



Releasing the full potential of Smart Meters & Smart Grid

Consumer engagement is critical to maximising ROI

*Pilgrim Beart, Founder Director, AlertMe
2 Dec 2010*

<http://www.cir-strategy.com/events/>



Agenda



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- Market transformation
Objectives, opportunity and challenges
- Consumer psychology: Engaging consumers
- Visibility & Engagement

Market is evolving rapidly



MARKET
TRANSFORMATION



Energy
Industry

- Energy industry undergoing significant technological change, driven by

The need to provide certainty and security of supply

De-carbonise supply to meet challenging Govt/Regulatory targets

Investing in
Efficiency

Smart Metering
Smart Grid

Capital Cost
(passed to consumers)

Consumers must
believe and see that
there is a tangible
benefit to them



Utilities

- Investment in smart metering/grid holds considerable promise
 - Operational efficiencies
 - Overhead reduction, timely and accurate bills, demand smoothing
 - Consumption efficiencies
 - Changing consumer behaviour

“60% of the business case for smart meters lies in operational benefits, 40% consumption related”

Boston Consulting Group, April 2010

Forecasts and Trends

- Up to 300 million smart meters forecast globally by 2015
 - Principally in Europe and US
 - Almost half to have a HAN gateway for in home energy management
- 47 million smart meters in the UK by 2020 or sooner
- 1.5bn ZigBee devices in the home (HEM & Demand Control) by 2015

Source: ONWorld Research

The Challenge



- Both utilities and consumers play an important role in delivering smart grid benefits

... the 60%

OPERATIONAL EFFICIENCIES
through technology deployment

- *Building a new communications network*
- *Unprecedented access to data*
- *Connecting to customer for first time*
- *Increased control over peak demand*

... the 40%

CONSUMPTION RELATED
through Consumer engagement

- *Consumer benefits needed to unlock potential*
 - *Visibility*
 - *Actionable Information*
 - *Control*
 - *Choice*

THE CHALLENGE

- To take consumers along in this transformation
- Create a win-win situation
- Those engaging the consumer can expect a valued customer relationship, in an increasingly competitive and converged world

Delivering consumption side benefits



KEY MECHANISMS TO DELIVER EFFICIENCIES, ALLEVIATE PEAK DEMAND IMPROVE RELIABILITY OF SUPPLY

TIME OF USE TARIFFS

CONSUMER IMPACT

- Potentially higher bills
- Increased complexity in tariffs & bills – confusing

CONSUMER POTENTIAL

- Visibility of tariffs and zones provides choice
- Opportunity to benefit from lowest tariffs
- Alerts at peak crossover, and easy control of appliances to avoid peak pricing
- Automation to balance best use of tariffs

DEMAND RESPONSE

CONSUMER IMPACT

- Interference in consumer's life and choices – 'Big Brother'
- No benefit

CONSUMER POTENTIAL

- Involve, engage & reward customers – opt in, not impose
- Dynamic engagement at peak demand times for reward
- Customer automation of preferences for maximum benefit and convenience

MICROGENERATION

CONSUMER IMPACT

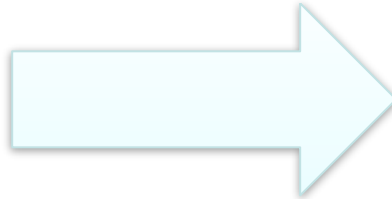
- Up front cost
- Adds further complexity

CONSUMER POTENTIAL

- Alleviate dependency on the grid
- Export as well as generate
- Visibility of energy generated, used and exported, the P&L for home energy use
- Future opportunity for further integration – EVs/ Storage

- How do consumers think?

**Abstract
Consuming
Energy**



**Concrete
Using a washing
machine**

**Motivation – Empowerment =
Frustration**

Motivation + Empowerment = Action

MOTIVATION: MONEY (MAINLY AS A “STICK”)

- ENERGY BILLS $\approx 9\%$ OF DISPOSABLE INCOME
- 90% OF HOUSEHOLDERS CONCERNED ABOUT BILLS
- ENERGY BILLS VIEWED LIKE MORTGAGE/RENT
- STANDING CHARGE EXACTLY THE WRONG MODEL
- RULE OF THUMB: 1W = £1/YEAR

MOTIVATIONS: COMPETITION, COLLABORATION, REPUTATION

- WE ARE SOCIAL ANIMALS



Consumer Psychology: Segmentation



*“He who would do good to another, must do it in Minute Particulars.
General Good is the plea of the scoundrel, hypocrite and flatterer”*

Blake

CHALLENGES FOR EVERY SEGMENT

- SOCIABLE MIDDLE CLASS - COMMUNITY PEER PRESSURE
- CHILDREN AND YOUNG ADULTS - EDUCATION AND ONLINE
- SOCIAL HOUSING - LOCAL GOVERNMENT
- HOME WORKERS - AS EXTENSION TO CRC

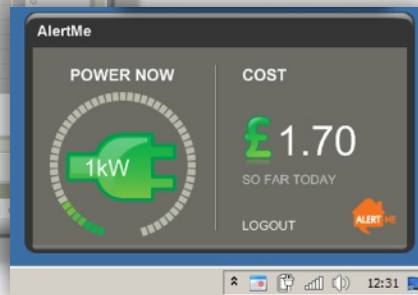
SOME OFFER A PARTICULAR CHALLENGES:

- ELDERLY - ENSURE THEY DON'T ECONOMISE, HELP WITH INSULATION
- ILLITERATE/INNUMERATE - NON NUMERICAL VISUAL

WHAT EMPOWERS CONSUMERS?

- HOUSEHOLDERS TODAY FEEL UNEMPOWERED
 - View energy bill as outside their control
- BRING ENERGY COSTS INTO THE HERE-AND-NOW
- ASSOCIATE COST WITH USE
 - Cost-per-use

Making energy visible

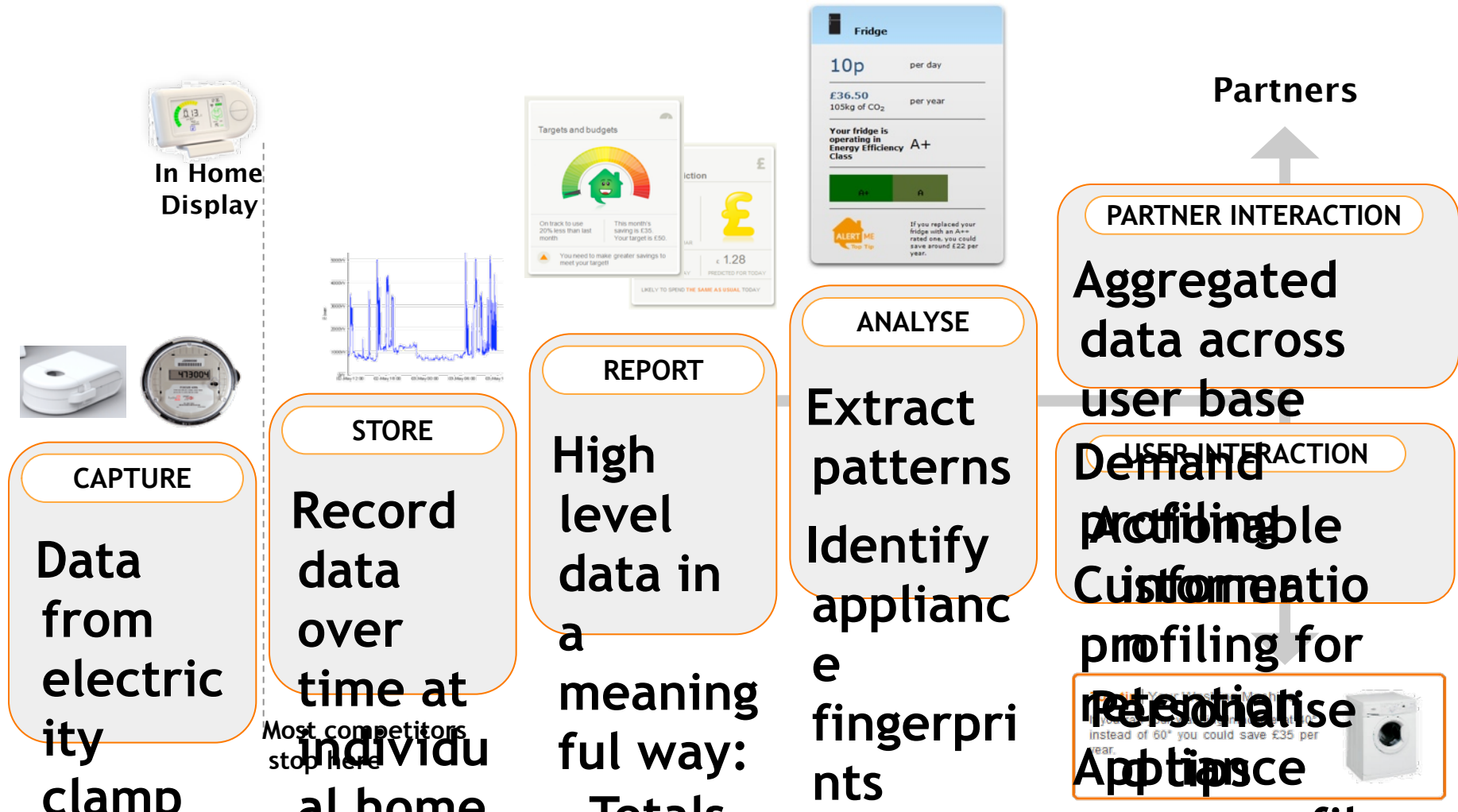


Analytics: Turning data into actionable information



- Simple intuitive reporting, clear and engaging interface

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A stream of new applications



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Live Energy...

Comparative...

Predictive...

Explanatory...

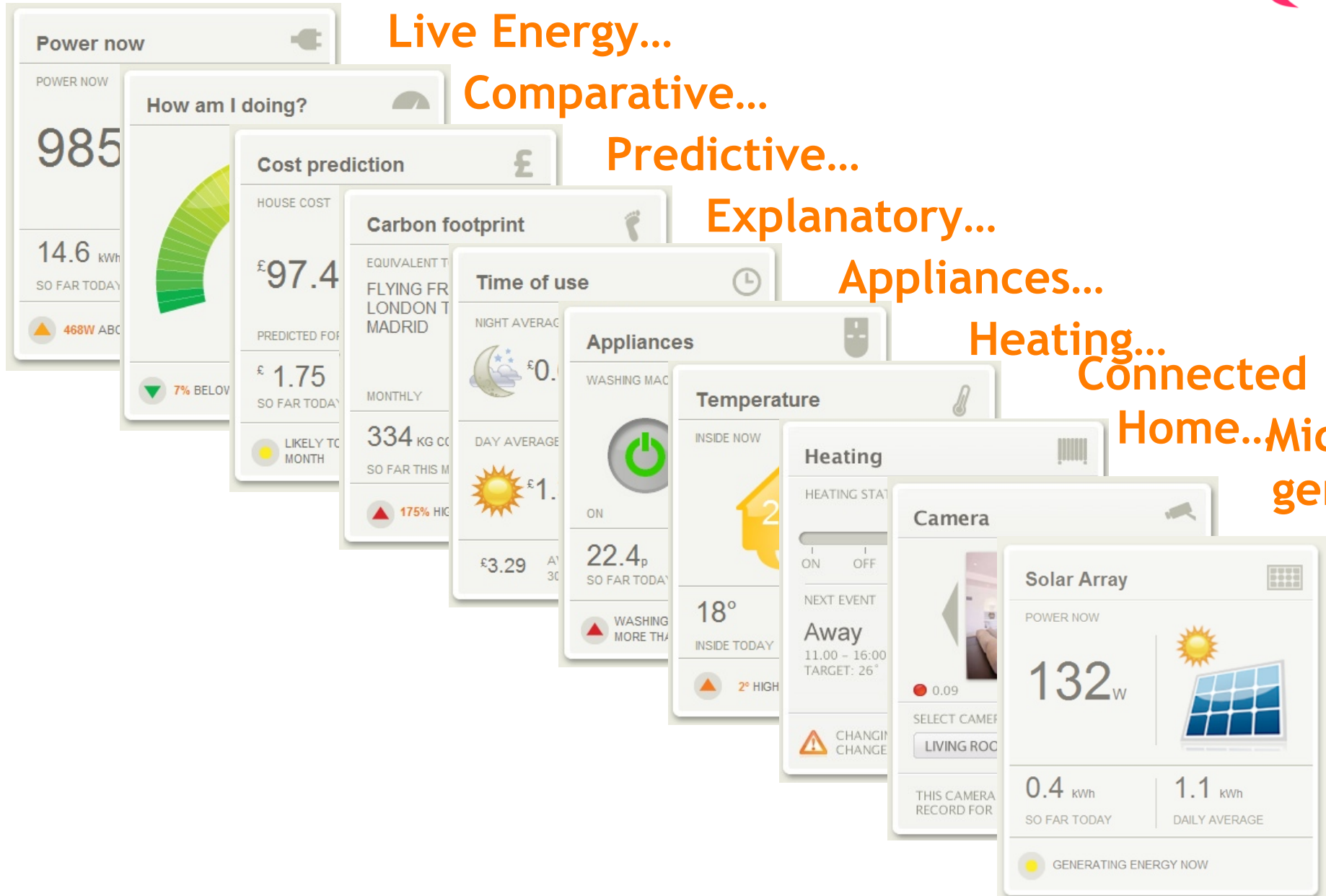
Appliances...

Heating...

Connected

Home..Micro

gen...



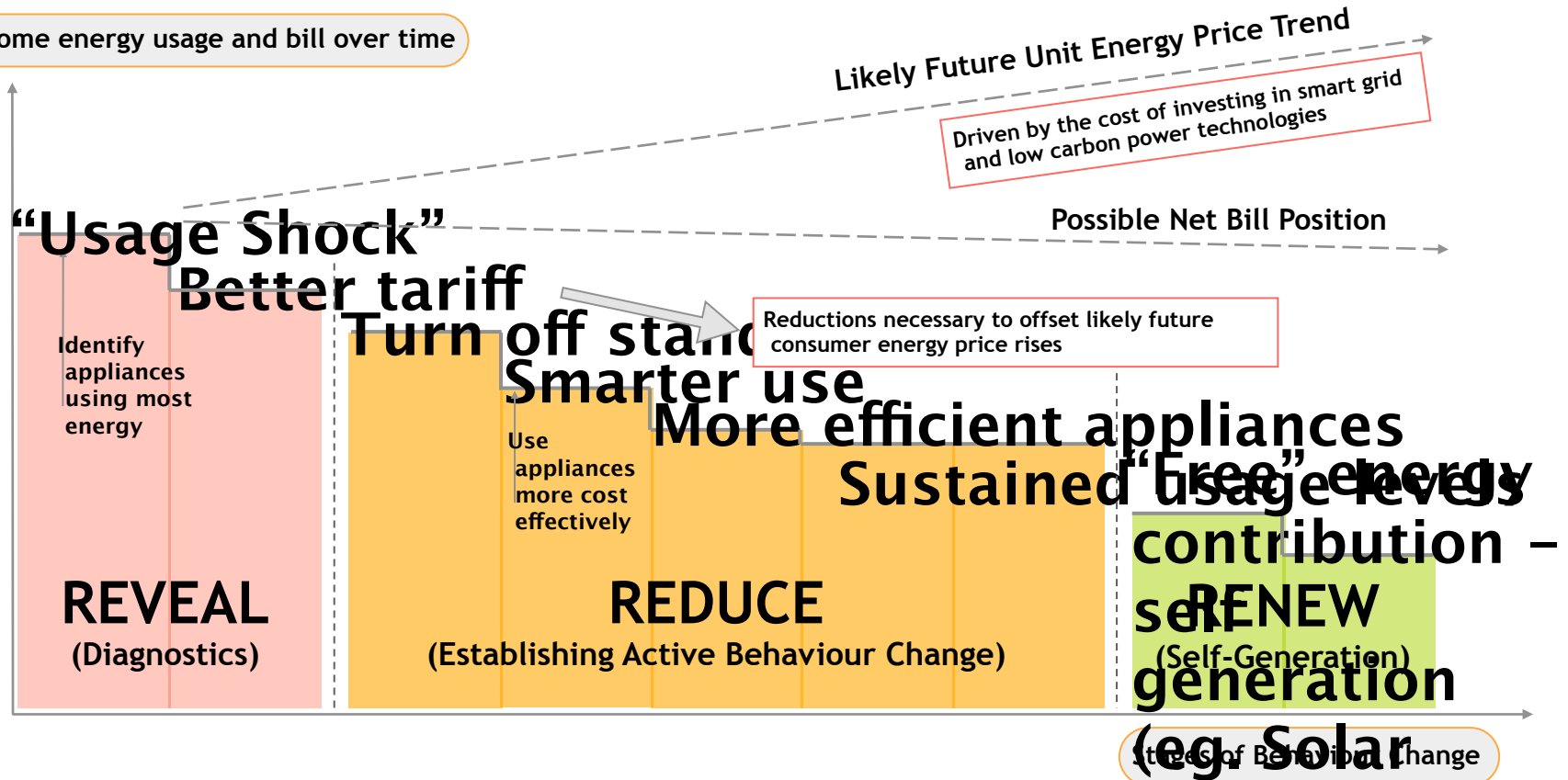
Consumer Partnership



- AlertMe works alongside the utility to benefit consumer through 3 phases of the journey
- Provides visibility, control & automation
Enabling consumers to reduce energy use, cost and CO₂
- Takes consumer on a journey through behaviour change, control and onto self-generation
- Active behaviour change can offset energy price rises

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Overall home energy usage and bill over time



Maximising Engagement



- Nascent market with low awareness
Conserving energy not new, but tangible benefits of 'Smart' not obvious for consumers and managing energy is not 'front of mind'
- All companies with large customer bases have potential to deliver maximum awareness and engagement
- Different motivations and challenges for each sector - all sectors have a green agenda

DIRECT

- Early adopters
- Consumers can take independent control of their energy use

UTILITY

- External pressure to meet challenging targets
- Vested interest in changing consumers' energy use behaviour

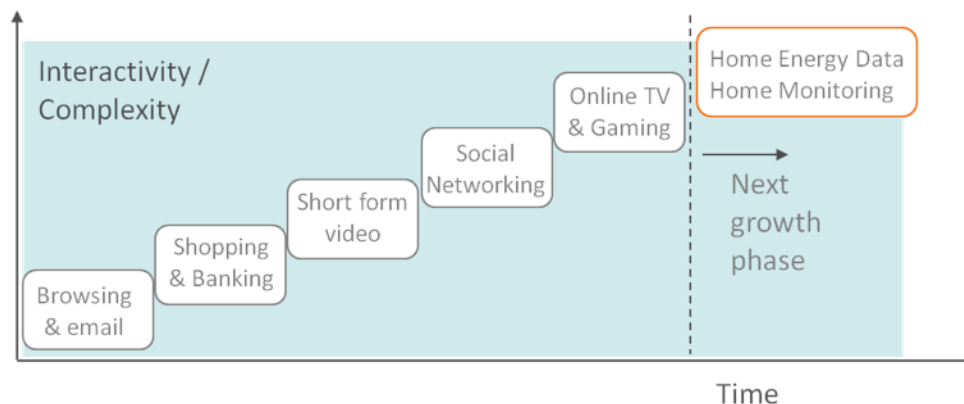
TELCO

- Looking to next services- Beyond Connectivity
- Home monitoring is next growth phase in online services space
- ARPU growth potential
- An explosion of data opens e-commerce opportunities

OEM

- Seeking to connect the multitude of home devices as home gateway
- Creating a point of differentiation for their equipment

Growth of Online Services



- VITAL TO ENGAGE CONSUMERS TO RELEASE FULL POTENTIAL OF THE SMART GRID
 - 30% of all energy is used in the home, and it's 8-10% of disposable income
- EFFECT 15-25% REDUCTION IN CONSUMPTION, THROUGH VISIBILITY & CONTROL
- NEED TO ENGAGE & EMPOWER CUSTOMERS
 - Visibility, control and choice
 - Reveal, Reduce, Renew
- MOTIVATED CUSTOMERS CREATE A 'PULL' FOR SERVICES (RATHER THAN 'PUSH')
- LEARN LESSONS FROM MARKETS WHERE CHANGE IS IMPOSED OR PUSHED ONTO CUSTOMERS
 - They will push back!
- TRANSFORMATION HAPPENS WHEN CONSUMERS ARE MOTIVATED AND EMPOWERED TO ADOPT
 - E.g. Broadband adoption and Digital TV Switchover: affordable, self-



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