Dr. Americo Mateus (Ideas Revolution, Creative University of Lisbon)
Prof. Ruth Rettie (Kingston College London)
Dr. Henrik Karlstrom (NTNU)
Cajsa Bartusch (Uppsala University)
Dr. Erik Laes (VITO)
Michele de Nigris (RSE/ISGAN)

S3C

SMART CONSUMER
SMART CUSTOMER
SMART CITIZEN

BEHAVIOURAL SOCIAL SCIENCE PANEL: END USER BEHAVIOUR IN SMART GRIDS PROJECTS

Our Panelists

- Dr. Americo Mateus (Ideas Revolution, Creative University of Lisbon)
- Prof. Ruth Rettie (Kingston College London)
- Dr. Henrik Karlstrom (Norwegian University of Sciene and Technology)
- Cajsa Bartusch (Uppsala University)
- Dr. Erik Laes (VITO)
- Michele de Nigris (RSE/ISGAN)

Guiding Questions

- How do different academic / theoretical disciplines relate to end-user engagement in Smart Grid projects?
- What can be learned from psychological, social marketing, sociological practice theory etc.?
- How have such approaches been included in Smart Grid projects so far?
- What could be changed in the future to facilitate inter-disciplinary work on end-user engagement?

Américo Mateus

IDEAS(R)EVOLUTION – CASE STUDY INOVCITY ÉVORA

S3C

SMART CONSUMER
SMART CUSTOMER
SMART CITIZEN

27th May 2014
Hotel M'AR De AR Aqueduto, Évora, Portugal

IDEAS(R)EVOLUTION

a creative way of thinking...

CASE STUDY - EDP INOVCITY ÉVORA
UCIP - User Centered Innovation Program

Prof. Américo Mateus & Prof. Carlos Alves Rosa

IADE CREATIVE UNIVERSITY
uni@dcom IADE unidade de investigação em design e comunicação
+e+i Programa Estratégico para o Empreendedorismo e a Inovação
edp serviço universal
ERSE ENTIDADE REGULADORA DOS SERVIÇOS ENERGÉTICOS
UNIVERSIDADE DE ÉVORA

1º STAGE CO-CREATION PROCESS

Imagens das dinâmicas dos workshops realizados na Universidade de Évora:



Wks1_ Percepção, associação, reconhecimento



Wks 2 _ Experiencias de serviço (consumer journey)



Wks3 _ Observação, tendências e utilização de equipamentos (usability tests)



Wks4 _ Ideação (divergência / convergência - confronto de ideias)



Wks5 _ Experimentação e prototipagem



Wks6A _ Validação – Consenso das ideias (Delphi interno)



Wks6B_ Validação – Consenso das ideias (Delphi externo + Triz resolução contradições)

IDEAS(R)EVOLUTION

a creative way of thinking...

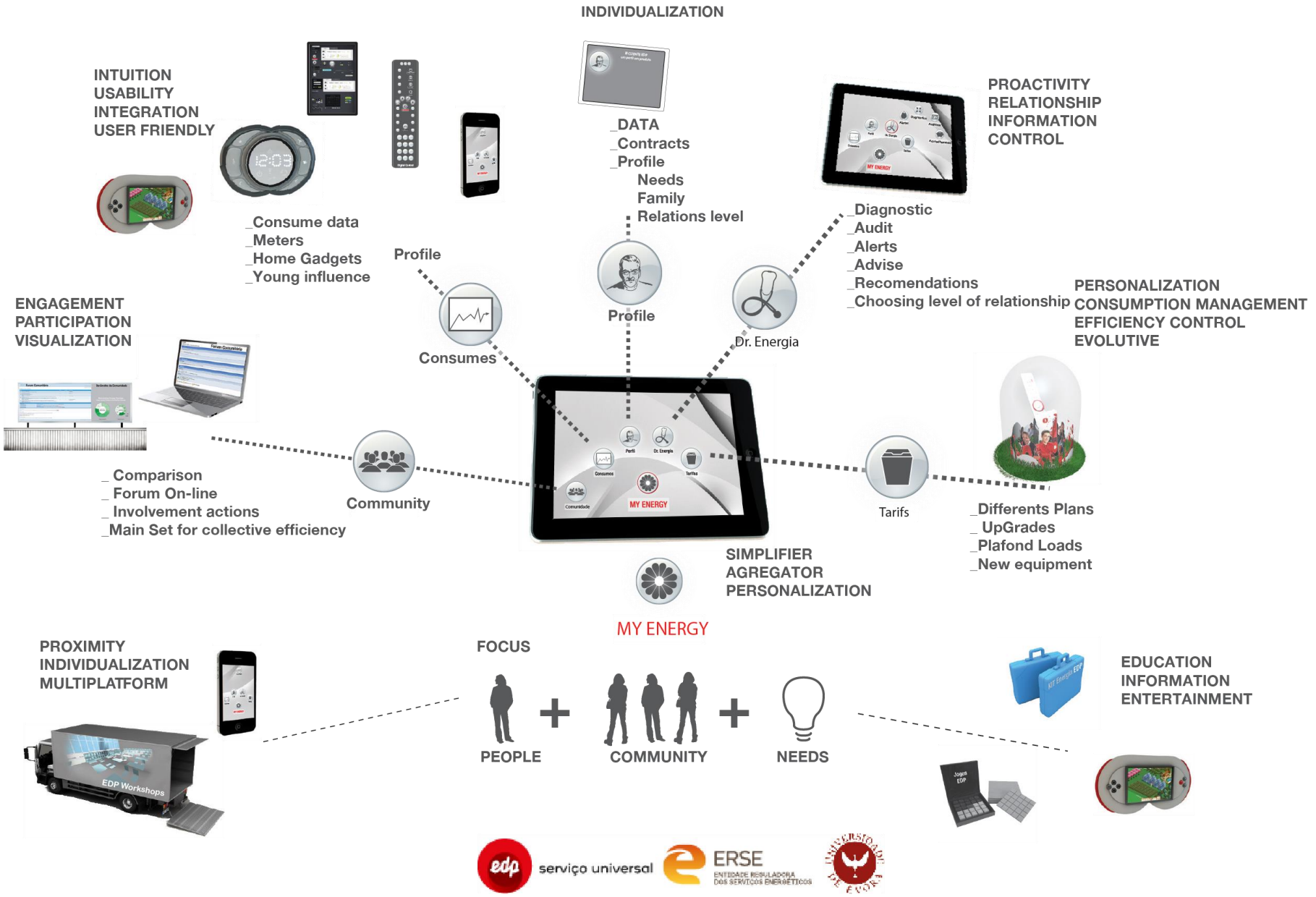
edp serviço universal

ERSE ENTIDADE REGULADORA DOS SERVIÇOS ENERGÉTICOS

UNIVERSIDADE DE ÉVORA

IDEAS(R)EVOLUTION
a creative way of thinking...

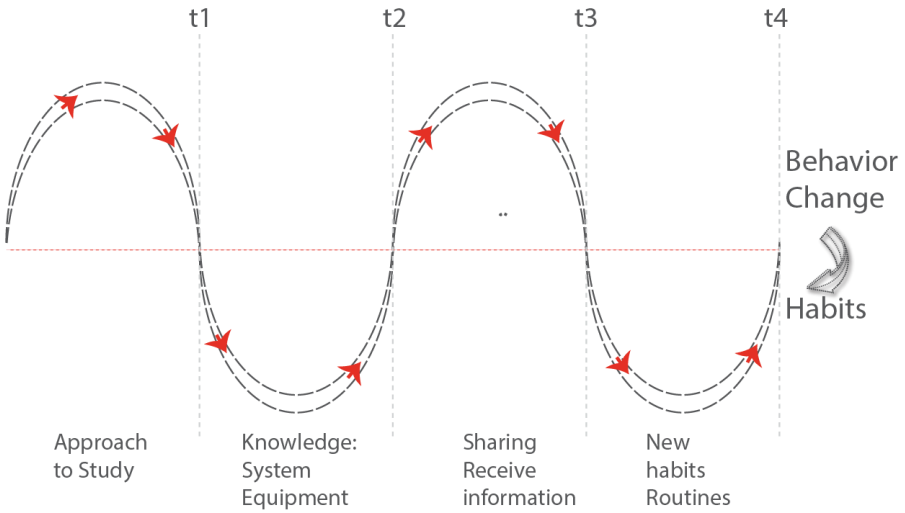
1º STAGE FINAL IDEAS MATRIX



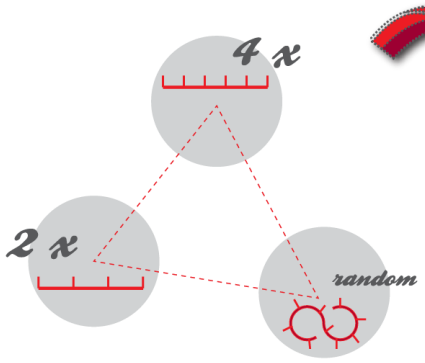
IDEAS(R)EVOLUTION
a creative way of thinking...

2 STAGE LIVING LAB - RESULTS

1 - PROCESS



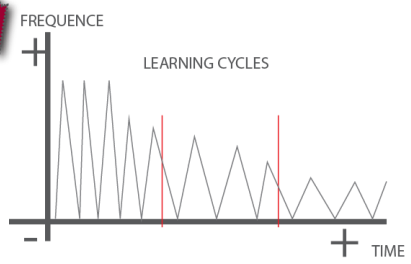
2 - IDEAL DIALOGUE



xi x t = RIE

VARIABLE INTERACTION — CONSTANT TIME

c CONSUMPTION

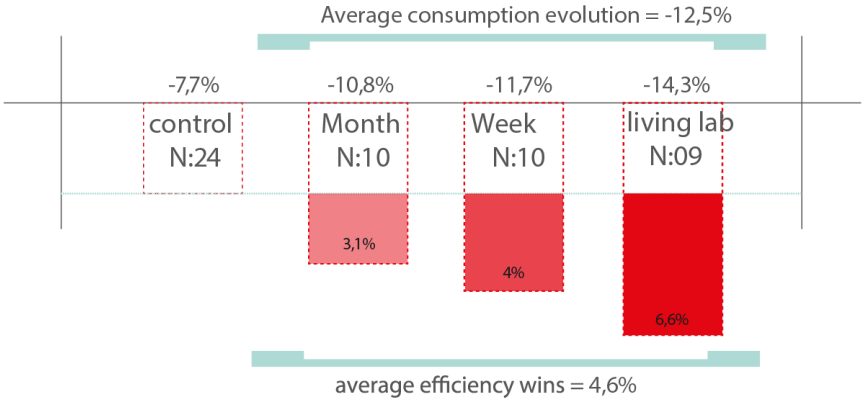


PERSONAL INTERACTION — PERSONAL TIME

$xi(p)$ x $t(p)$ = RIE(p)

3 - EFFICIENCY

Jan a May de 2013



4 - DISSEMINATION

DRIVERS

SAVINGS

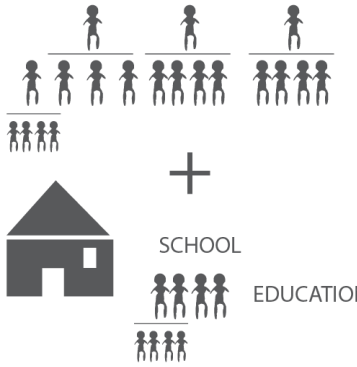
LEARNING
- Knowledge
- attitude
- habits

CONTROL
- Management
- transparency
- Pay what you spend
- Efficiency mindset

BE A PIONEER
- be the first
- share
- how the others "see me"

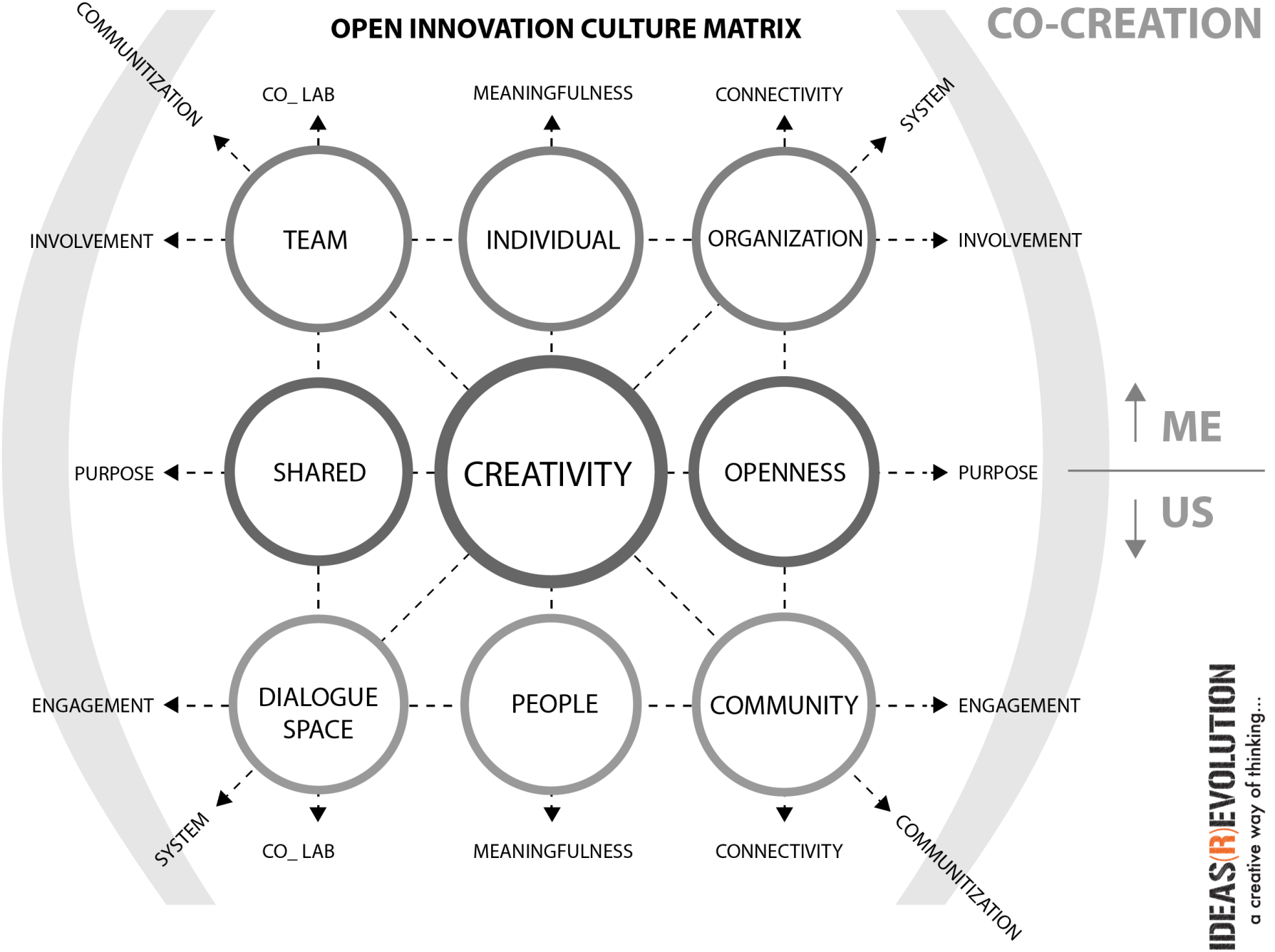
ADVOCATE
- lead communication
- advocate products
- disseminate experience "Others"

ADVOCACY



- ACTIVATION
- WOM
- HUMAN
- ADVOCATES
- PROXIMITY
- BUILD COMMUNITY

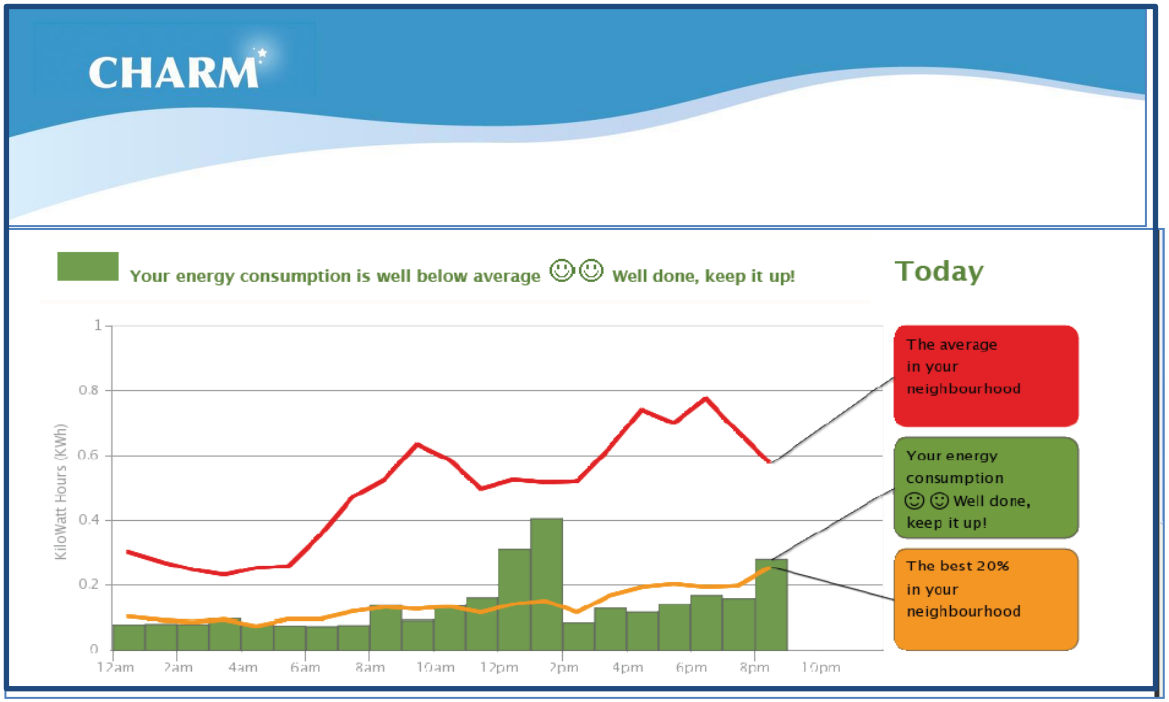
OPEN INNOVATION CULTURE MATRIX



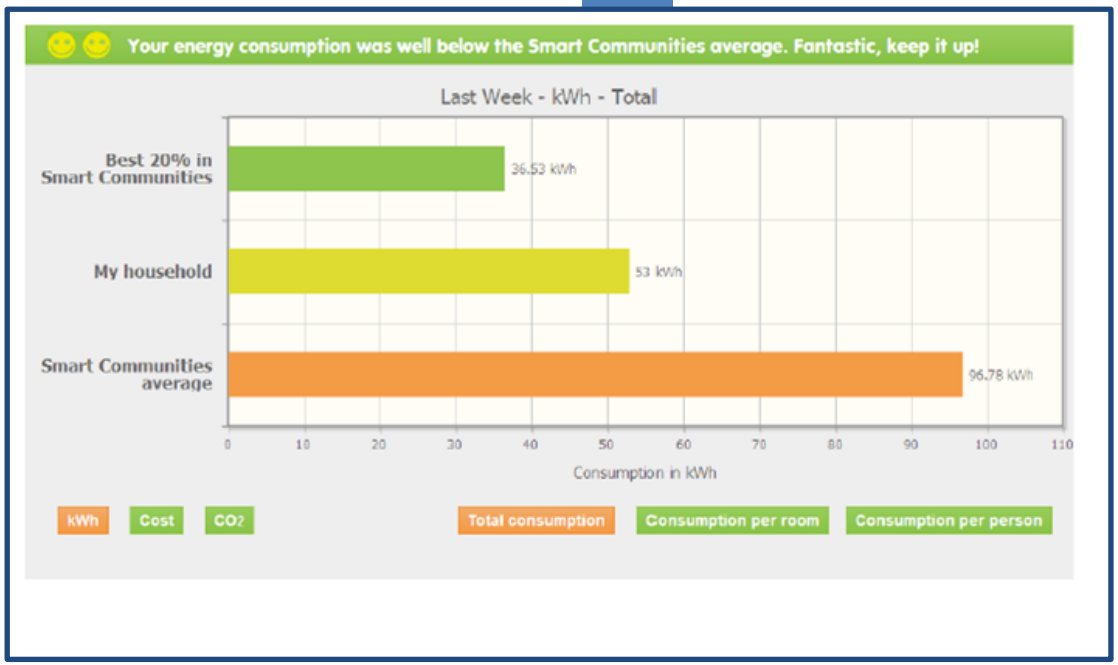
IDEAS(R)EVOLUTION
a creative way of thinking...

Prof. Ruth Rettie, Kingston Business School

PROFESSOR FOR SOCIAL MARKETING, PRINCIPAL INVESTIGATOR FOR CHARM



www.projectcharm.info



Smart Communities

www.smartcommunities.org.uk

Information is not *engagement*

Engagement with feedback limited and short lived

- energy and energy units have little meaning
- difficult to relate feedback to activities
- negotiation and conflict with others
- home as place of comfort and care
- major behaviour changes save little money - disillusionment
- may reinforce current behaviour

Most people are not micro resource managers (Strengers)

The *process* of energy behaviour change

- Gradual, iterative. Requires positive reinforcement e.g. *focus on heating, hot water, air conditioning*
- Feedback helps but needs to engage e.g. *expressed in money not energy units, use of social norms, real-time, interactive, alerts, personalised advice, disaggregated, re-aggregated*
- Social practices (meanings, things, know-how) resist change e.g. *energy efficient devices, automated heat monitoring, HEAVS (home energy action visits)*
- Households resist change: facilitate communication and negotiation e.g. *digital text and visual media, domain owners*

r.rettie@kingston.ac.uk

Kingston University London

Behaviour and Practice Research Group

Research Councils UK Digital Economy Transforming Business and Society

Research Councils UK Energy For a Low Carbon Future

Dr. Henrik Karlstrom, NTNU – Inter-disciplinary Studies Center

INTERNATIONAL ENERGY AGENCY DSM TASK 24

Task 24
- Closing the loop

- Goal:
  - Explore behavioural aspects of energy efficiency policies – find «good practice»
  - Connect behaviour to «macro» phenomena
  - Create assessment and monitoring tool
- Research:
  - Case studies from four policy areas (Transport, SMEs, Renovation, Smart meters)
  - Helicopter overview of behaviour change models

The role of end user behaviour

- Theory bank:
  - Nudge (behavioural economics), practice theory, ABC, theory of planned behaviour
  - Under which circumstances do they work / give added value?
- End user engagement: peak shaving, signaling effects, community engagement, demarcating personal vs. corporate/government responsibility

Findings

- Central findings:
  - Feedback (nudging) works – to some degree
  - Motivation is multi-faceted
  - Bottom-up engagement creates added value
- New methods in communication:
  - Feedback loops
  - Storytelling devices
- Find out more: www.iea-dsm.org

Boosting behavioral change

demand response programs and feedback

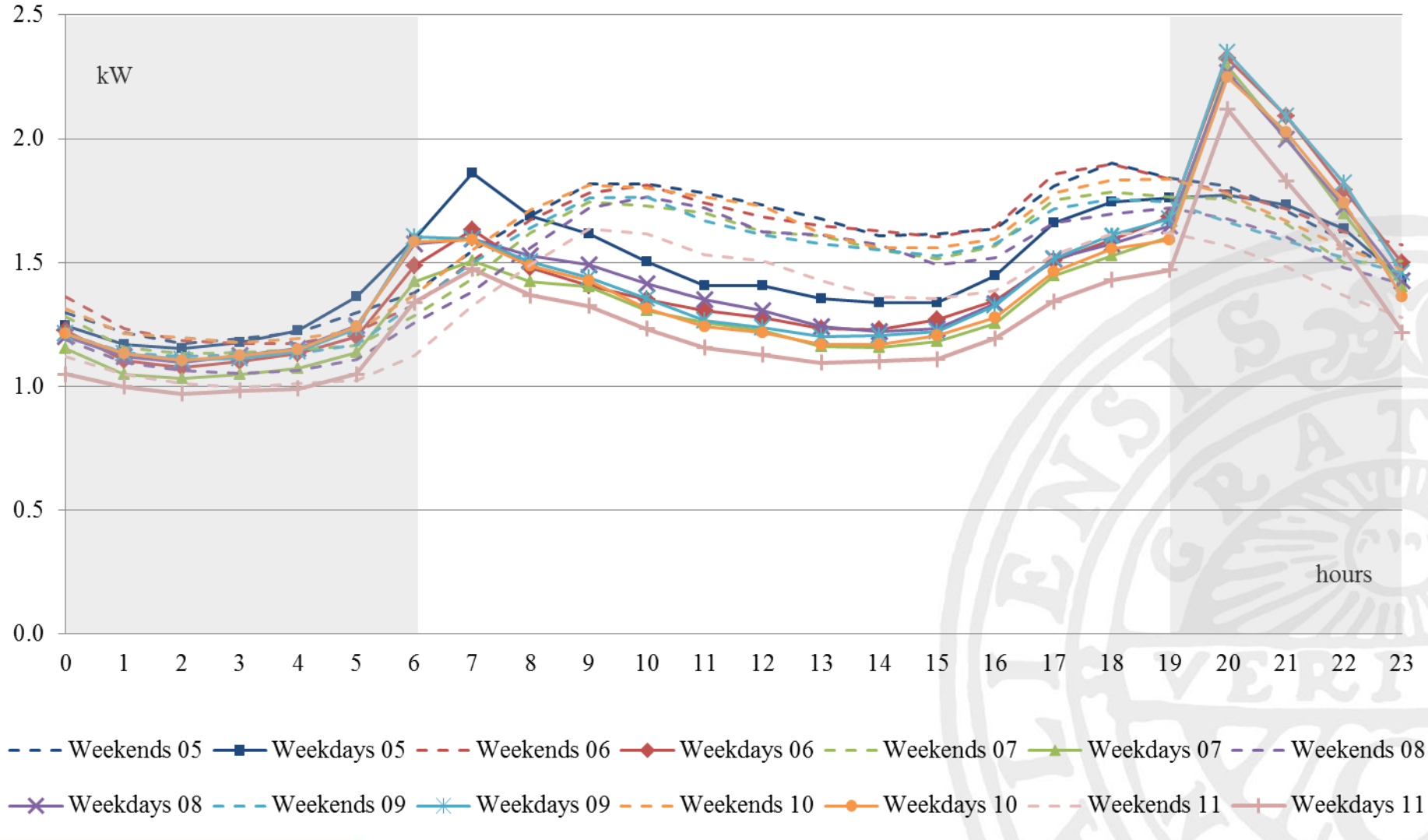
Cajsa Bartusch

Division of Industrial Engineering & Management
Department of Engineering Sciences
Uppsala University, Sweden

UPPSALA UNIVERSITET

Residential demand response

to a demand-based electricity distribution tariff



Customers' perception

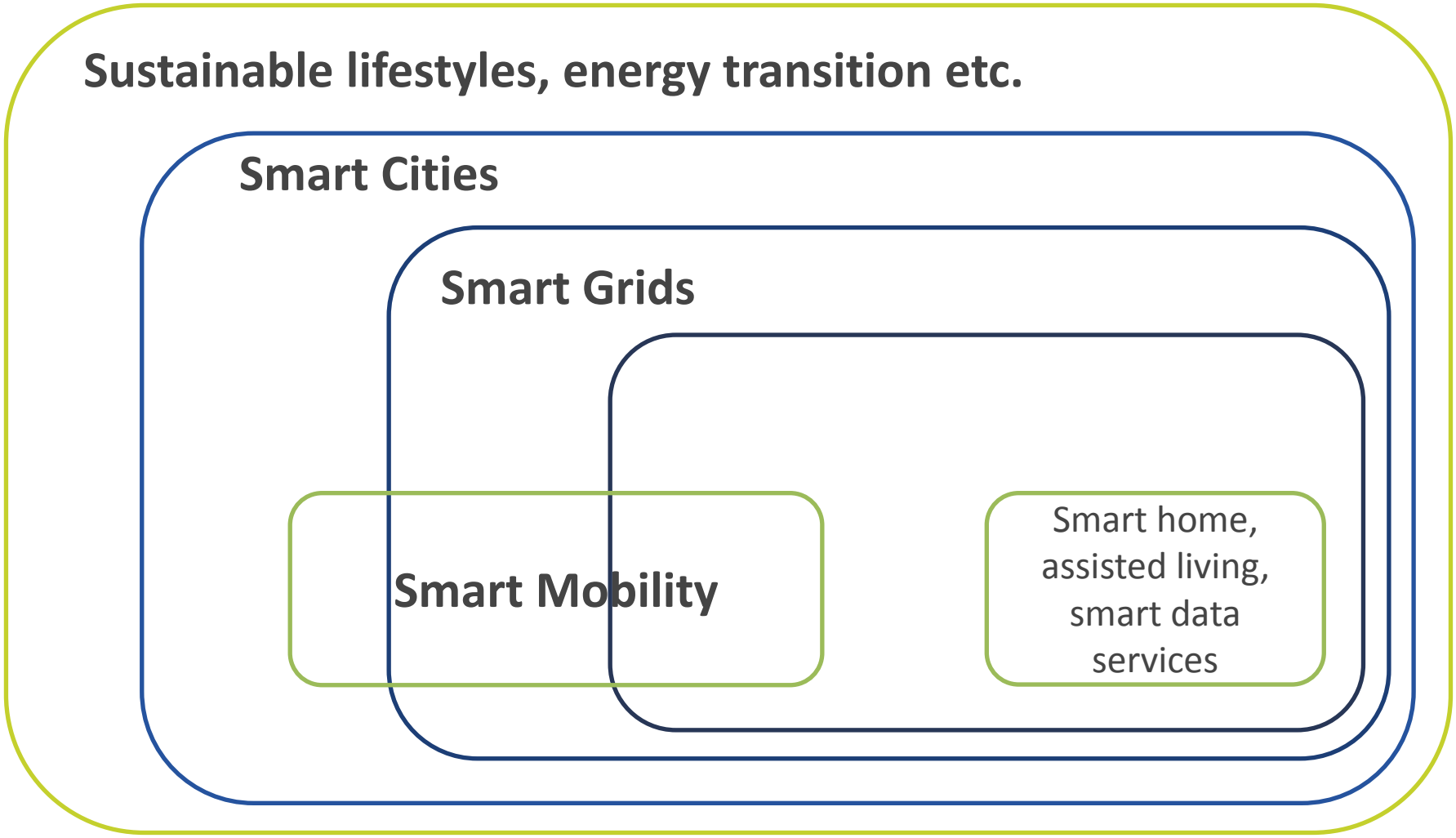
of the demand-based electricity distribution tariff

- awareness is slow
- generally positive attitudes
- most people adapt their behavior,
- but the magnitude varies significantly
- the economic incentive is not the only motivation for change
- need for real-time feedback
- keep it simple
- speak their language
- don't underestimate the potential

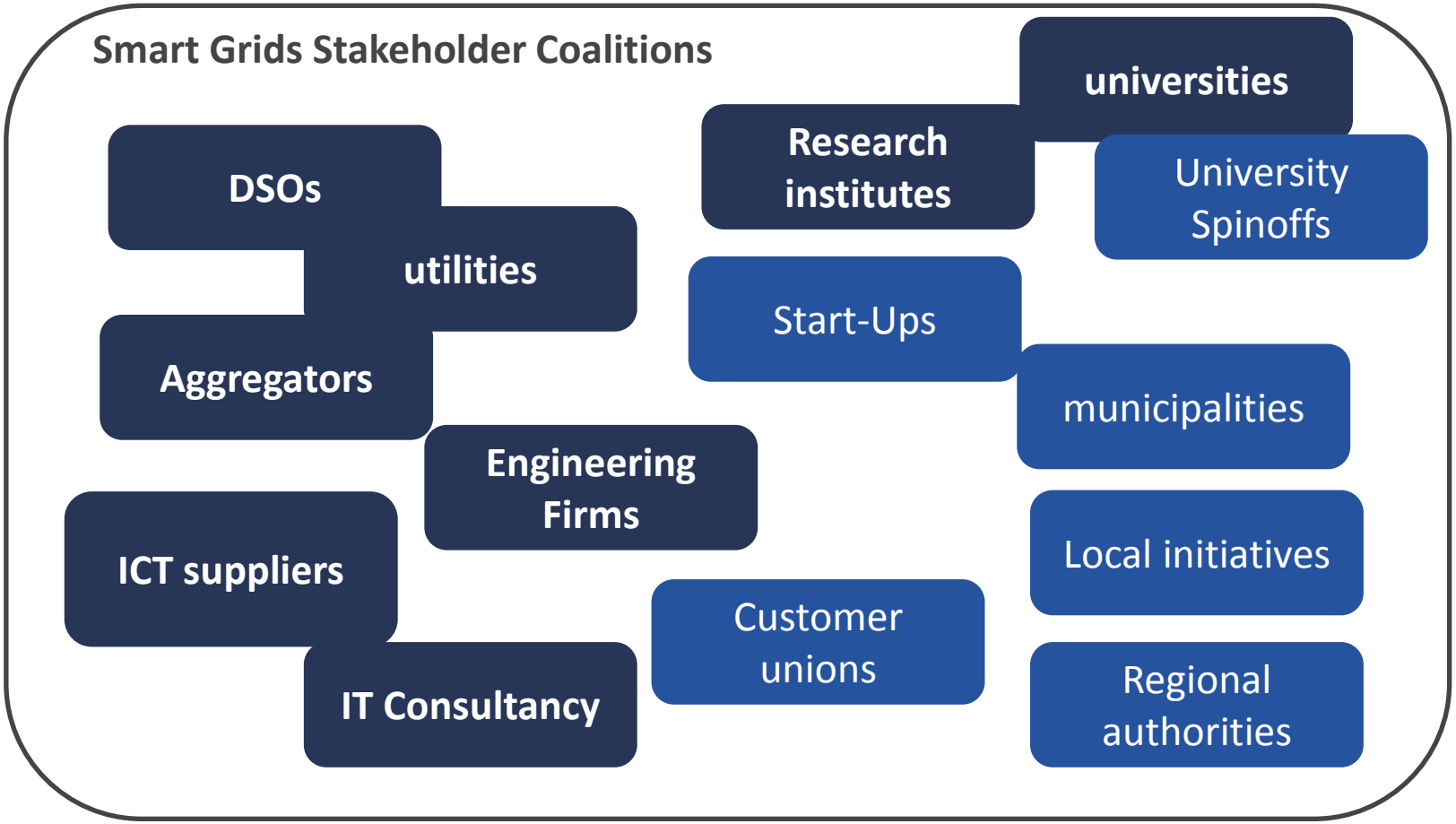
Erik Laes, VITO, S3C Project coordinator

3 CHALLENGES FOR TRANSITIONING SMART GRIDS PROJECTS

Challenge 1:
Connect the smart grid to a larger story



Challenge 2:
Build a new relationship with the end user



Try to include **new stakeholders** in your project that have a direct connection to end-users**, instead of relying on the usual suspects!**

Challenge 3: Build up a viable business model for both sides!

The Business Model Canvas

Designed for:

Designed by:

Date:

Iteration:

Key Partners

Who are our Key Partners?
Who are our key suppliers?
Which Key Resources are we acquiring from partners?
Which Key Activities do partners perform?

Key Activities

What Key Activities do our Value Propositions require?
Our Distribution Channels?
Customer Relationships?
Revenue streams?

Key Resources

What Key Resources do our Value Propositions require?
Our Distribution Channels? Customer Relationships?
Revenue Streams?

Value Propositions

What value do we deliver to the customer?
Which one of our customer's problems are we helping to solve?
What bundles of products and services are we offering to each Customer Segment?
Which customer needs are we satisfying?

Customer Relationships

What type of relationship does each of our Customer Segments expect us to establish and maintain with them?
Which ones have we established?
How are they integrated with the rest of our business model?
How costly are they?

Channels

Through which Channels do our Customer Segments want to be reached?
How are we reaching them now?
How are our Channels integrated?
Which ones work best?
Which ones are most cost-efficient?
How are we integrating them with customer routines?

Customer Segments

For whom are we creating value?
Who are our most important customers?

Cost Structure

What are the most important costs inherent in our business model?
Which Key Resources are most expensive?
Which Key Activities are most expensive?

Revenue Streams

For what value are our customers really willing to pay?
For what do they currently pay?
How are they currently paying?
How would they prefer to pay?
How much does each Revenue Stream contribute to overall revenues?

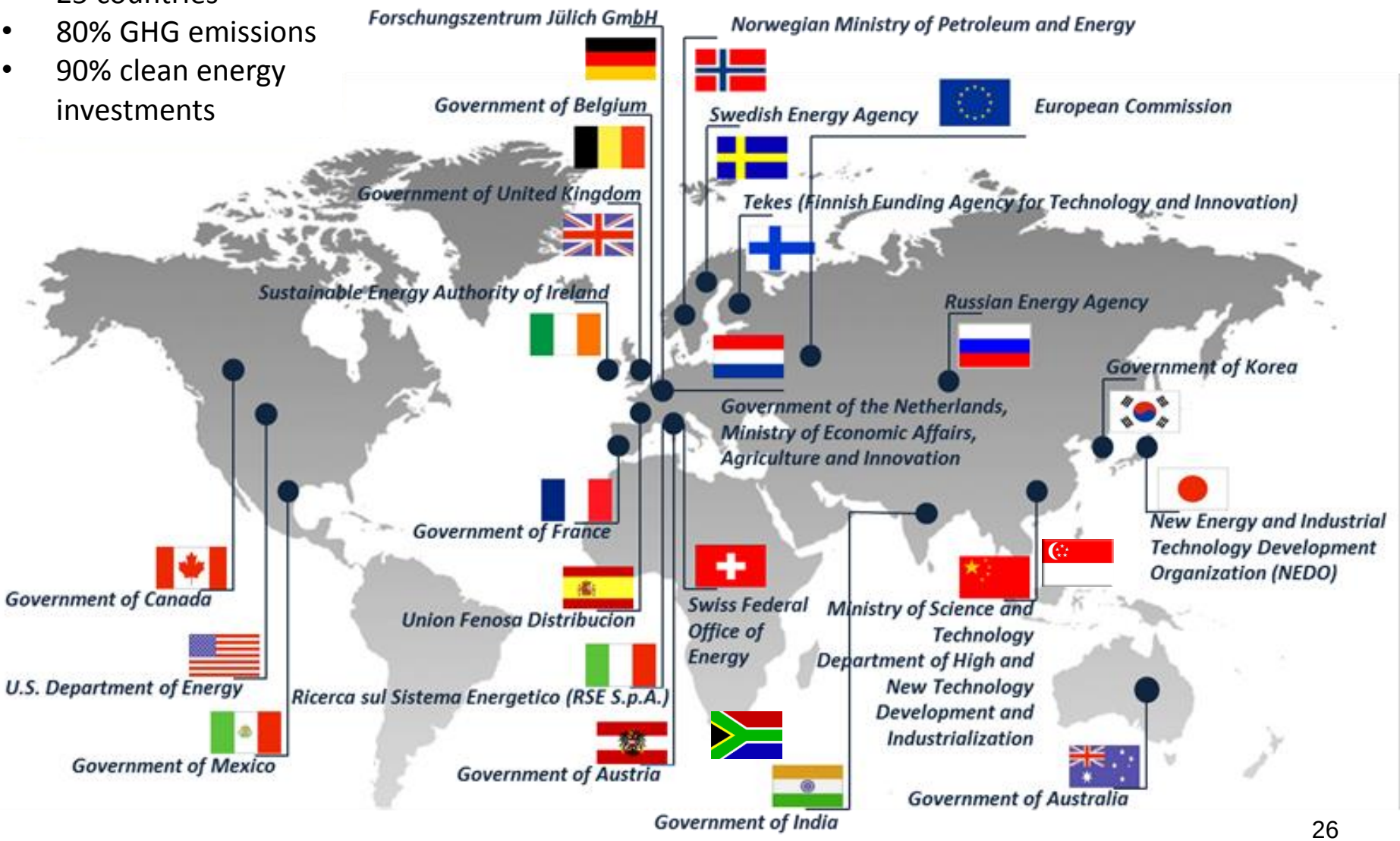
www.businessmodelgeneration.com

Michele De Nigris, RSE S.p.A.

CHAIR OF ISGAN

GEOGRAPHY OF ISGAN

- 25 countries
- 80% GHG emissions
- 90% clean energy investments



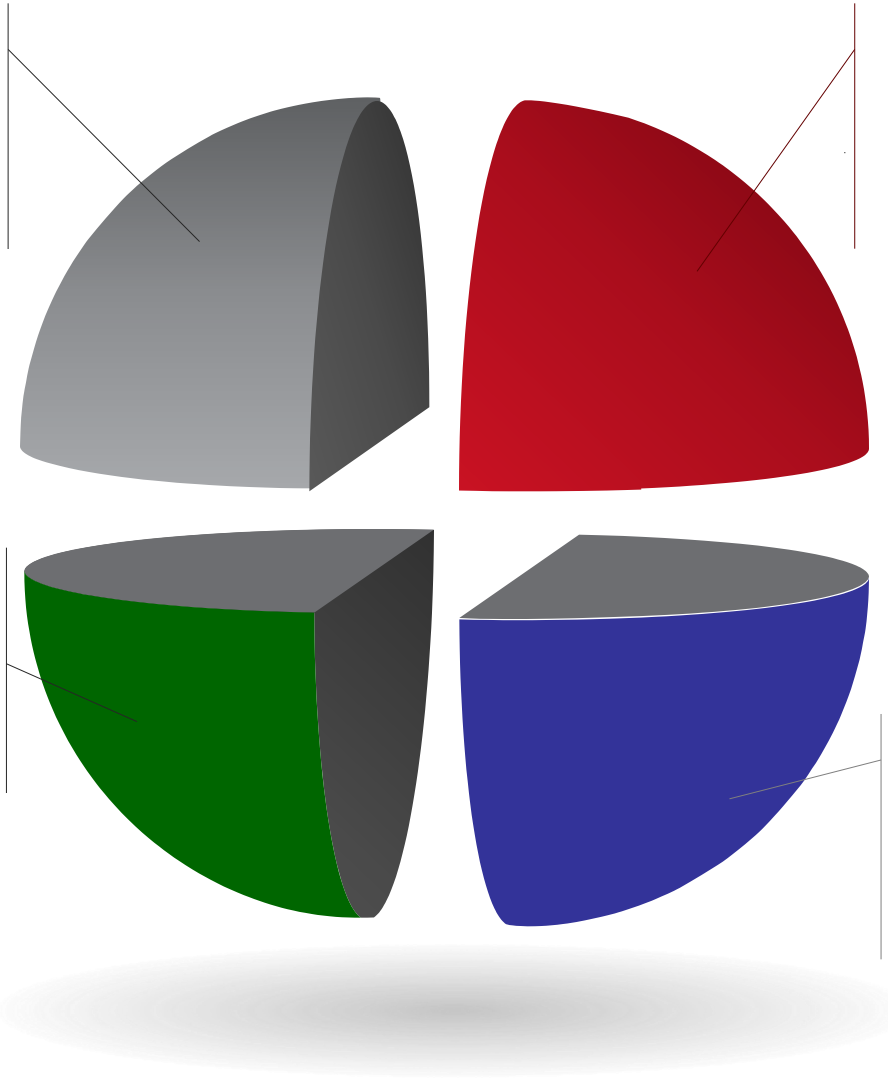
PROGRAM OF WORK

Power T&D system – an integrated approach

Policy and regulation
Expansion Planning Market analysis
Technology development demonstration
System Operation
Management Security

Smart grids transitions

- Applied social science on the socio-technical change processes related with the transition towards a sustainable electricity system and collect results for the use in policy advice



Worldwide initiatives – drivers, motivations, analysis and tools

- Assess drivers for smart grids development
- Case studies and success stories
- Benchmark smart grid maturity of existing systems
- Cost-benefits analysis of smart grids projects

SIRFN – Smart Grids International Research Facilities Network

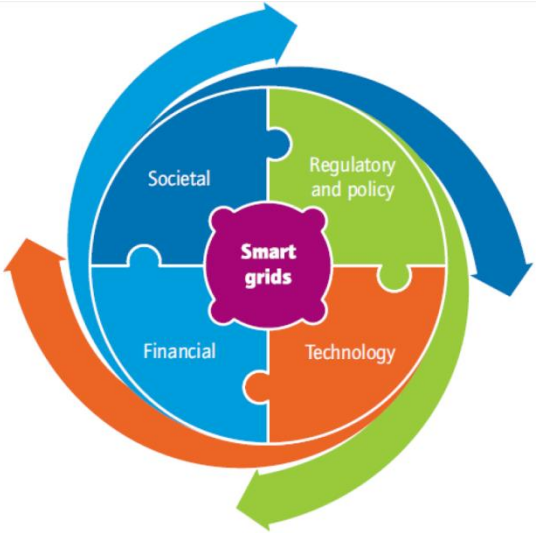
- Survey facilities and test beds
- Compare test protocols

SMART GRIDS TRANSITION

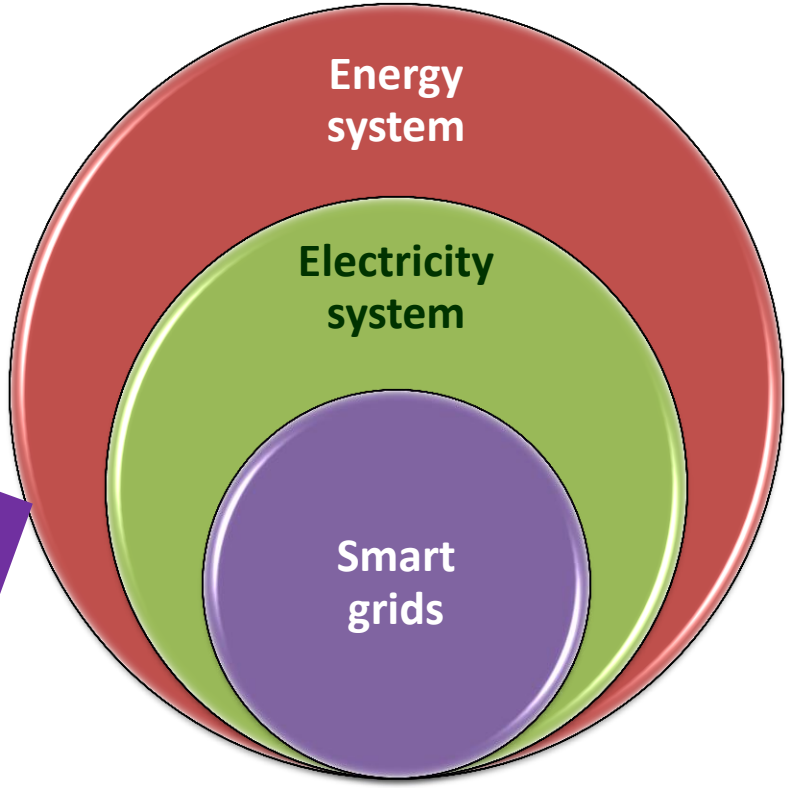
Institutional changes

Orchestration mechanisms

Smart grids evolution and implementation

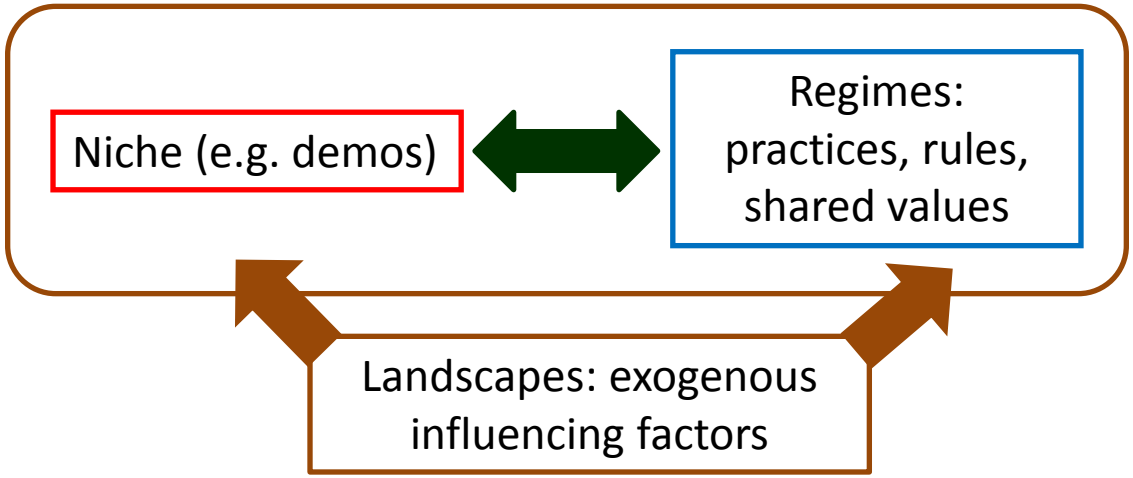


System needs and priotities
Investments
Regulatory changes
Policies



METHODS AND APPROACHES

Transition management



Reflexive Governance