traditional ***linear*** system



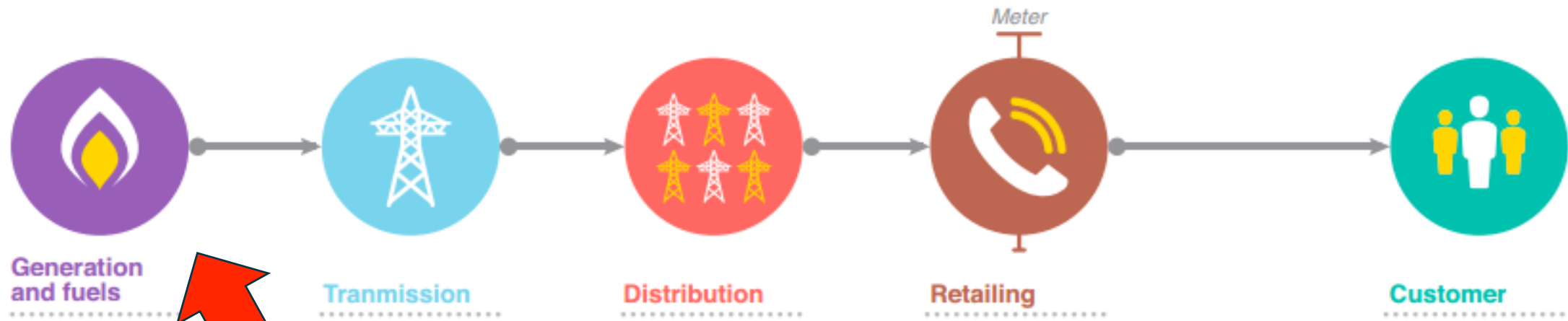
The new **mesh** system

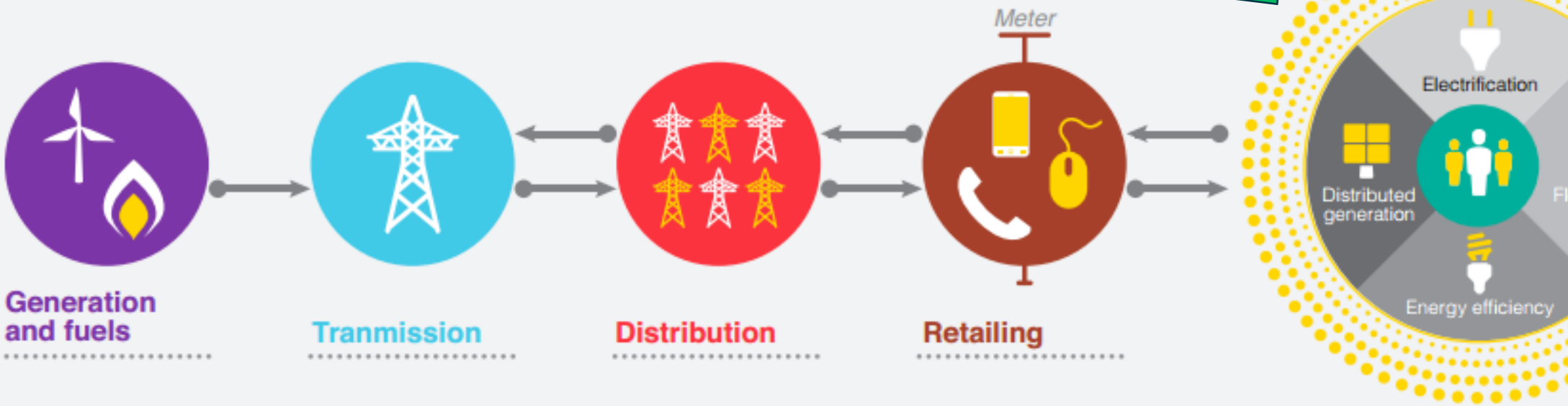
Figure I.2 The integrated and intelligent electricity system of the future



Business is changing focus

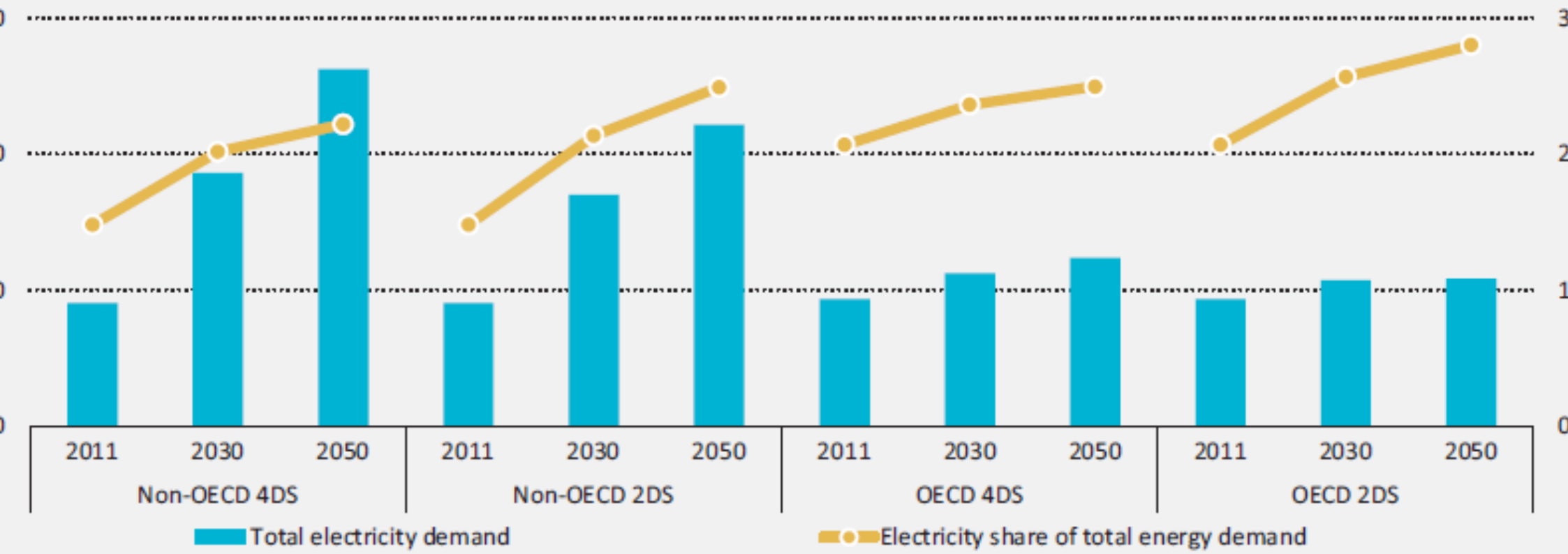
New business and investment opportunities are emerging close to the customer





And a new focus on electricity

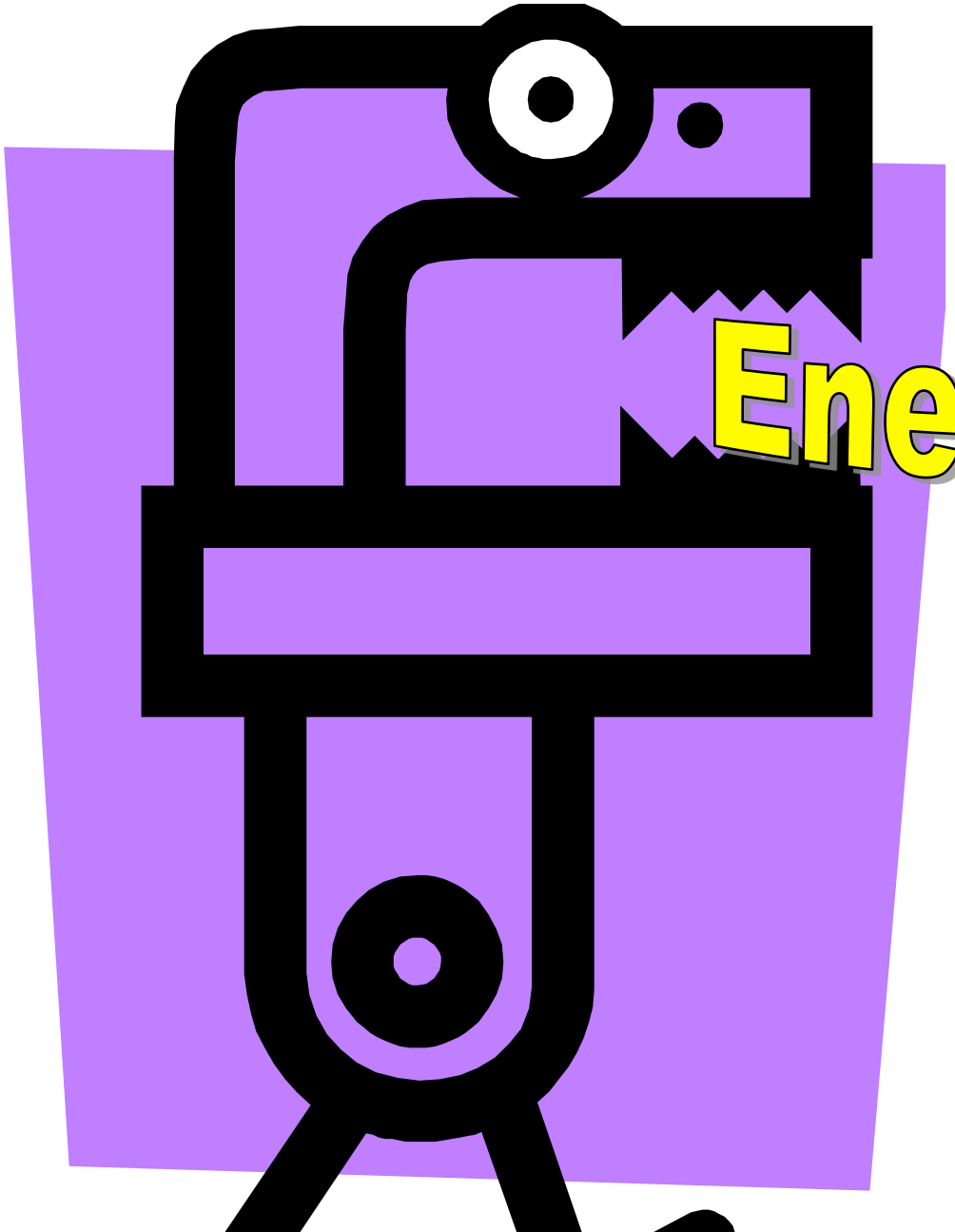
I.1 Electricity demand and share of electricity



Wh = terawatt hours. Unless otherwise indicated, all tables and figures in this report derive from IEA data and analysis.

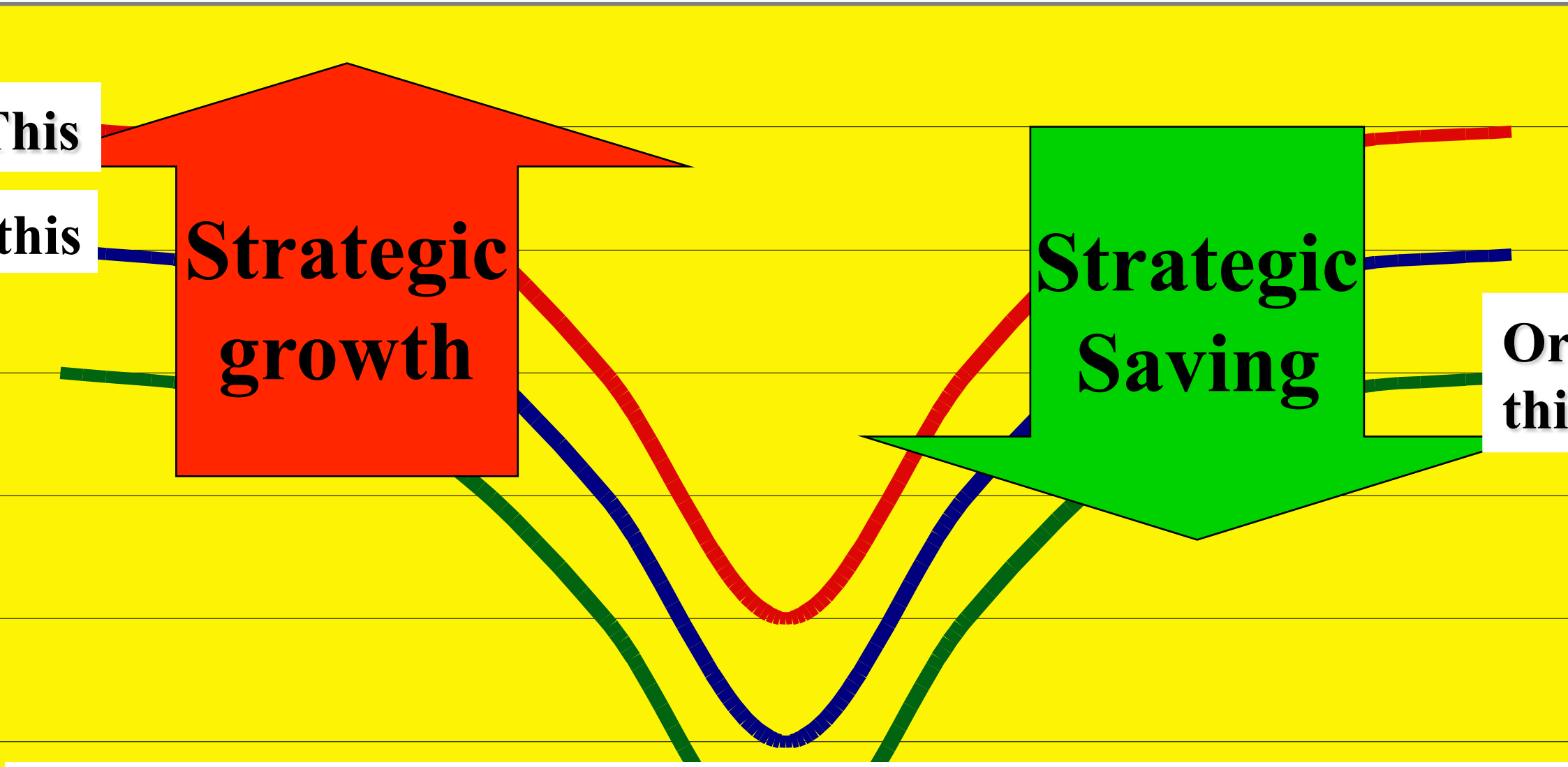
oint *Electricity demand growth differs between OECD and non-OECD countries, but the dominant trend is towards an increasing share of electricity in the overall energy m*

DSM is a tool to make large scale energy efficiency possible



Energy Demand

DSM can change the LOAD LEVEL

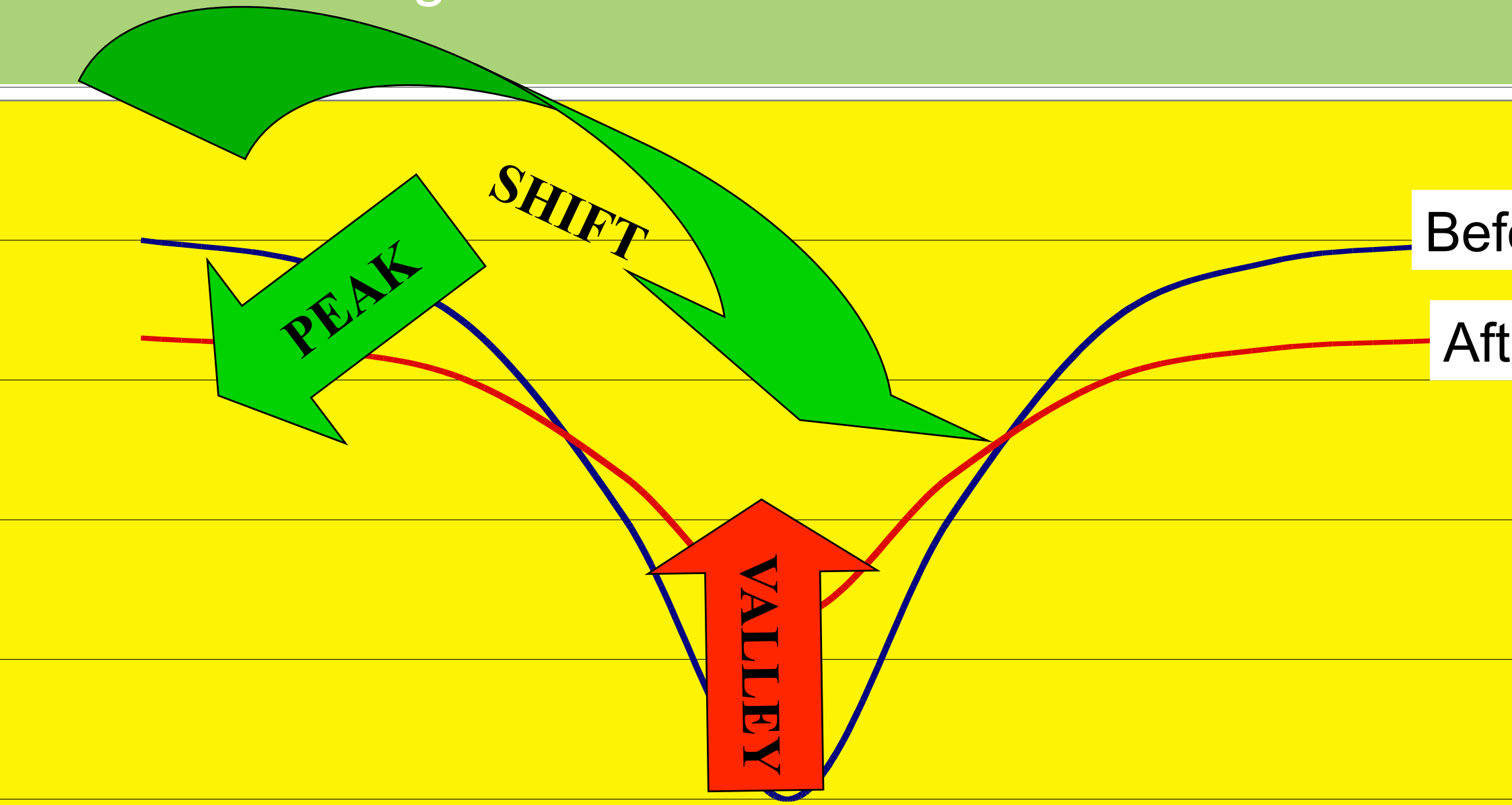


Adapts the system to the environmental requirements

DSM can change the LOAD LEVEL

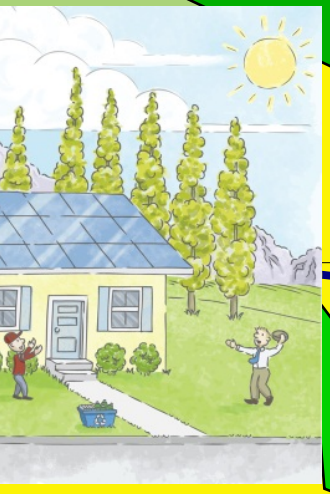
Adapts the system to the environmental requirements

DSM can Change the LOAD SHAPE



Adapts the load to the capacity of the system

DSM can Change the LOAD SHAPE



€ (but)

SHIFT

PEAK

Befo

Aft

VA

Adapts the load to the capacity of the system

Change Agents *(companies, intermediaries, catalysts)*

DSM-concept		Change agent role	Example
c essing es as are)	Monopolised markets	Deliver products and services	Paradip Port (India)
	Customer aggregation	Fundraising	Public Benefit Charges (
	Liberalised markets	Mandate utilities to achieve a set level of energy efficiency	White Certificates (Italy some Australian states) EE Commitment (UK)
tivising utilities to deliver energy ency		Decouple profit from sales volume	California Investor-owne Utilities
y Efficiency Power Station		Aggregate energy efficiency projects to the scale of a virtual power plant	Jiangsu, Shanghai and Guangdong (China) Effic Vermont
rnment Deployment schemes		Aggregation of purchasing power	FEMP (USA), Technology procurement (Sweden)

The problem is not one but several!

Load level

- a wasteful demand requires too much supply for the specific needs (The customer do not need energy! He needs the service that energy, combined with an installation, provides)

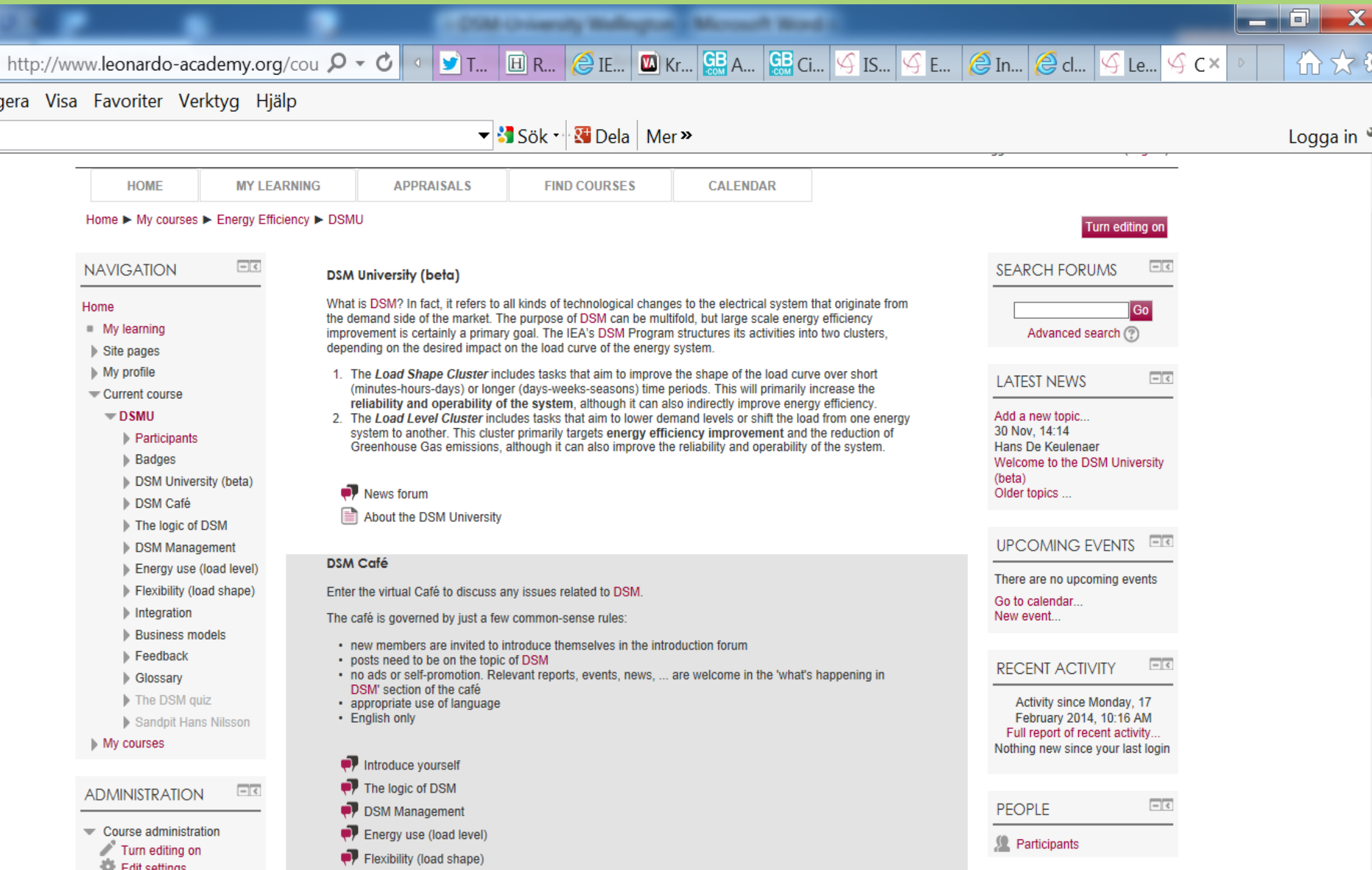
Load shape

- high peaks,
- little reserve capacity,
- bottlenecks in transmission and distribution

Market responsibilities

- who is the owner of the problem?

There is a website (www.dsmu.org)



The Structure

e Logic of DSM, in which motivations and overview is presented in particular to
sion makers and people who wants to see how issues connect to each other

ategies for DSM

e role of Efficiency and flexibility in systems (IDSM)

tors, and their roles/relations, to make DSM a reality

M potential and costs (including rebound)

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overnance (or DSM Management), in which incentives, cost/benefit, planning,
uation and regulation are dealt with but also institutional behavioural issues such
arriers and biases.

entives (carrots and sticks)

aluation

e plethora of benefits (and for whom)

nning and regulation

rriers and biases

Lecturers: 1) QAs or delegated experts, 2) Other

Structure continued

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

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

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

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

Structure continued

5. **Integration,** putting energy efficiency, storage and RES together to
ystems

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

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6. **Business models,** to deliver energy services

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

PRODUCTS

ONE

Task report

Issue Report(s)

OA +

Webinar

ONE a

SUMMARY

Interested

BLOG

TWO

E-learning

Key message

THREE

Target audience

Task reports. **WEB-casts** to promote Task Reports	**1. Available** 2. To be tested
ue reports. Such could be derivate from the task report	Should preferably spin-off from webi
mmaries. There should be (a) task report summaries and (b) theme summaries (1-2 rs).	**Some first (a) are available on our w page**
gs. Should be developed to make a more popular presentation that also laymen can nd be used to attract interest for coming webinars	**Some first are ava on our web-page**
y messages. Shorter appeals to target audiences	Should be conside the PPC
earning. The setting for a more formal education. We should eventually be able to er courses for more or less formal training	Future opportunity
pert advice. Anyone who have a problem related to DSM should be able to contact d we will search for an expert	Should be conside relation to webina
M-U Café. We should have the opportunity for chatting and discussions like we have on facebook and Linked-in. This café should also be used in developing concepts sks with webinars and appeals to find new participants.	**The forums for the U café is available** needs to be 'activa
ssary. Noblesse oblige. IEADSM should provide clear definitions for DSM terms in to help frame the DSM debate.	**System available. terms defined.**
M Community of Practice. Around the webinars, we intend to gradually build a munity of practice of DSM practitioners.	For 2015. But registrations for th

s sustainable growth possible…

..without DSM
and without
global co-
operation?

Any Questions?