



Netherlands Enterprise Agency

USmartConsumer



Real-time feedback to kick-start consumer interest

***Results of public research to facilitate a large-scale
roll out on smart metering in the Netherlands.***

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eceee, June 4th 2015

IEE Agreement: IEE/2013/590



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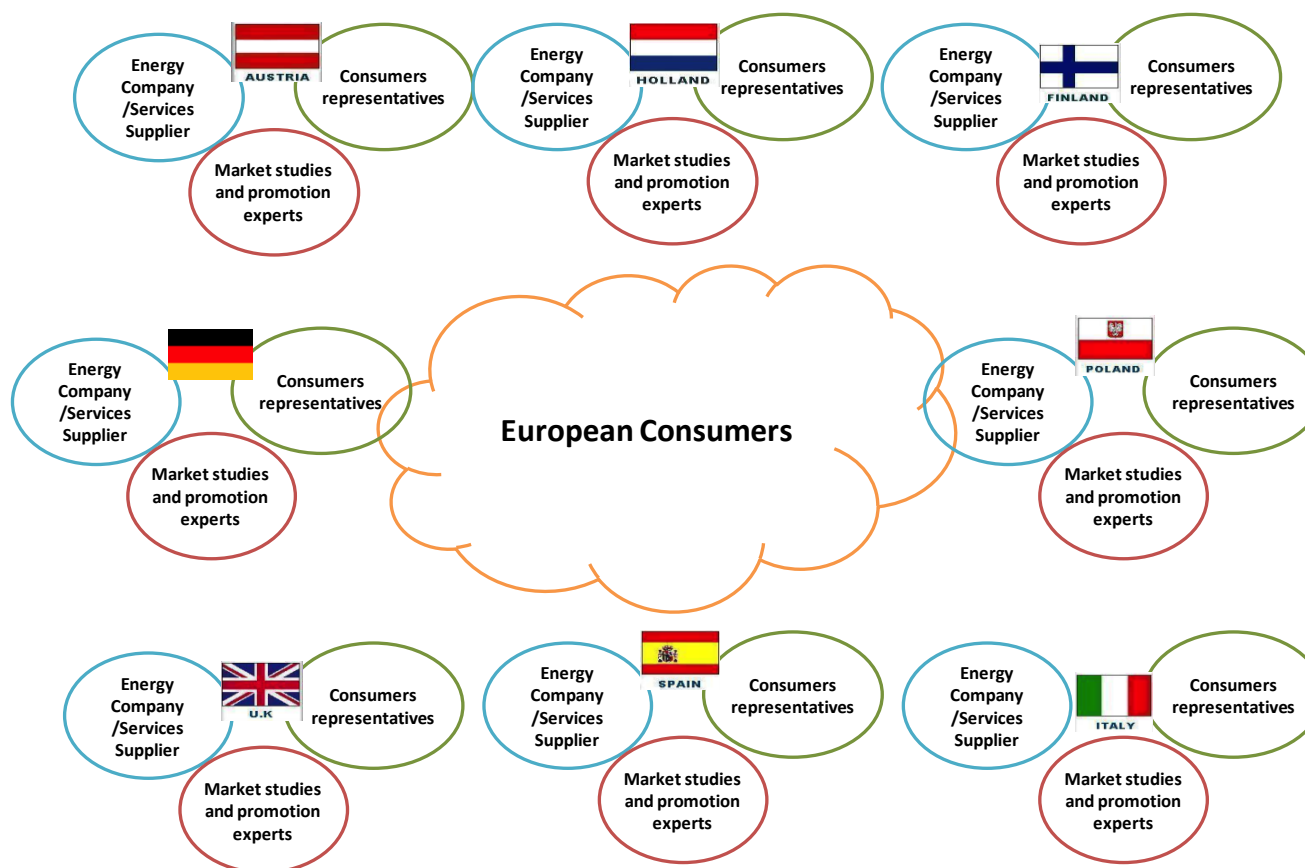
Presentation overview

- Part 1: Smart metering in EU
 - Introduction USmartConsumer
- Part 2: Energy saving experiences in NL
 - Update on implementation in NL
 - Results public research
 - bimonthly home energy reports
 - alternative information devices/ applications
- Part 3: Smart meter consumer engagement in NL
 - Market conditions for consumer engagement



Part 1: UsmartConsumer

Market development for smart metering services



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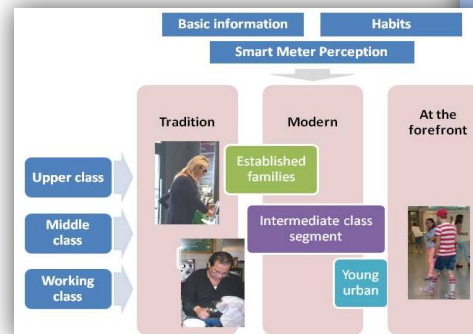
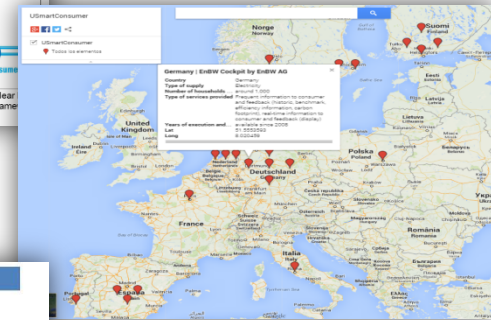
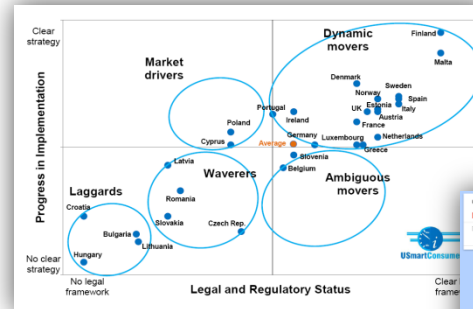
Market activation tools

Research, communication, consumer campaigns, stakeholder meetings

- European smart meters and services Landscape Report
- Innovative services factsheets for consumers
- Market survey on consumers' interests and segmentation
- Consumer campaigns and communication instruments
- Roundtables and national workshops involving the key market actors
- Visit us at:

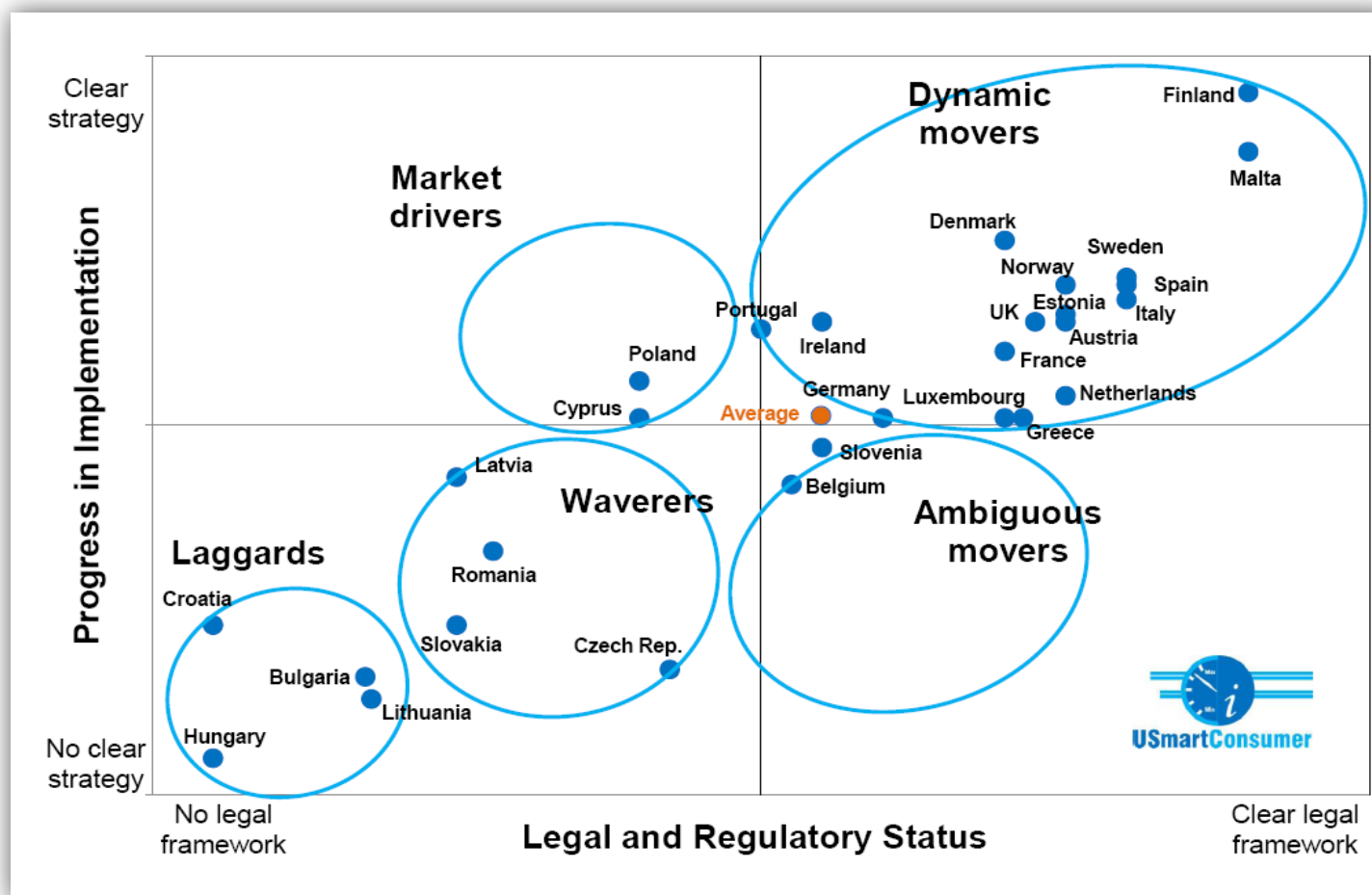
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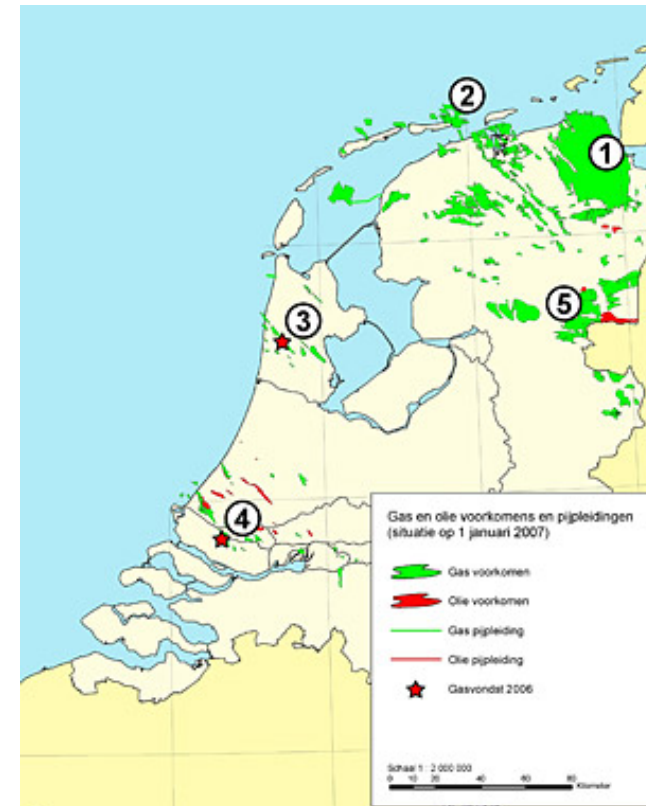
The European Map of smart meters and innovative services



Part 2: smart meters in NL

short introduction

- 17 million people, 8 million connections
- Dual fuel nation
 - 1959: natural gas in Slochteren, Groningen
 - 2000: > 95% gas connection
 - 2015: less extraction due to seismic effects
- Natural gas major residential load for
 - cooking (85%)
 - heating (97%)
- Smart Meter business case (2011)
 - Costs: app. € 3.3 billion
 - Benefits: € 4.1 billion
 - Mainly calculated energy savings
- Legal roll-out in NL
 - Delivering smart meters: network operators
 - Tools for consumer engagement: market responsibility



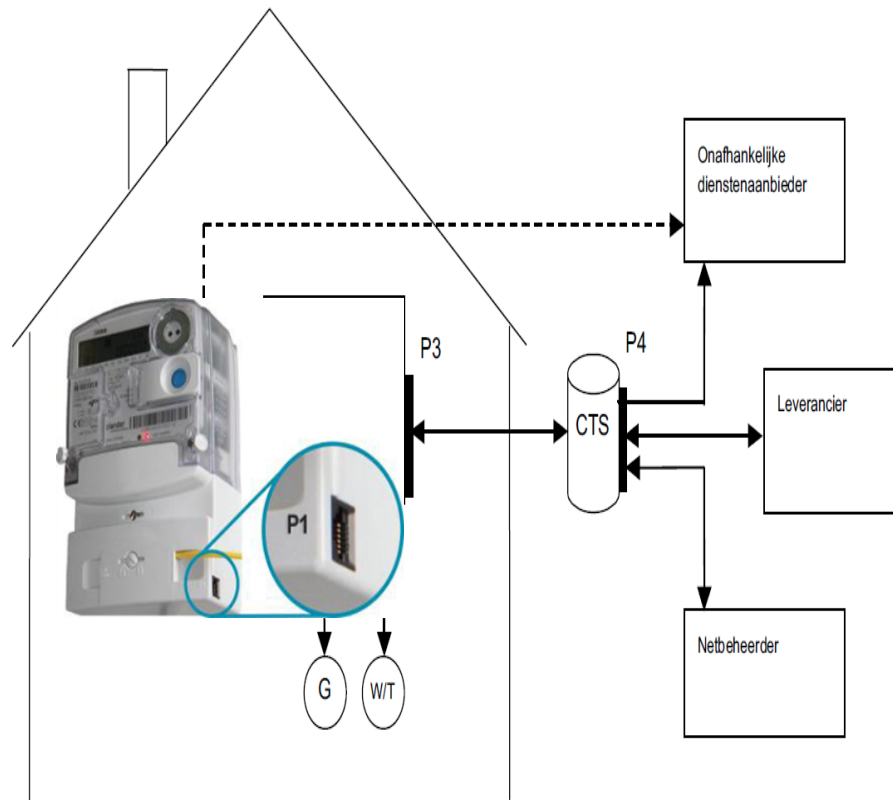
Netherlands a dynamic mover?

€ 17.000 fine or 6 months in prison!



- 2008: original proposal: mandated roll out
 - Vigorous campaigning
 - > Privacy concerns
 - > No pressing need for society
 - > Energy savings not proven
 - Violation European Convention of Human Rights
- 2009: halted in Dutch Parliament
- 2011: compromise proposal
 - freedom of choice for consumers
 - Options to refuse/ accepts smart meter
- 2012 - 2014: small scale experience phase
 - Monitoring program for energy savings
- 2015: begin mass rollout (80% in 2020)

Options for Consumers in NL



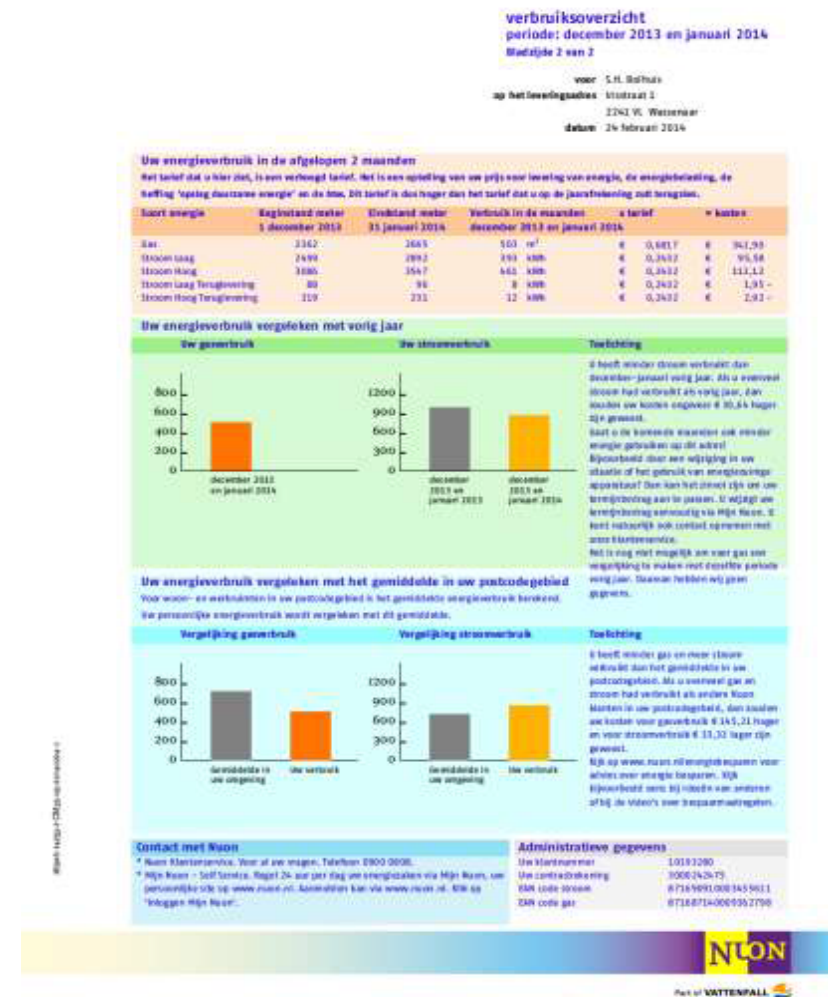
1. Refuse smart meter
2. Accept smart meter and select operating mode
 1. No communication
 - like a traditional meter
 - P1-port: Real-time E, 5 minute G
 2. Fixed moment communication
 - annual bill
 - bimonthly energy report
 - switching, removal
 - P1-port: OK
 3. Every day communication
 - 15 minute E, hourly values gas
 - P1-port: OK

Energy Saving experiences in NL

- 2012-2014: Energy saving Monitoring Program (NL)
 - 4.000 households against controls
 - Bimonthly reports, online PC, mobile apps, IHD's
- 2007–2010: Energy Demand Research Project (UK)
 - 18.000 households against controls
 - RTD is more important factor: savings 3% E, 3% G
 - Breaking news: early learnings 2015 confirm the value of IHD's
 - High levels of satisfaction with IHD (72%)
 - Many consumers see the IHD as the smart meter
 - Continued use of IHD (up to 2.5 years), energy savings likely.
- 2009-2011: Customer Behaviour Trials (IR)
 - 6.000 households against controls
 - More important factor: (bi)monthly bills/ statements, RTD
 - Savings 3.7% E, 2.9% G

Bimonthly energy usage statements

- CBA savings
 - 3.2% E, 3.7% G
- Research
 - 700 households against controls
 - Scientific reliable (random replacements, long history, housing type etc)
- Outcomes
 - Savings 0.6% E, 0.9% G
 - Low-profile communication
 - Online: unaware or spam
 - Paper based: aware, effects
- Early learnings
 - CBA-savings realistic
 - 1st notification paper based
 - Better design/presentation
 - Opower



Online PC, smart phones, tablets \leftrightarrow IHD's

- CBA savings potential
 - 6.4% E, 5.1% G
- Research
 - Literature review scientific experiments
 - Pilots new applications (1.500 households)
- Outcomes
 - Online (non) real-time tools: up to 1.5% E, 2% G
 - energy literates: already engaged, sophisticated tool for analysis and control
 - In-home real-time displays: up to 5.5% E, 7% G
 - 'novice' consumers: less engaged, internet skilled, technology-minded
- Early learnings
 - CBA savings potential realistic
 - Different levels of engagement:
 - aspirations towards energy savings
 - also interest in technology/ analytics, internet skills
 - Do not underestimate in-home displays!



3. Market conditions consumer engagement

- Persistent engagement: multiple channel market supply
 - Market for non real-time PC web tools (P3)
 - energy literates, already engaged, own generation
 - sophisticated tool for in-depth analysis, control, investment decisions, ROI
 - Market for real-time mobile apps (smartphone/ tablet)
 - energy literates, already engaged
 - access away from home, essential notifications
 - Market for real-time in-home displays
 - 'novice' consumers: less engaged, internet skilled, technology-minded
 - Kickstarter: savings primarily from behavior (quick wins), not investments
- Will the market deliver? Challenges ahead!
 - Dutch market: slowly emerging and imperfect conditions
 - Local roll-outs: small-scale
 - No level playing field: large retailers vs. small start-up's
 - Market supply: mainly for energy literates, not (yet) for 'novices'
 - Demand side: low consumer willingness to buy/ invest



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Thank you for your attention



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