“ Energy think-tank for global markets.
Global knowledge, practical strategic solutions. ”

Smart Metering
- What drives the customer ?

Dr Philip E. Lewis
VaasaETT Global Energy Think-Tank
ERGEG Workshop on Smart Metering
Brussels 14 December 2009

vaasa ett

vaasa ett

join now!

www.vaasaett.com/community

vaasa ett | GLOBAL ENERGY THINK TANK

round-tables

VaasaETT's Roundtable brings together a vast array of companies from EDF to Microsoft to conduct exhaustive research into demand response and freely share their results.

vaasa ett | GLOBAL ENERGY THINK TANK

datashare centre

VaasaETT's online library is one of the largest of its kind anywhere in the world with thousands of pages of research freely available to members. As with all our services basic membership is free.

vaasa ett | GLOBAL ENERGY THINK TANK

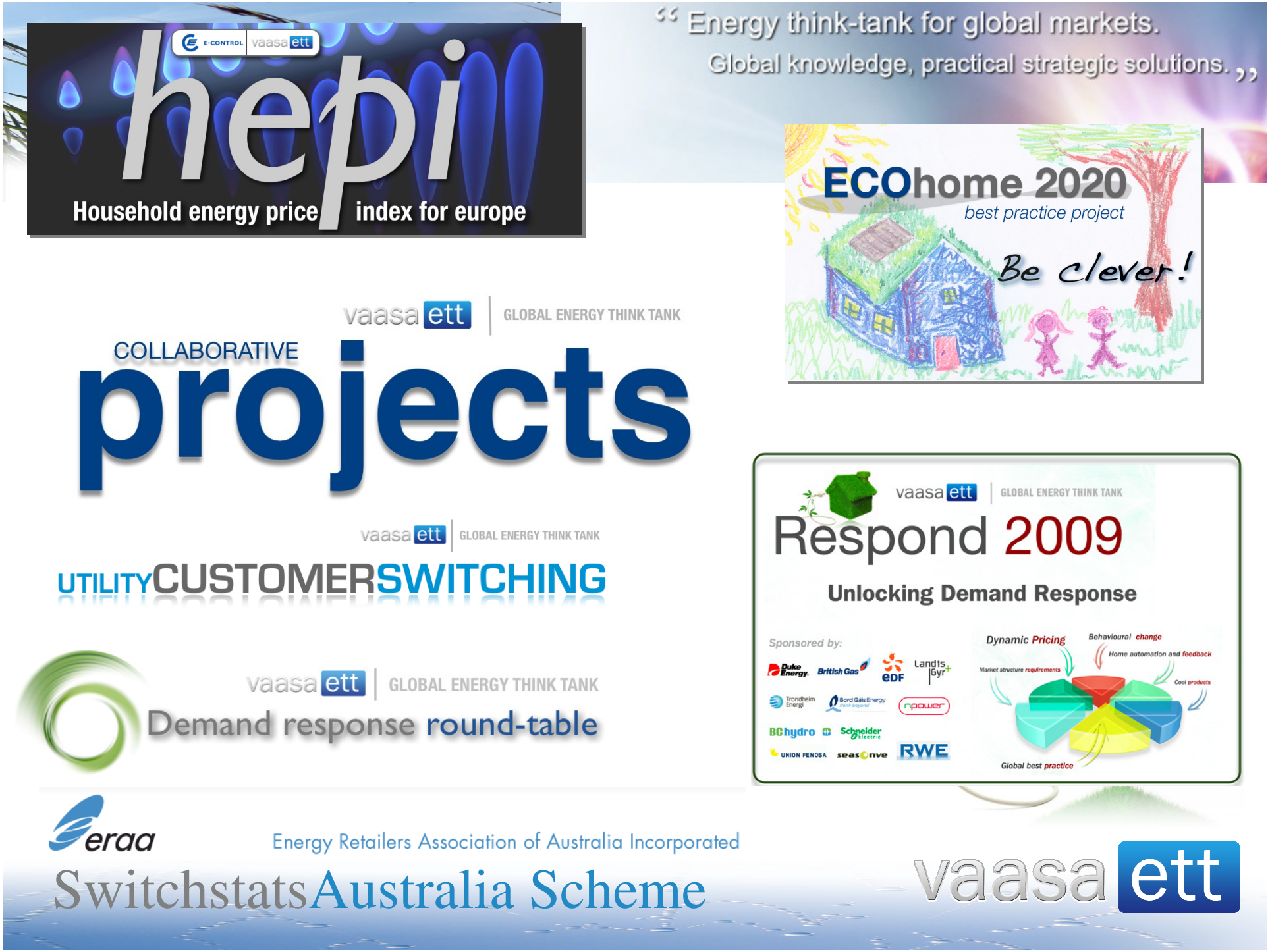
discussion forum

VaasaETT's discussion forum serves as an ideal place to make contact with other energy experts an executives from around the globe. Forum membership is and will remain free

vaasa ett | GLOBAL ENERGY THINK TANK

expert exploration

With a database of over 3000 experts VaasaETT is uniquely placed to find the people you need weather it's for a one off project or for board level executives.


E-CONTROL
vaasa ett
hepi
Household energy price index for europe
“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”
ECOhome 2020
best practice project
Be clever!
vaasa ett
GLOBAL ENERGY THINK TANK
COLLABORATIVE
projects
vaasa ett
GLOBAL ENERGY THINK TANK
UTILITYCUSTOMERSWITCHING
vaasa ett
GLOBAL ENERGY THINK TANK
Demand response round-table
vaasa ett
GLOBAL ENERGY THINK TANK
Respond 2009
Unlocking Demand Response
Sponsored by:
Duke Energy
British Gas
EDF
Landis Gyr
Trondheim Energi
Bord Gáis Energy
npower
BC hydro
Schneider Electric
UNION FENOSA
seas nve
RWE
Dynamic Pricing
Behavioural change
Home automation and feedback
Market structure requirements
Cool products
Global best practice
eraa
Energy Retailers Association of Australia Incorporated
SwitchstatsAustralia Scheme
vaasa ett

"Energy think-tank for global markets.
Global knowledge, practical strategic solutions."

vaasa ett | GLOBAL ENERGY THINK TANK

Advisory Committee

Barry T. Smitherman, Chief Commissioner, The Public Utilities Commission of Texas

Colette Lewiner, Global Energy, Utilities and Chemicals Leader, Capgemini

Tetsuo Kano, Director, JEPIC (Japanese Electric Power Information Centre)

Duncan Sedgewick, Former Chief Executive of the Energy Retail Association, UK

Dr Sarah Darby, Research Fellow, Environmental Change Institute, Oxford University

Cameron O'Reilly, Chief Executive, ERAA (Energy Retailers Association of Australia)

Frank de Kruif, Managing Director, Synergy Events

Prof. Jean Michel Glachant, Professor, Loyola de Palacio Chair & Director of the Florence School of Regulation

Tomaz Oresic, Group Head of Marketing for Central & Western Europe, EFT Group

Frederic Pocheau, Head, Renewable Energy Development, GDF Suez, Western Europe.

Don Anderson, Executive General Manager Shared Services, EnergyAustralia

Dr. Gerhard Neubauer, Member of the Executive Board, Steweag-Steg, Austria

Nigel Broomhall, Head of Marketing & Business Development, Meridian Energy, New Zealand

Geoff Slaughter, USwitch, UK

vaasa ett

“ Energy think-tank for global markets.
Global knowledge, practical strategic solutions. ”

Motivating through SM & DR

vaasa ett

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

VS

So SM/DR is perhaps a relatively weak motivator !

vaasa ett

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

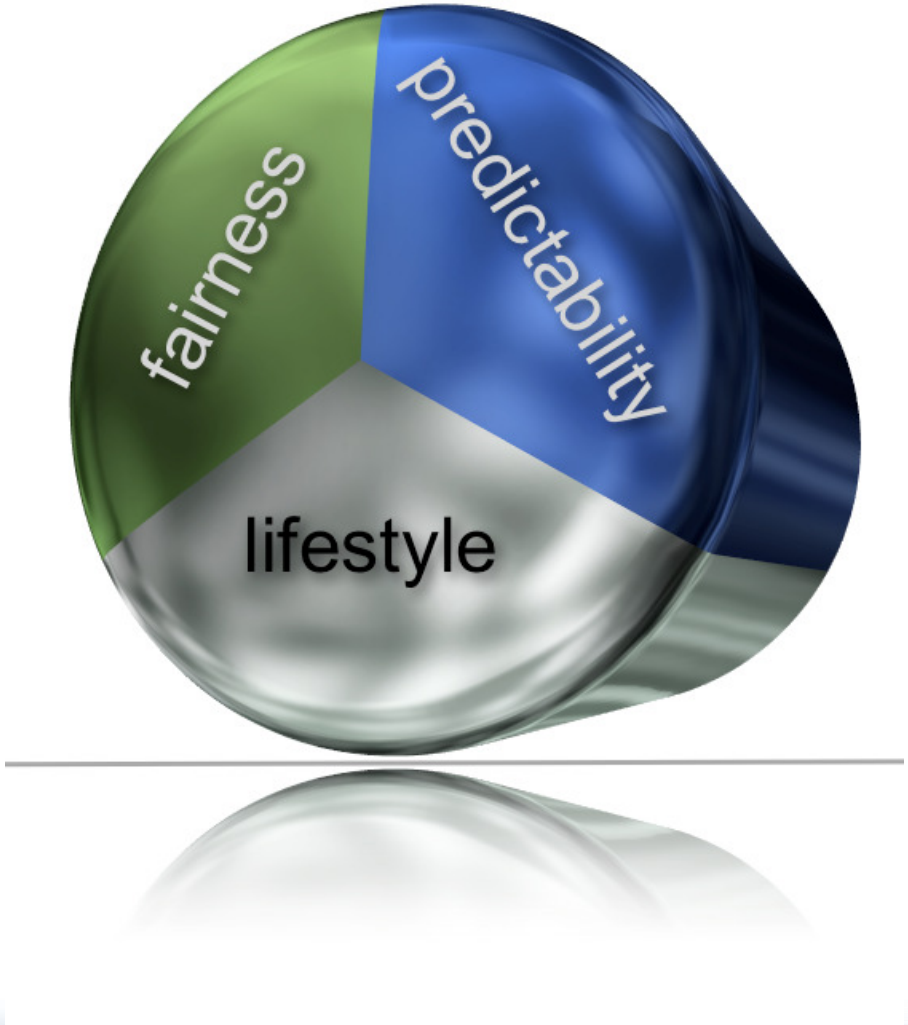
or

And Smart Meters mean nothing to customers, but...

vaasa ett

3 Utility Need Drivers

"Energy think-tank for global markets.
Global knowledge, practical strategic solutions."



DR does mean choices that meet customers needs...

vaasa ett

Lifestyle

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

Helsingin Energia

LASKUERITTELY
24.11.2008

Laskun numero	Sivu 2/2
Asiakas	
Käyttöpaikka (Laskutuskohde)	HELSINKI

Toteutunut sähkön käyttö

Mittari 41824505

sähkö		31.07.2008	0010993	31.08.2008	0011339	346 kWh
sähkö		2008	0011339	01.10.2008	0011596	257 kWh
sähkö		01.10.2008	0011596	31.10.2008	0011913	317 kWh

LUKEMALASKU 31.07.2008-31.10.2008

Sähköenergia, Yleissähkö Helsingin Energia

perusmaksu	01.08.2008-31.10.2008		1,60 e/kk	4,80 e
sähkö	31.07.2008-31.08.2008	346 kWh	5,70 c/kWh	19,72 e
sähkö	31.08.2008-01.10.2008	257 kWh	5,70 c/kWh	14,65 e
sähkö	01.10.2008-31.10.2008	317 kWh	5,70 c/kWh	18,07 e
Sähköenergia				**57,24 e**

Sähkön siirto, Yleissiirto Helen Sähköverkko Oy

perusmaksu	01.08.2008-31.10.2008		3,00 e/kk	9,00 e
sähkö	31.07.2008-31.08.2008	346 kWh	3,06 c/kWh	10,59 e
sähkö	31.08.2008-01.10.2008	257 kWh	3,06 c/kWh	7,86 e
sähkö	01.10.2008-31.10.2008	317 kWh	3,06 c/kWh	9,70 e
sähköverot 1 lk	31.07.2008-31.10.2008	920 kWh	1,07726 c/kWh	9,90 e
Sähkön siirto				**47,05 e**

LUKEMALASKU YHTEENSÄ **104,29 e**

TOTEUTUNEEN SÄHKÖN KÄYTÖN MUKAISET KESKIHINNAT

Sähköenergian keskihinta	57,24 e	920 kWh	6,22 c/kWh
Sähkön siirron keskihinta	47,05 e	920 kWh	5,11 c/kWh
Yhteensä	104,29 e	920 kWh	11,33 c/kWh

Helen Sähköverkko Oy vastaa sähkönjakelusta sekä verkkopalveluista Helsingin alueella.

HEA581

or

vaasa ett

Lifestyle

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

or

vaasa ett

Fairness

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

or

vaasa ett

Lifestyle / Fairness

"Energy think-tank for global markets.
Global knowledge, practical strategic solutions."

or

Predictable Benefits
(Subscription Based / Guaranteed Minimum Benefit or Refund)

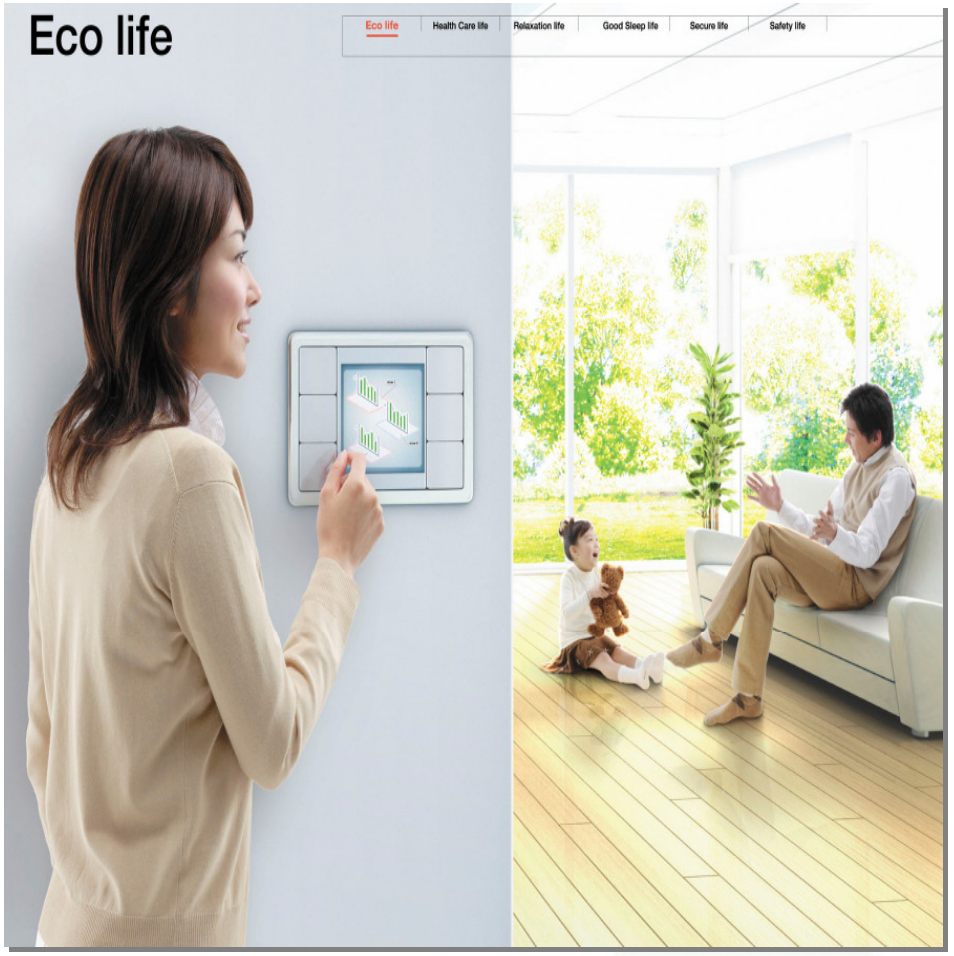
Desire for Empowerment and Control over Energy Costs

vaasa ett

Lifestyle

"Energy think-tank for global markets.
Global knowledge, practical strategic solutions."

or



vaasa ett

Lifestyle

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

or

vaasa ett

Lifestyle

"Energy think-tank for global markets.
Global knowledge, practical strategic solutions."

or

Source: Interactive Institute

Desire for Aesthetics in the Home

vaasa ett

Lifestyle

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

Nintendo DSi

or

urce: Interactive Institute

vaasa ett

Fairness

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

or

DR is based on a Mutual, 2Way, Trust based relationship

vaasa ett

Lifestyle

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

or

Individual or Mass

vaasa ett

Lifestyle / Social

or

Low Impact Behaviour as a Reflection of a Healthy, Ethical Self Image & Lifestyle

vaasa ett

efficiency feeling

The Need for Segmentation

Feedback Information

"Energy think-tank for global markets.
Global knowledge, practical strategic solutions."

Forms
- Pictorial
- Graphical
- Numerical
- Ambient indicative
- Mixed
- Education

Channels
- TV
- Phone
- In home display
- Ambient Display
- Computer
- Internet
- Bills
- Various education
- etc.

Content
- Savings (€/kWh)
- CO2
- Improvement over time
- Individual appliance use analysis
- Comparisons to neighbors etc.
- Goal Setting
- Alarms over targets etc.
- Customer customizable feedback

Education:
- Community activities

Different forms, content and channels of feedback suit different customers

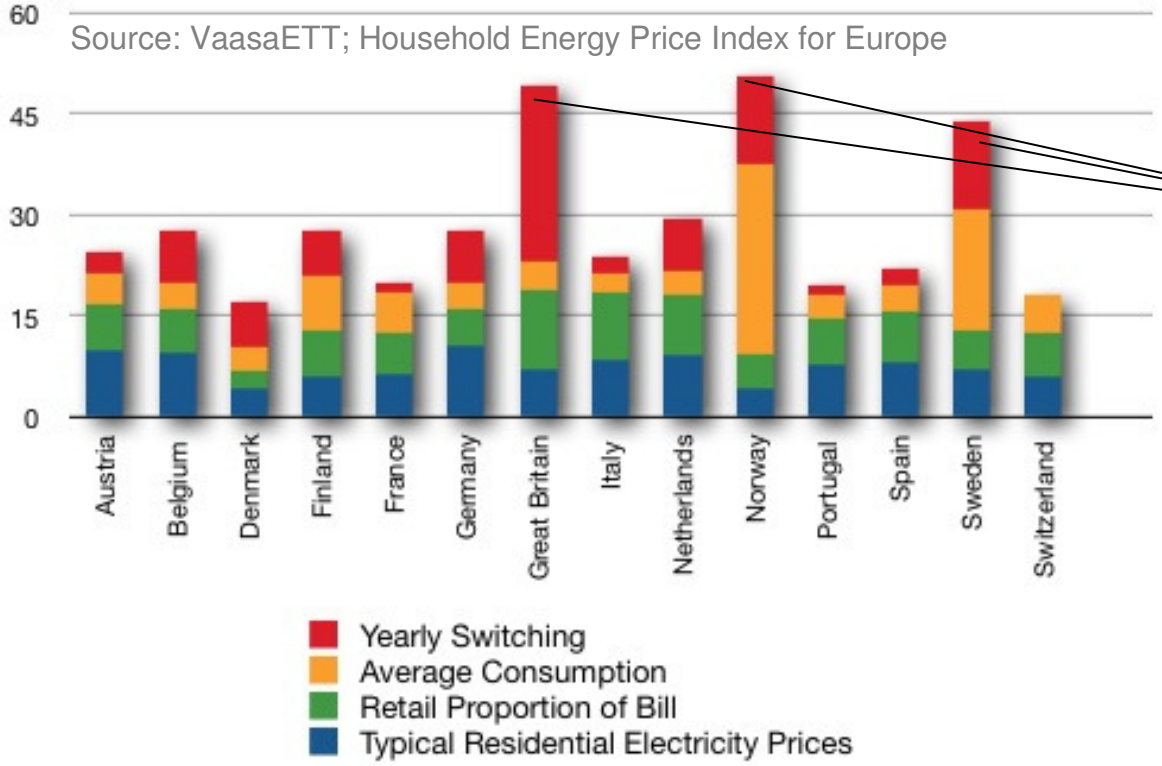
vaasa ett

Lifestyle

"Energy think-tank for global markets.
Global knowledge, practical strategic solutions."

Underlying Cost and Consumption Aprropriateness for Demand Response

Source: VaasaETT; Household Energy Price Index for Europe



Pro-active behaviour to reduce cost through consumption is likely and appropriate

NB: All values are as % sum of al countries

vaasa ett

CPP
PP
FB
HA
CPP+PP
CPP+PP+FB
CPP+PP+FB+HA
CPP+FB
CPP+HA
CPP+FB+HA
CPR+PP
CPR+PP+FB
CPR+PP+FB+HA
CPR+FB
CPR+HA
CPR+FB+HA
PP+FB
PP+HA
PP+FB+HA
FB+HA

Different DR combinations suit different customers. >20 have been tested in pilots. Greater segmentation = greater DR

vaasa ett

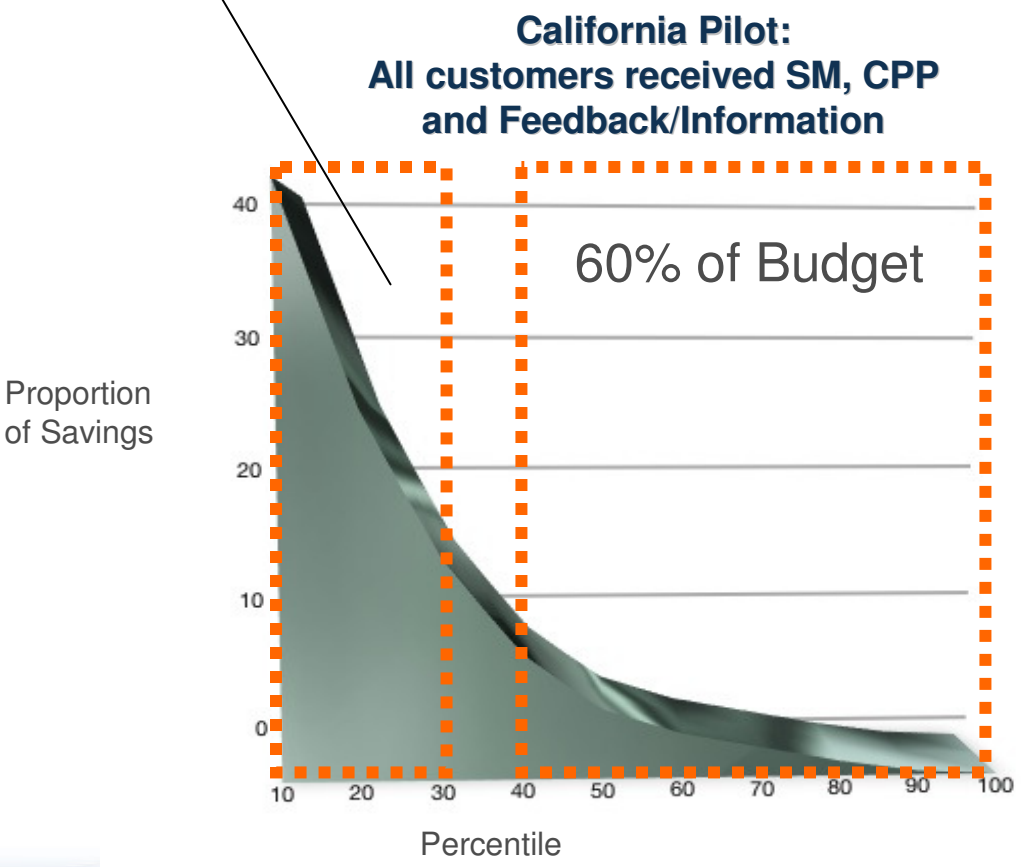
Therefore DR should be offered to the right customers, at the right time, in customized packages (product bundles)

This requires smart powerful CIS/MDM

vaasa ett

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

80% of Savings



DR is not relevant to everyone

vaasa ett

efficiency feeling

What Makes an Attractive SM/DR Offering

□□□□□□□□ □□□ management system

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

Diverse &
Versatile

Cool, Stylish and
Fashionable

Fun &
Gaming

Practical &
mobile

Sustainable

EMIT

Embedded Micro Internetworking Technology

EMIT is a TCP/IP based software technology to make devices and facilities access Internet.

vaasa ett

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

Ambient

‘One-Glance’ Feedback

Not Just Based on Numbers and Graphs

Mass Customizable & Personizable

Absolute Simplicity: Service proposition clear and attractive in one sentence

Predictable Benefits (Subscription Based / Guaranteed Minimum Benefit or Refund)

Tariff/Pricing Incentives:
3 - infinite tariffs

vaasa ett

efficiency feeling

Cool Products & Services

Displays

ONZO

The ‘Wattcher’

Ambient Feedback

Source: Interactive Institute

vaasa ett

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

Fun & Games

Source: Interactive Institute

vaasa ett

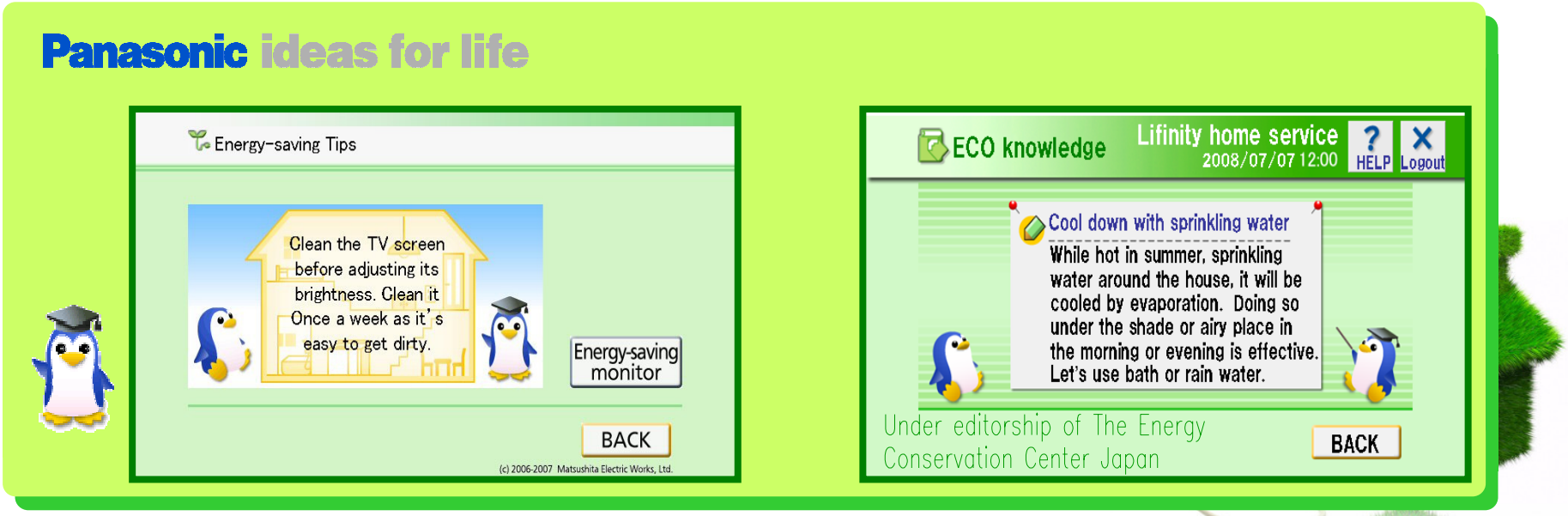
“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

Fun & Games

vaasa ett

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

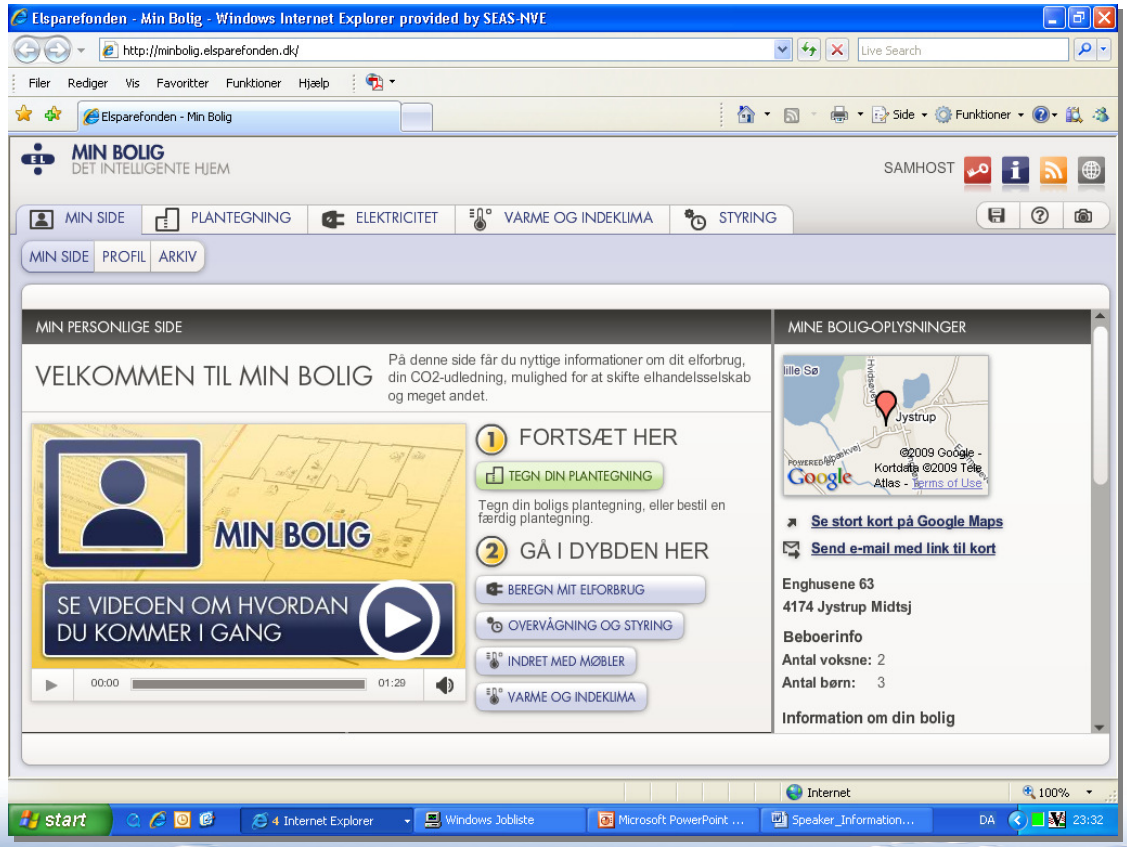
Advice



vaasa ett

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

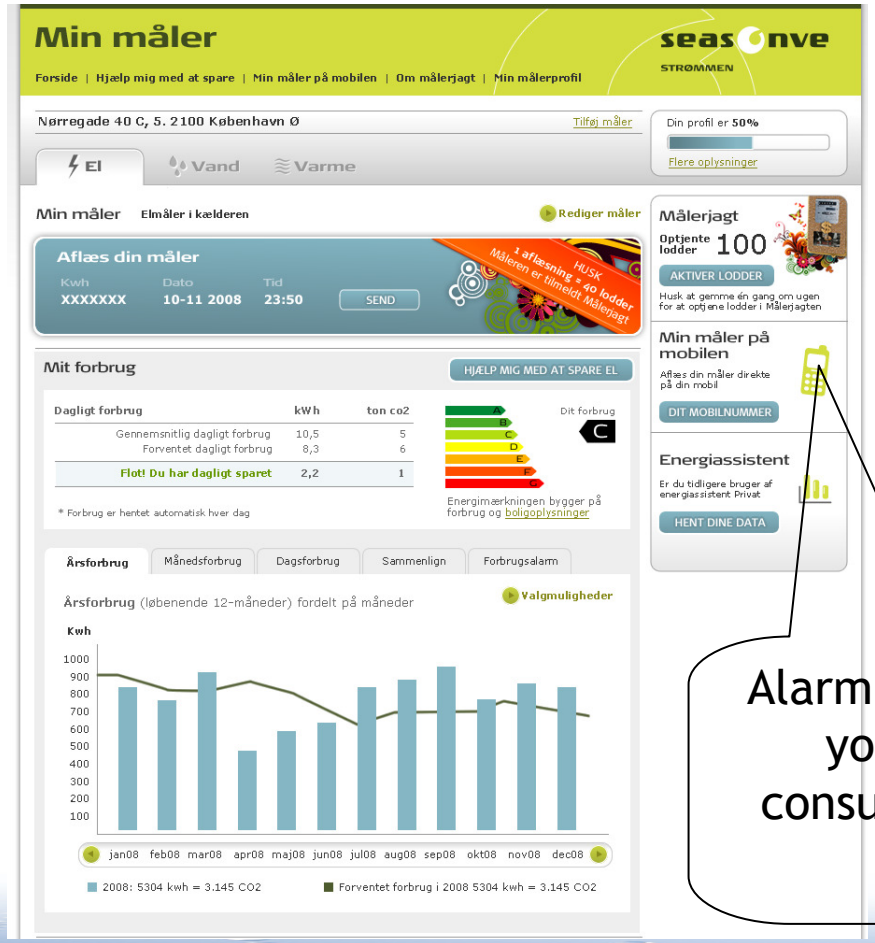
3rd Party Advice



vaasa ett

“Energy think-tank for global markets.
Global knowledge, practical strategic solutions.”

Timely Warnings



Alarm via cell phone if your electricity consumption exceeds normal

vaasa ett