



S3C
SMART **C**ONSUMER
SMART **C**USTOMER
SMART **C**ITIZEN



B.A.U.M.
Ludwig Karg
B.A.U.M. Consult
München / Berlin




Oslo, June 3, 2015

Topics



- Smart Consumer, Smart Customer, Smart Citizen – the Project
- My Family, my car, my energy system
- Storage is key
- Sharing is a trend
- Utilities are developing new services
- The contribution of S3C



2 | Internal energy market


5
GUIDING DIMENSIONS

Energy should flow freely across the EU – without any technical or regulatory barriers

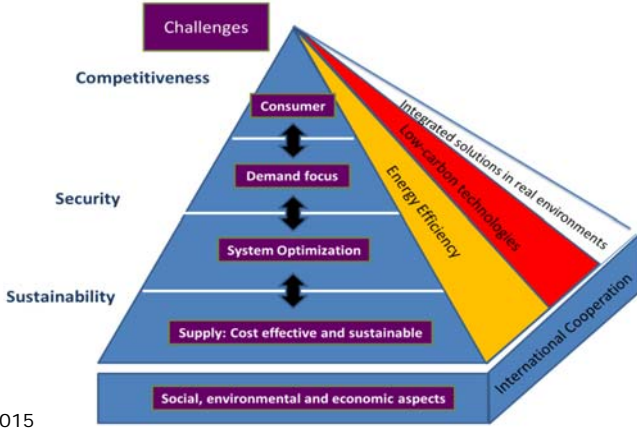
This means connecting markets through interconnections and implementing and upgrading the internal market's software while enhancing regional cooperation and empowering consumers.

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Source: DG Energy, Janis Folkmanis



SET-Plan Integrated Road-Map: Organised around 5 'Integrated Challenges' and themes



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Source: DG Energy, Janis Folkmanis

Core Idea



Support energy utilities of the future to effectively cooperate with ...

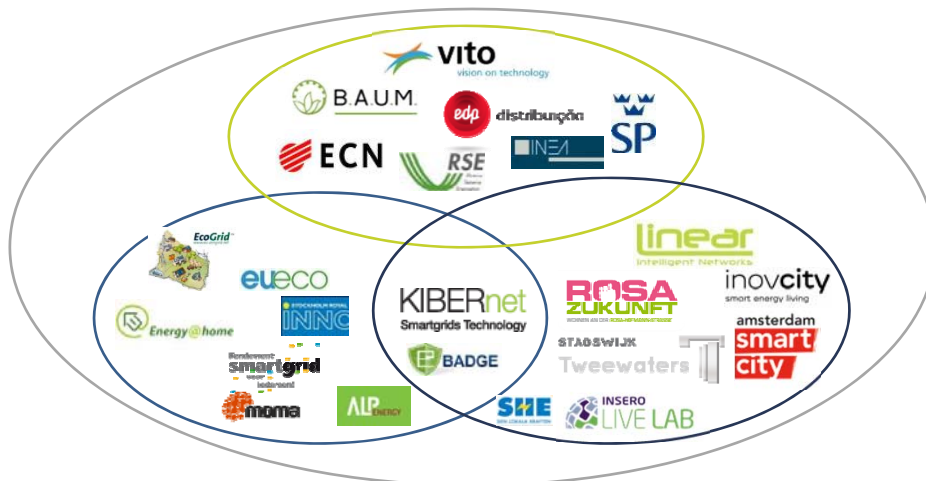


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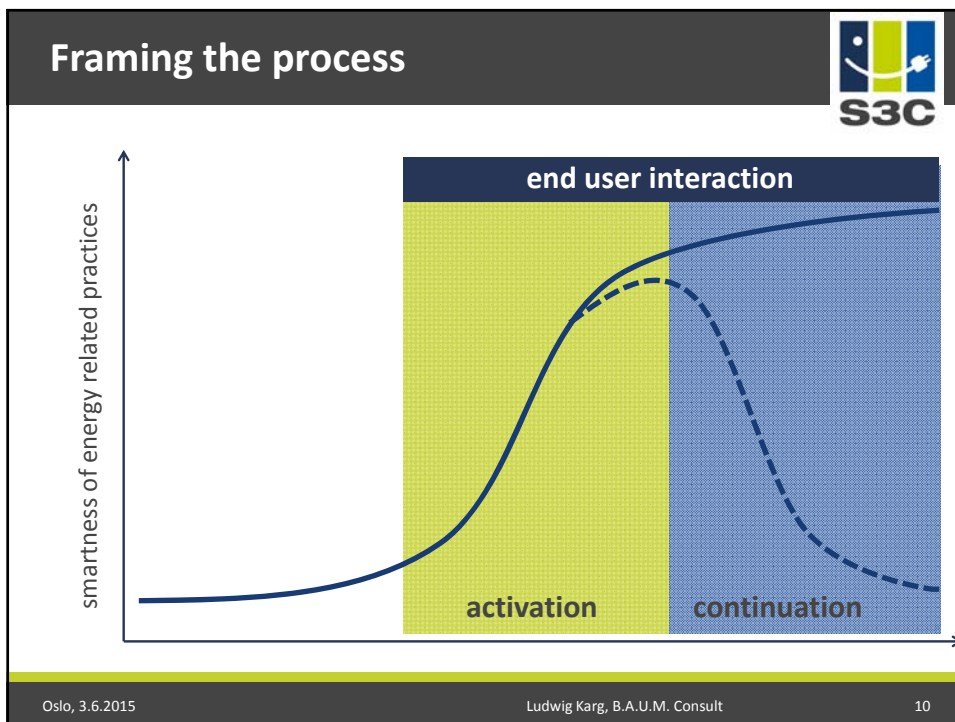
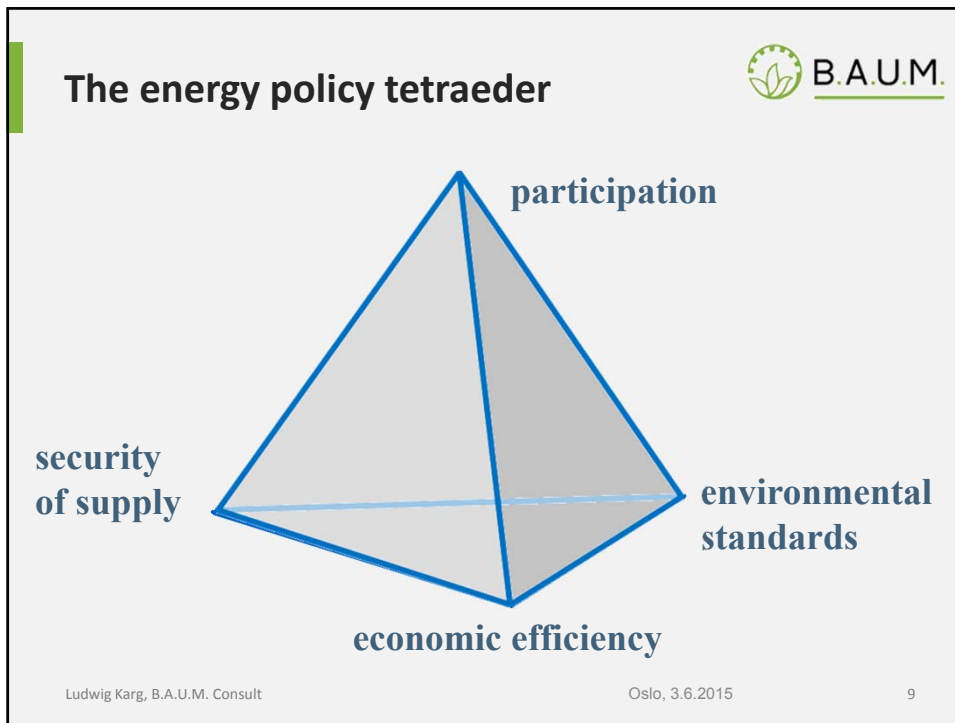
The S3C Family of Projects





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The Smart End User



Using renewable energies...

Switching retailer on the internet ...

Being rewarded for my flexibility ...

Generating energy at home ...

Saving energy ...

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What people actively do ...



I am tired. I sit down on this chair.

I need some good talks. I'll go visit my freind.

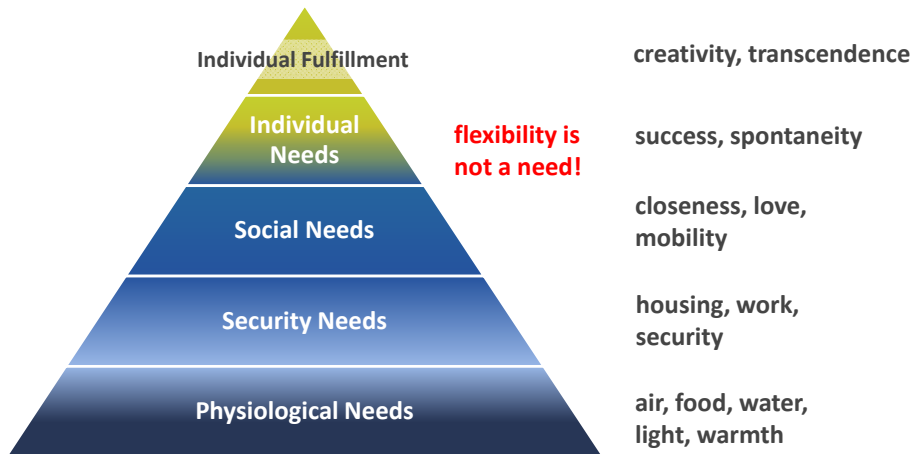
I'm hungry. I will prepare a meal.

I am
I will use some energy!

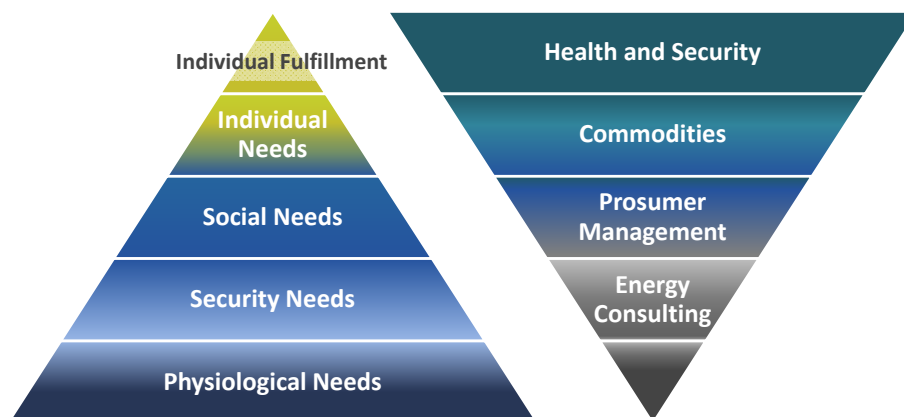


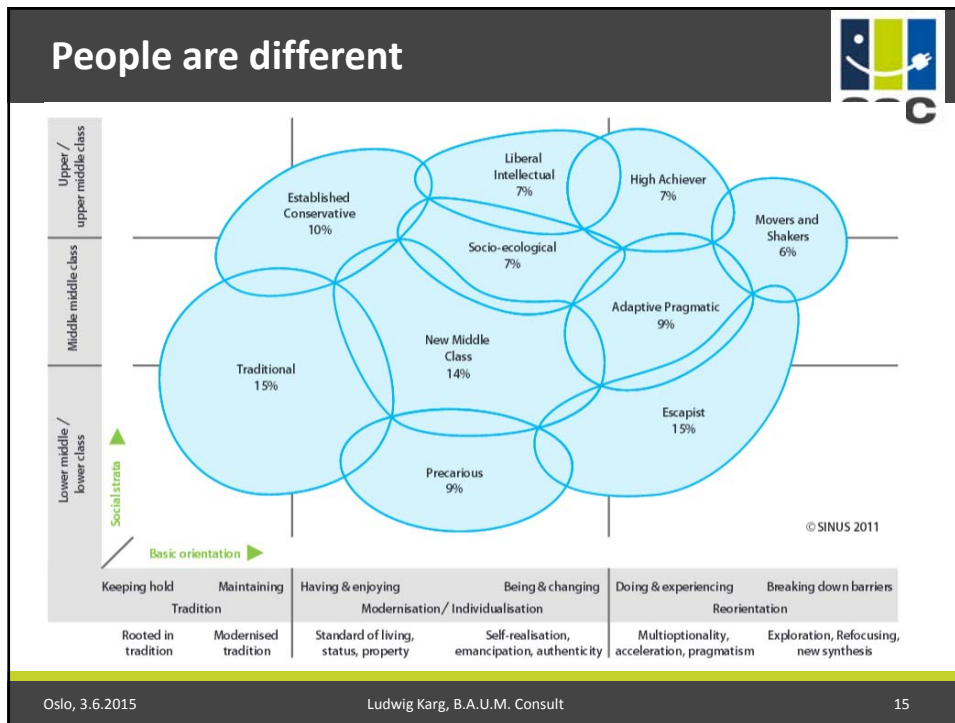
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Levels of Personal Needs (Maslow)



Developing People-Centred Products

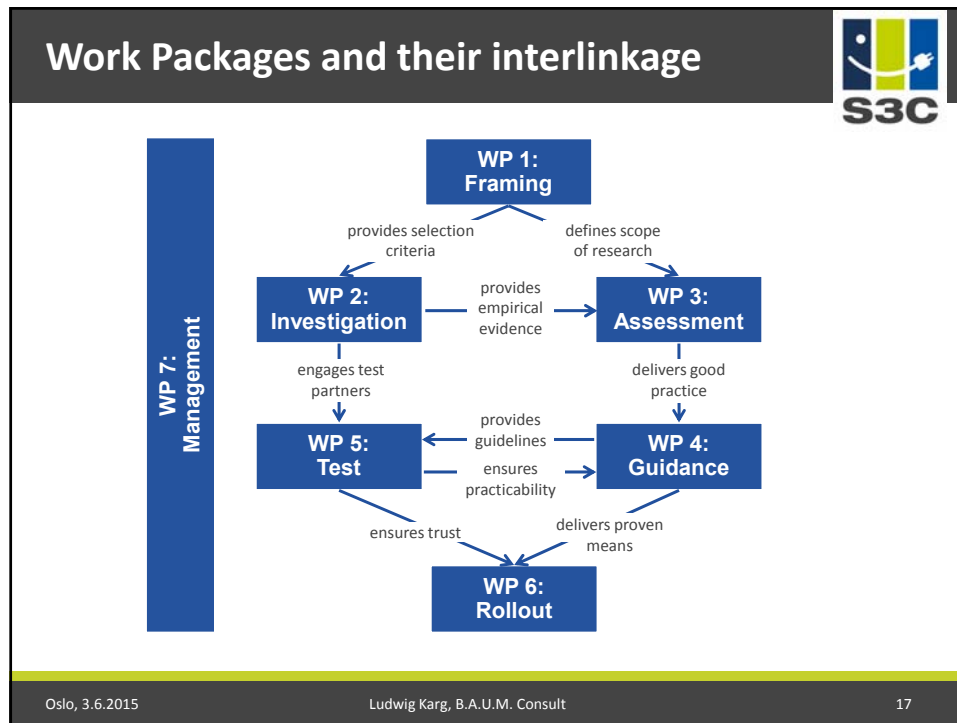





Expectations of our „customer“

- contribution to European Smart Grid discussion > consumer involvement (DOW)
- practical guidance that translates common knowledge and new findings to action in utilities (de Nigris, Sanchez, Krause)
- target group specific presentation, e. g. training seminars (ADB)

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- ## Topics
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- Oslo, 3.6.2015 Ludwig Karg, B.A.U.M. Consult 18

~~My Home is my Castle~~
My Home is my Energy System



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Autarky
Autonomy

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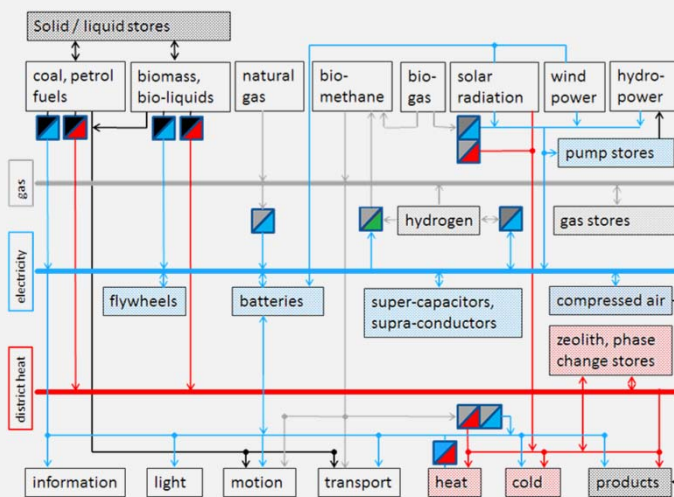
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Topics



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Energy Pathways and Storage



<http://www.alpstore.info/>

The Power-Wall: a powerful start into the markets



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Making Business with Sharing



facebook

Facebook ermöglicht es dir, mit den Menschen in deinem Leben in Verbindung zu treten und Inhalte mit diesen zu teilen.

airbnb

WILLKOMM
Miete einzigartige Unterkünfte



Startseite | Der Verein | Feedbacks

WAS KANNST DU VERLEIHEN?



UBER

MOCHTEST DU UBER PARTNER WERDEN?

HERFAHREN AUF ABRUF

CAR2GO

VANCOUVER SEATTLE TORONTO
PORTLAND MINNEAPOLIS
SAN DIEGO DENVER WASHINGTON!
AUSTIN MIAMI

carsharing247 bietet die ersten Carsharing-Angebote in Österreich an.

Wird mit dem Auto alleine zu fahren, Gemeinschaftsfahrer Umwelt und Kosten sparen.

Wideo ansehen kostenlos registrieren gratis gewinnen

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A Trend towards Sharing Economy



What we share ...



... and what we don't




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A Trend towards Sharing Economy




What we share ...

- 4.7 Erfahrungen (z.B. Bewertungen, Empfehlungen)
- 4.4 Ideen (z.B. Rezept- oder Baupläne)
- 4.3 Musik auf CD
- 4.2 Bücher
- 4.0 Mahlzeit (Gästebuch an Restaurant stellen)
- 4.0 Wohnen als MP3
- 4.0 Getränke
- 4.1 Werkzeug
- 3.9 Arbeitshilfen
- 4.3 Saunabesuch
- 3.9 Immobilien für 20 Fr./Tage ausleihen
- 3.8 Wäsche
- 3.6 Waschmaschine
- 3.4 Kuchengröße
- 3.3 Sport- oder Freizeitanmeldung
- 3.3 Jemandem zwischen 20 und 100 Fr./Tage ausleihen
- 3.4 Foto
- 3.3 Kühltisch
- 3.4 Waschmaschine
- 3.1 Kopfhörer
- 3.2 Freunde (z.B. Kontakte weitergeben)
- 3.2 Sport- oder Freizeitanmeldung
- 3.3 Jemandem zwischen 20 und 100 Fr./Tage ausleihen

... and what we don't

- 3.7 Wohnung, Haus
- 3.5 Handtasche
- 3.5 Mobiltelefon
- 3.4 Laptop, Computer
- 3.3 Schuhe
- 3.2 Schlack
- 3.1 Handy
- 3.1 Kopfhörer
- 3.2 Freunde (z.B. Kontakte weitergeben)
- 3.2 Sport- oder Freizeitanmeldung
- 3.3 Jemandem zwischen 20 und 100 Fr./Tage ausleihen
- 1.7 Bankkonto
- 1.4 Unterwäsche
- 1.4 Zahnkürze





001 / LINX Institut 2012
1 = teils, 2 = meistens, 3 = teils mit, 4 = nie

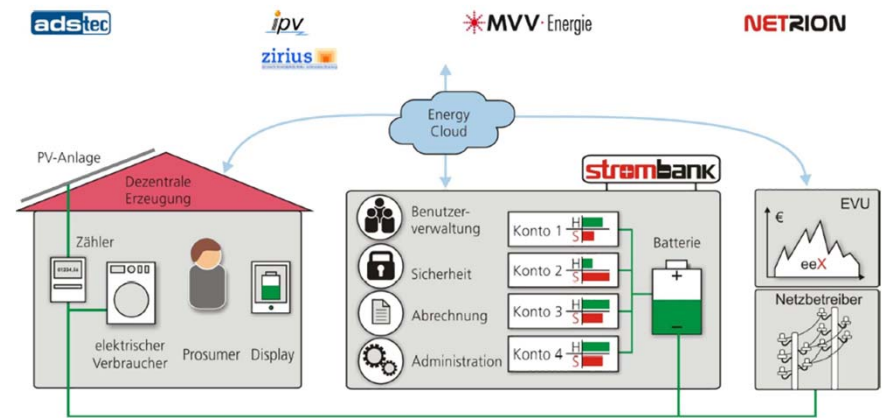
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Quelle: Vortrag von Dr. Robert Thomann, MVV Energie AG

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The Wall?

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Demand

ylqqu2

We dont need no thought control

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The Network!

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Supply

Demand

Supply

Demand

Supply

Demand

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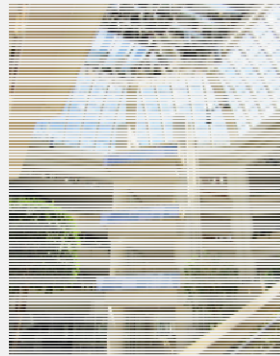
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2nd Life Batteries for Intelligent Solutions



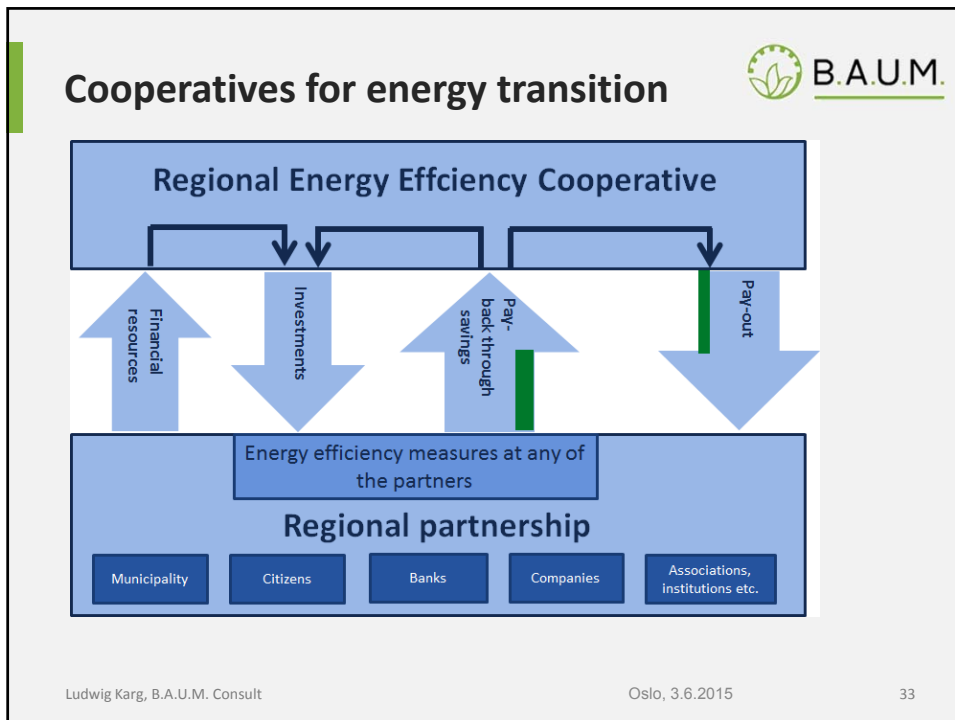
image: Renault



Crowd Funding: Sharing the financial burden



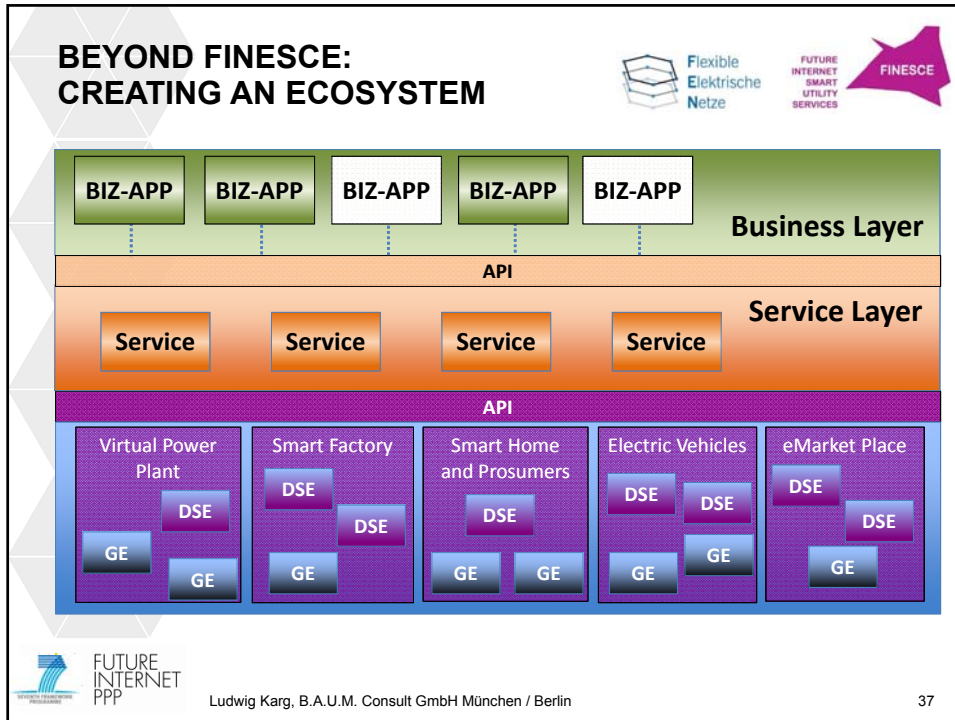
source: Crowdfunding for IndieWatt, the transportable battery for the Swiss Alps
(www.indiewatt.ch)



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SERVICES

(examples from FI PPP Phase 3)

Service	visualisation widget
Service	serious game
Service	Smart City energy performance analysis
Service	interruptable eCar charging
Service	Smart analytics for buildings
Service	interpreter for raw sensor data
Service	consumption curve disassembly („look behind meter“)
Service	remotely controllable underfloor heating

Logos: Flexible Elektrische Netze, FUTURE INTERNET SMART UTILITY SERVICES, FINESCE.

FUTURE INTERNET PPP

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BIZ APPLICATIONS

(examples from FI PPP Phase 3)

Biz App

Biz App

Biz App





Biz App


Biz App

Biz App

Biz App

Biz App


least cost supply	
live at home for longer	
energy shopping anywhere	
direct energy marketing	
community storage	
regional payback	
power flat rate	
targeted product marketing	





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New business models: a long way to go?







 by CDTM

energy on the go

- living at many places
- charging notebooks and mobiles anywhere
- charging electric vehicles anywhere?

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Extreme direct marketing





Strom geben

Du betreibst im Keller, Garten oder auf dem Dach eines Hauses eine kleine Erzeugungsanlage und speist überschüssigen Strom ins Netz ein? Nutze buzzn und teile ihn mit Menschen in Deiner Nähe!

Mehr erfahren


Jetzt anmelden

Strom nehmen


Dir ist es wichtig, wen Du mit dem Strombezug für Dein Haus, Dein Büro oder Deinen Betrieb unterstützt? Wechsle zu buzzn und teile Deine Kaufkraft mit Stromgebern in Deiner Nähe!

Mehr erfahren


Jetzt anmelden




Die Dezentralität hat mich überzeugt.



Vielen Dank für Euren Einsatz!



Hervorragender Service!



Unser Strom jetzt bei mir zuhause!

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Regional Payback System





- no discounts!
- cross-selling with other regional suppliers





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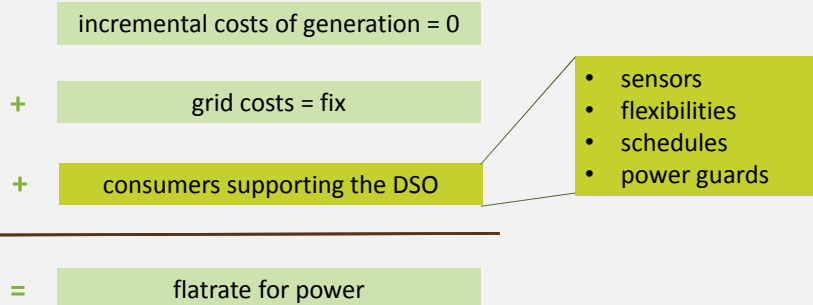
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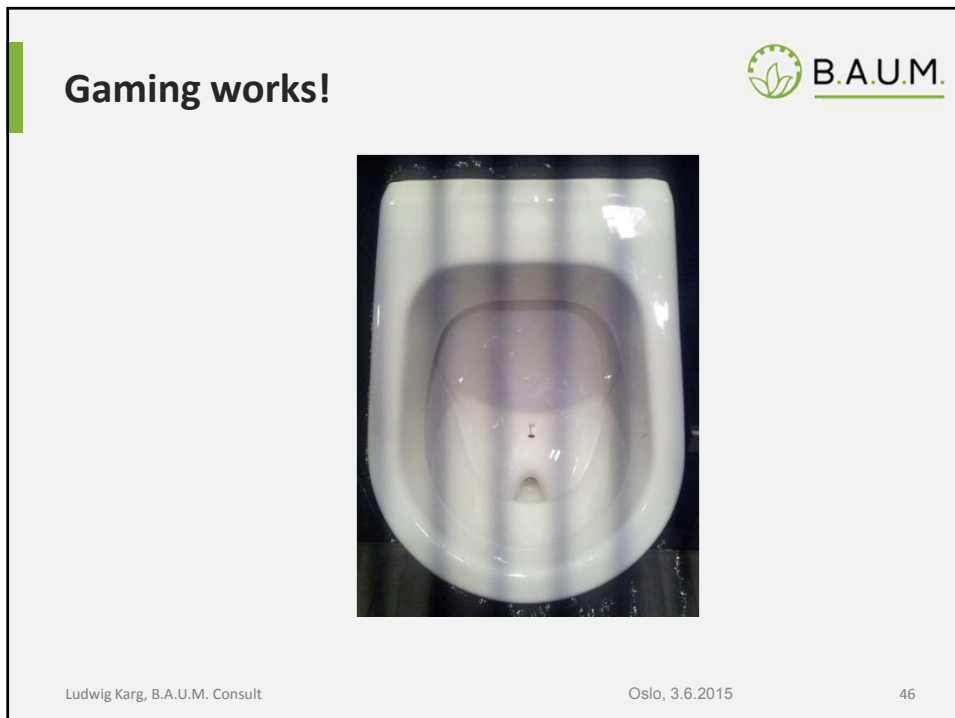
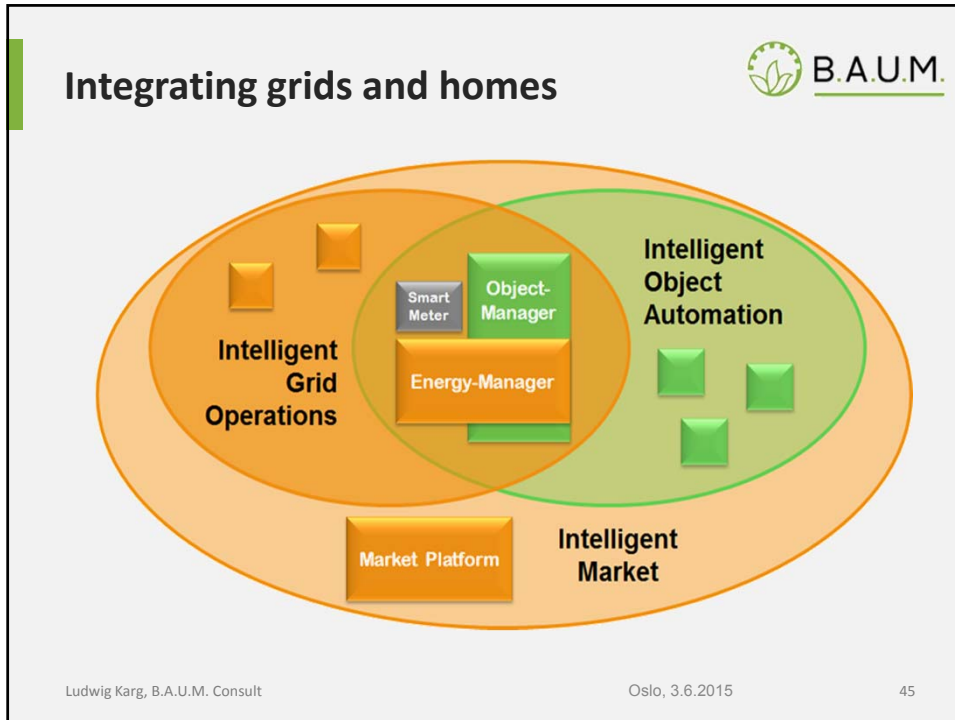
Chalk board community business




Corto Café in Rio de Janeiro





The Flatrate





Power Station? Art?

 B.A.U.M.




AÜW, Kempten

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Cross-cutting Success Factors



1. Address end users as human beings instead of as points of electricity demand
2. Obtain a thorough understanding of target groups
3. Give personal attention and build trust over time
4. Emphasize sense of place: underscoring the local character of a smart energy project
5. Draw upon community dynamics
6. Motivate end users with fun and good news
7. Test before the roll-out

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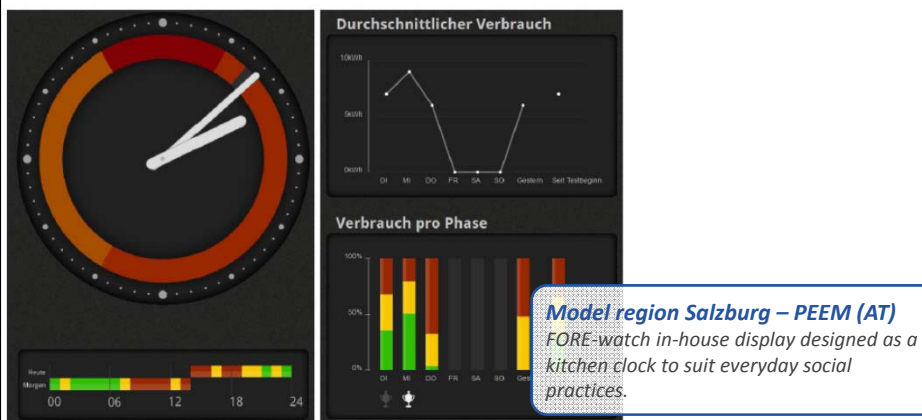
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Cross-cutting Success Factor 1



- Address End Users as Human Beings Instead of As Points of Electricity Demands!



27.05.2014

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Cross-cutting Success Factor 1



- Address End Users as Human Beings Instead of As Points of Electricity Demands!



Sala-Heby Energi (SE)

Stepwise implementation of ToU-tariff: consulting local end users to tailor the tariff structure to their needs and adjusting terms and conditions along the way.

27.05.2014

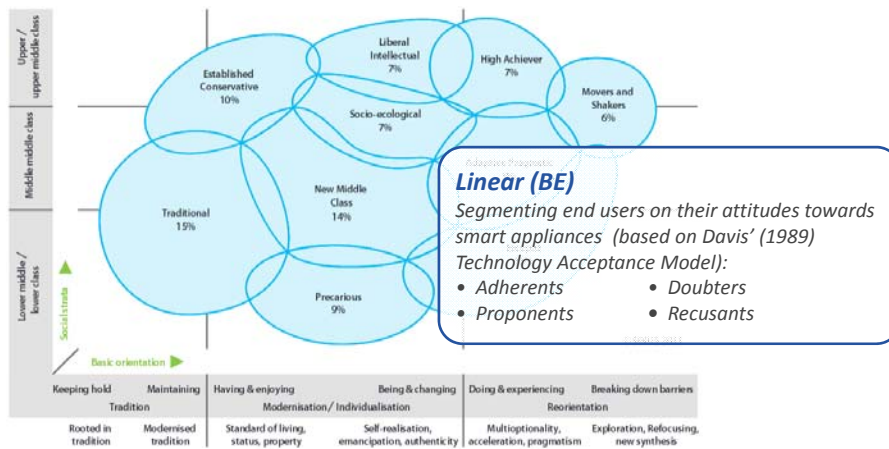
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Cross-cutting Success Factor 2



Obtain a Thorough Understanding of Your Target Group!



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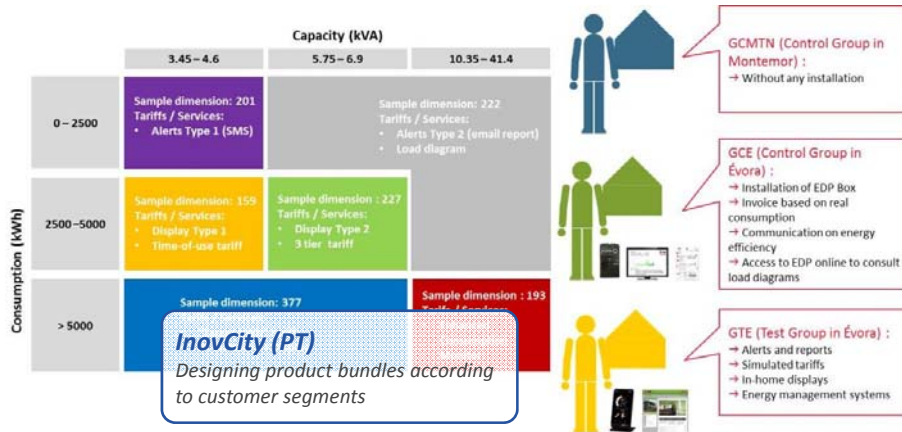
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Cross-cutting Success Factor 2



Obtain a Thorough Understanding of Your Target Group!



Cross-cutting Success Factor 2



Obtain a Thorough Understanding of Your Target Group!



Hus 14: OfficeWise (SE)
Co-Creation and Focus Groups in the Project Design Phase

Cross-cutting Success Factor 3



Give personal attention and build trust over time!

Jouw Energie Moment (NL)
Publishing personal testimonials from participating end users

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Cross-cutting Success Factor 3



Give personal attention and build trust over time!



3e-Houses (DE/ES/UK)
Home visits to create interactions with vulnerable target groups (e.g. elderly, social housing residents)



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Cross-cutting Success Factor 4



Emphasize a 'sense of place' by underscoring the local character of a smart energy project

EcoGrid (DK)

community event with a locally well known comedian and a band to inform participants and recruiting community members .



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Cross-cutting Success Factor 4



Emphasize a 'sense of place' by underscoring the local character of a smart energy project

Texel, slim zelfvoorzienend
is slim samenwerken
op energiegebied



Texel Cloud Power (NL)

Regionalised the project's name to frame it into the local habitus, taking into account regional attitudes and identities: 'Texel smart self-sufficient'



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Cross-cutting Success Factor 5



Draw Upon Community Dynamics!



Rendement voor iedereen (NL)

Community coach to shape and support the community of end users and organize a board of 'project ambassadors'.



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Cross-cutting Success Factor 5



Draw Upon Community Dynamics!



Eueco (DE)

Standardizing community processes for local energy cooperations with a reliable IT support system.



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Crosscutting Success Factor 6



Motivate End Users with Fun and Good News!



OSCAR (CH)
Gamification approach to foster energy awareness, provide hints and tips and to collect end user data.

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Crosscutting Success Factor 6



Motivate End Users with Fun and Good News!



BeAware (FI/IT/SE)
EnergyLife game (smart phone app) provides playful social comparison feedback based on consumption data and hints and tips to increase energy awareness.

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Crosscutting Success Factor 7



Test Before Roll-out: Ensure Functioning!

Technological Development

Design Phase

Adjustment phase

Implementation Phase

Include 'consumer'-
experts such as social
scientists, but also trained
installers or customer
service

Plan a **friendly user
trial** and qualitative
interactions to detect
malfunctions or flaws
in the overall design.

**Rollout functioning
equipment and be prepared
for questions and concerns**
of field test customers: Smooth
processes are a prerequisite to
acceptance

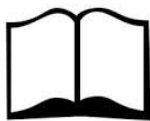
MOMA (DE) - Energy@home (IT) - Smart Metering Projekt (DE) – Linear (BE)

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S3C toolkit terminology



- **Guidelines** are presented on two levels in the toolkit:

1. Descriptive *information to explain* a topic, to address issues or questions that should be taken into account and how it relates to other topics in the toolkit.
2. Step-by-step *descriptions to implement* a tool, including do's and don'ts and practical examples – see example on the next slide.



- **Tools:** Instruments or processes that aim to facilitate the interaction of end-users with the project partners, the electricity grid, and the energy market. Tools can be *technical, financial* and oriented towards *communication and engagement*.

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Guidelines and Tools



Guidelines

Automatic and manual flexibility operation

[Baseline calculation](#)

[Bonus/malus](#)

Co-creation (under construction)

Community support

[Competition & social comparison](#)

Consumption shifting and reduction (under construction)

[End user feedback](#)

[End user segmentation](#)

Energy consultants and face-to-face support

[Evaluation through end user centred KPIs](#)

KPIs

[Gamification](#)

[Getting to know your target group](#)

[Goal setting component as an incentive](#)

Improving the method (under construction)

Introduction of peak levelling to the end user (under construction)

[Meter installation](#)

[Monetary incentives](#)

[Monitoring demand response](#)

[Monitoring functionalities](#)

Non-monetary incentives

Performance indicator data processing (under construction)

[Potential allies on the regional level](#)

[Privacy & data security](#)

Recruitment campaigns (under construction)

Self-evaluation (under construction)

[Setting up a fake tariff](#)

Setting up a price use mechanism

[Smart appliances](#)

[Stakeholder coalitions](#)

[Storytelling](#)

Tools

Co-creation workshops (under construction)

Detection of load shift capacity (under construction)

[ENact 2020 Workshop](#)

[End user segmentation \(tool description\)](#)

[End user segmentation \(excel template\)](#)

[Hotline and customer support](#)

Industrial partner engagement (under construction)

[Most Significant Change \(MSC\)](#)

[Personalised mailing template](#)

[Postcard from the future \(tool description\)](#)

[Postcard from the future \(word template\)](#)

[Questions for the evaluation within smart grid projects](#)

Strategy finder for tariffs and incentives (under construction)

[Training installers](#)

[FAQ for Installers](#)

Co-creation of Products



Pictures from the documentation of the congress „Enact 2020 – Energie-Klima-Nachhaltigkeit“, 11th of November, Erfurt, Germany.



The S3C Knowledge Platform



PRODUCTS & SERVICES

WHAT NEW SERVICES CAN I DEVELOP? >>

LEARNING

TRAIN ME HOW TO SUCCESSFULLY ENGAGE WITH MY CUSTOMERS >>

TOPICS

I'M LOOKING FOR MORE INFORMATION ON A SPECIFIC TOPIC. >>

This website is meant for anyone who is involved in, or intends to become involved in, the development of smart grid projects, products, or services in which engagement of end users plays an important role.

What you find here is a set of tools and guidelines with practical information and advice on the implementation of your project, based on in-depth investigation of a family of partner projects. The collection of tools and guidelines provides answers to questions like:

- How can I use smart grids to help people save energy?
- What should I take into account in the planning phase of my project?
- Which types of incentives are there, and when to use which one?

[READ MORE >>](#)





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