Telefónica`s Integrated Approach to Climate Change

Session II: Can the ICT Sector Save the Planet and Humanity?

ITU Symposium on Progressing the Climate Agenda through Green ICTs Standards
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Telefónica

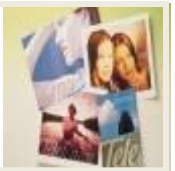
Content

01

Telefónica profile & strategy

Global posicion of Telefónica

2010

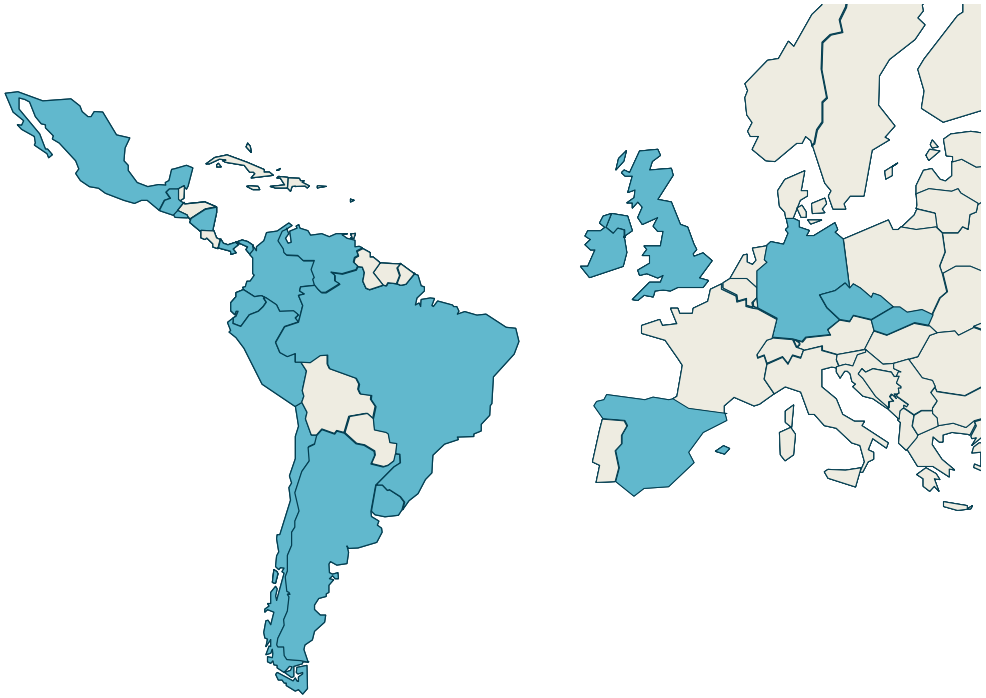
Customers	*288* millon customers 
Services	*Integrated ICT services for customers* 
Countries	Presence in *25 countries* 
Employees	Around *270.000* professionals 
Finances	Revenuoes: *60.737* M€ BPA(1): *2,25* € 

Telefónica
Marca Institucional

O2
Marca Comercial

movistar
Marca Comercial

vivo
Marca Comercial



(1) BPA: Beneficio por acción

Energy efficiency and climate change strategy

To position Telefónica as an ICT company leader in the field of climate change abatement, spreading the energy efficiency culture in the group and extend it to our customers

Telefónica

To reduce

global operations through energy efficiency projects

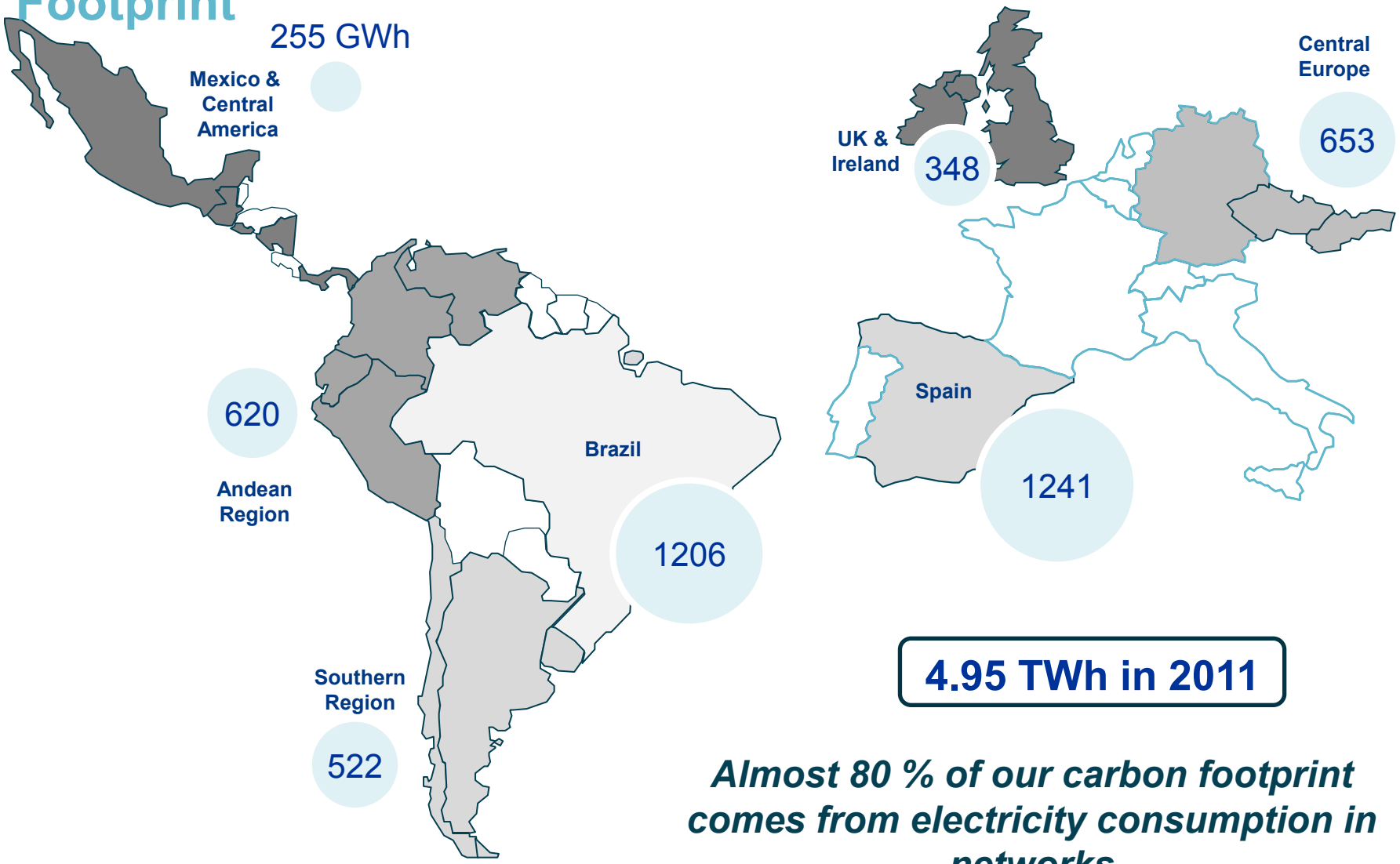
To find new Income opportunities_ by the development of new products and services for energy efficiency

Mitigation of Climate Change with ICT products and services

Joint action to reduce Greenhouse gases (GHG) emissions

Adaptation to climate change including developing countries

Climate change strategy – Energy & Carbon Footprint



4.95 TWh in 2011

Almost 80 % of our carbon footprint comes from electricity consumption in networks

** Data-Centres included. Remaining energy is consumed by Offices, Call-Centres, Shops and Transport.*

GHG Emission Accounting Model

		2009	2010
Energy and CO_2[1]			
Scope 1			
Fleet fuel consumption (diesel and petrol)	Thousands of litres	24,911	35,248
Natural gas consumption operations	Cubic metres	444,283	420,866
Natural gas consumption offices	Cubic metres	6,237,141	6,261,916
Diesel consumption operations	Thousands of litres	13,140	17,372
Offices diesel consumption	Thousands of litres	1,195	1,191
Direct emissions	t CO_2eq[2]	114,839	149,761
Scope 2			
Electricity consumption in office buildings	MWh	775,764	821,581
Electricity consumption in operations buildings	MWh	4,296,489	5,546,827
Indirect emissions	t CO_2eq[2]	1,674,531	1,776,944
Scope 3			
Business travel by plane	Units	111,231	125,927
Business travel by train	Units	55,851	75,779
Business travel by car	Units	18,570	33,444
Other indirect emissions	t CO_2eq[2]	61,877	63,368
Avoided emissions[3]	t CO_2eq[2]	222,879	245,238
Total Emissions	t CO_2eq[2]	1,851,247	1,990,072

* *For further information, see GRI tables (www.rcusostenibilidad.telefonica.com/rcusost2010).*

Methodology of energy data collection & management

1) Based on ISO 14064

2) Ton CO2 eq: CO2, CH4 & N2O

3) Includes the self generation & procurement of renewable energy

NEW

2011

- Include CFCs

- improve scope 3.

02

Energy Efficiency and Carbon Management

Operations | Purchases | Employees | Society | Customers

Climate change strategy – Operations

Operations | Purchases | Employees | Society | Customers

To establish the necessary mechanisms to reduce 30 % of electricity consumption in operations

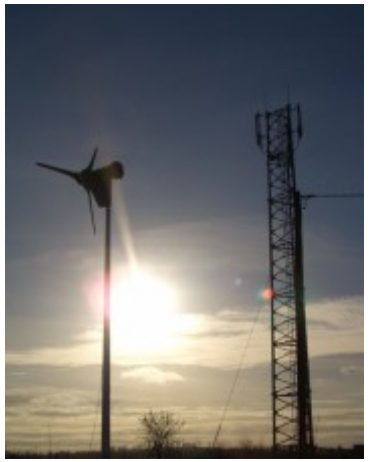
Energy Efficiency in Fixed & Mobile Networks

Energy Efficiency Best Practices **Manual**

Renewable Energy Strategy in Networks

Chile

Ireland



Climate change strategy – Suppliers

Operations | Purchases | Employees | Society | Customers

To introduce energy efficiency criteria to purchases of equipment, raw materials and services.

Energy information recall from network, IT and climate equipment.

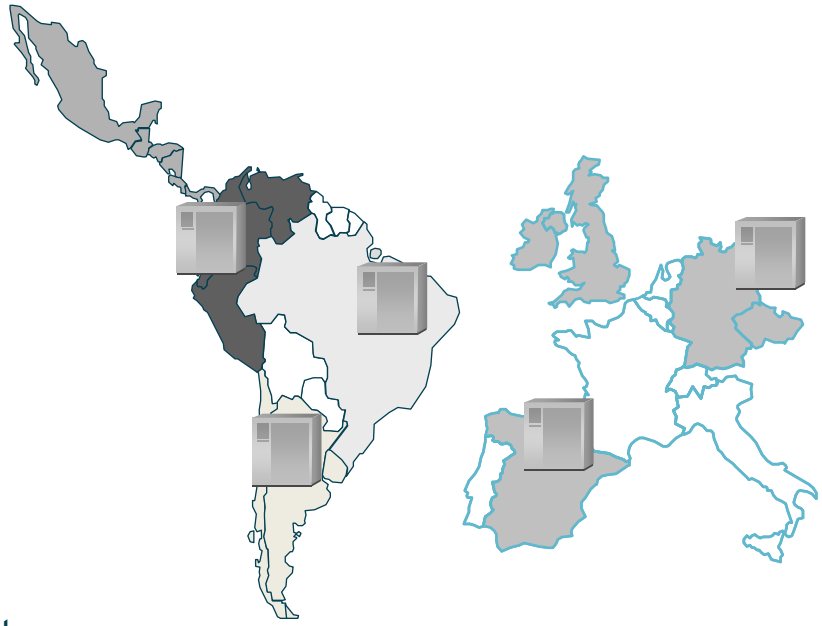
Información Energética de Producto / Energy information of the product

Línea de Producto / Type of Product Group	LP2
Código de Producto / Product Code	
Tipo de Operación / Type of Operation	Fija, Móvil o Edificios
Breve descripción del equipo / brief description of the p	Aire Acondicionado (Air conditioning), Equipos de Climatización (Climate equipment)
País / Country	

Consumo de Energía / Energy Consumption	DATO / INFORMATION	
Fabricante (Manufacturer)		
Modelo (Model)		
Año de fabricación (Manufacturing year)		
Tiempo de vida útil del equipo en años (Equipment lifetime in years)		
Eficiencia Energética en Equipos de Enfriamiento/ Energy Efficiency in Cooling Systems	DATO / INFORMATION	
Consumo Energético Típico (Typical Energy Consumption)		kwh/year
Capacidad Frigorífica / Cooling capacity		BTU/h or W
EER (1)		Btu/h
Eficiencia Energética en Equipos de Calefacción / Energy Efficiency in Heating Systems	DATO / INFORMATION	
COP (2)		W/W
Capacidad de Calefacción / Heating capacity		Btu/h or W
Más Eficiente / More efficient	**Clasificación / Clasification**	**COP**
A	A	3,60 < COP
B	B	>3,40
C	C	>3,20
D	D	>2,80
E	E	>2,60
F	F	>2,40
G	G	2,40 ? COP
Menos Eficiente / Less efficient		

Standard templates for energy information request

Regional Purchases of efficient equipment in networks



Climate change strategy – Employees

Operations | Purchases | Employees | Society | Customers

To achieve an electricity reduction objective of 10% by 2015 in Telefónica Offices.

Energy efficiency campaigns for employees

Teleworking in Telefónica

Foster Virtual meetings

Climate change strategy – Society

Operations | Purchases | Employees | **Society** | Customers

To position Telefónica as a leader in Climate Change Abatement in all the regions we operate.

ICT Sector Engagement

ITU and climate change

etno

ict4ee.eu ICT for Energy Efficiency Forum

GSMA

GeSI Global e-Sustainability Initiative

Industry Analysts

Gartner

IDC Analyze the Future

VERDANTIX

International Organizations

Organisation for Economic Co-operation and Development OECD

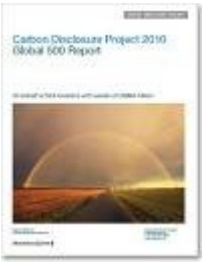
The Global Compact

ERT European Round Table of Industrialists

Investors

sam 2009 sector leader

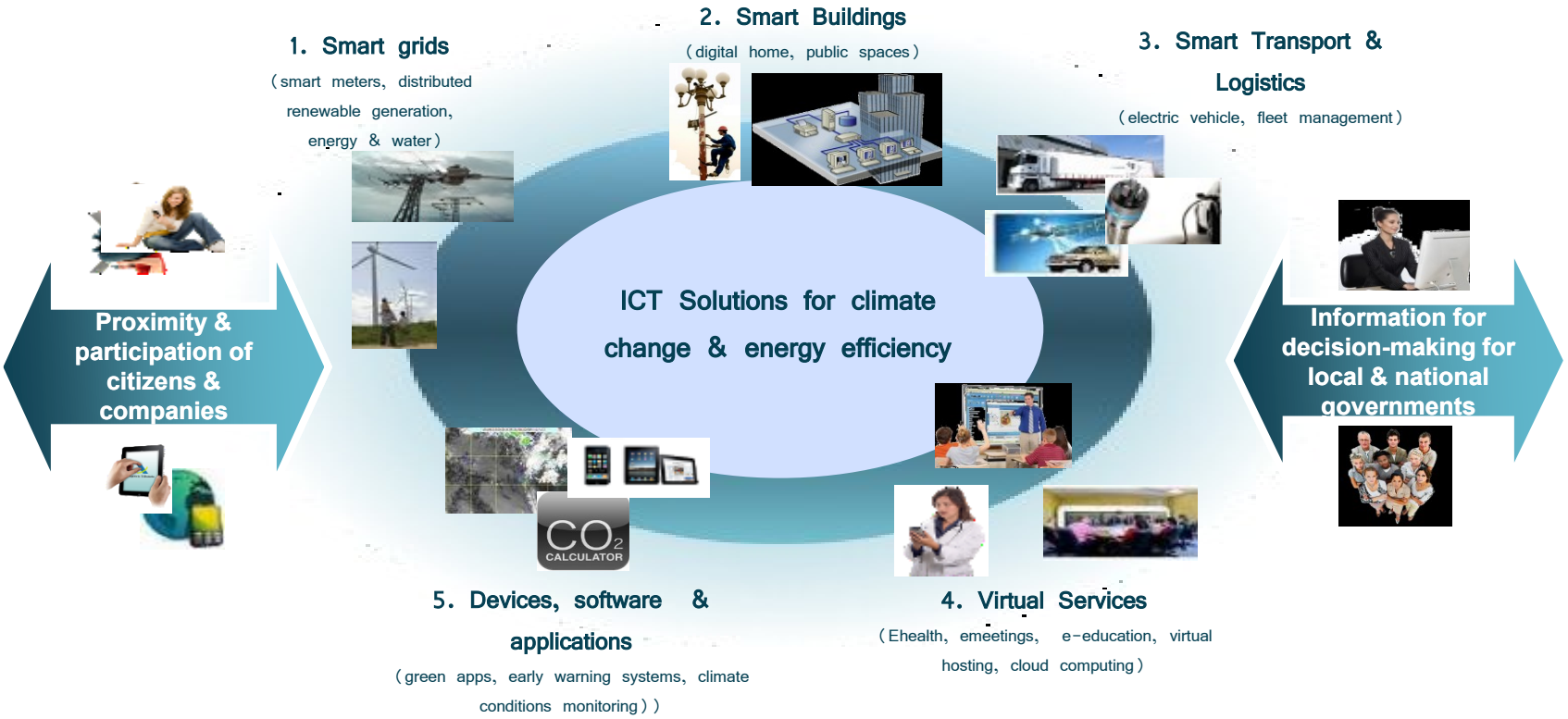
Dow Jones Sustainability Indexes



Climate change strategy – Customers

Operations | Purchases | Employees | Society | Customers

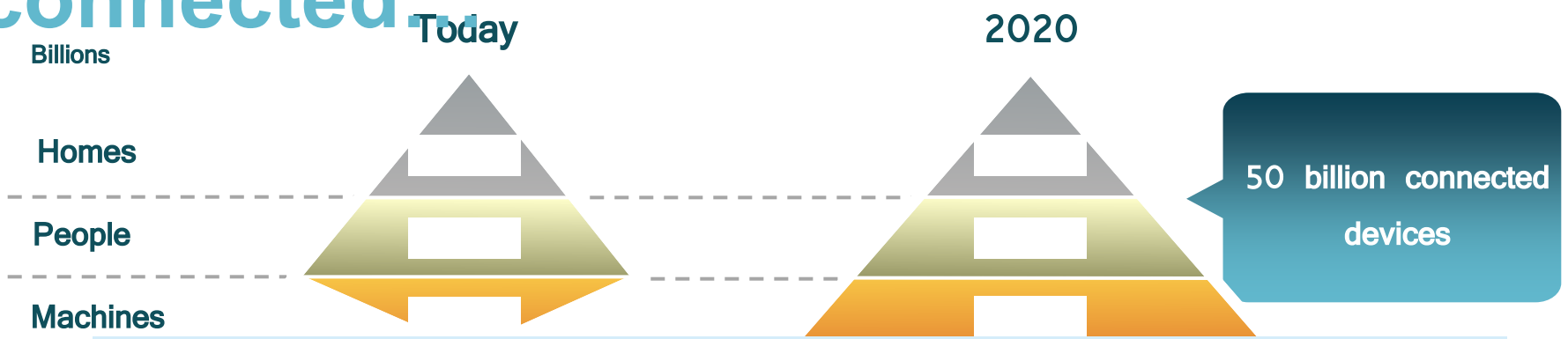
To promote products and services with the potential and capacity to lead Customers to be more efficient.



03

Green ICT Solutions

In a society where everything is connected…



Energy consumed in these processes should be efficient and GHG Emissions should be reduced

Most of this interactions will happen in CITIES

Appliances

Personal and medical devices.

Energy efficiency

Vehicle

Location & GPS

Smart City For Telefónica…

- … new urban ecosystems able to maximize social, environmental and economic wealth in cities:

- Thanks to the intensive use of Information and Communication Technologies (ICTs) that facilitate information gathering from different interoperable systems, in order to make better decisions for climate change management and for promoting energy efficiency in cities.

Smart Cities services

ECONOMY

e-Turism
e-Comerce
NFCs

GOVERNANCE

e-Government
e-Democracy
OpenData
Transparency portals

MOBILITY

Electric vehicle
Public transportation
Bicing
Tráffic control
Parking
Fleet Management

LYFE STYLE

E-Health
Teleasistence
Education
Safety
Emergency response
Virtual Meetings

COMMUNICATION

Wifi / Wimax
M2M
Sensors y acting devices
Mobile devices
Smart Platform
Smart Computing
Cloud Computing

ENERGY

Public Lighting
Buildings
Smart Metering
Distributed Self-generation (renewables)

ENVIRONMENT

Air & noise monitoring
Waste Management
Parks & gardens
Water management
Early Warning Systems
Climate monitoring

Let`s see an example

SmartSantander
La ciudad inteligente a tu alcance

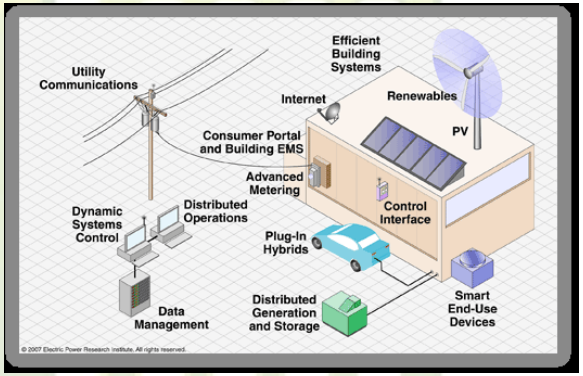
Santander “Smart City”

Infrastructure

20.000 smart meters

Public buildings, parks & gardens, social and mobility assistance and environmental monitoring

- **Public Private Partnership on Local Government and private sector (Including an ICT Company)**
- **Working towards Santander the main smart city in the world.**



Source: Electric Power Research Institute

Roadmap of green applications for green ICTs solutions

Green information & education

2010

2011

Green routes apps.

2012

2013

Smart Metering apps

2014

2015

Smart Connected Cities & users

Basic green advices

Apps to assess environmental footprint

Apps with climate information

Apps to manage resouces

- Users will demand green solutions in the future
- Smart buildings, smart metering, climate monitoring require applications to enhance its use.
- Applications will be the link between green ICT services and the final user

04

Can Green ICTs save the world?

We can contribute with tangible solutions…

Identification of ICTs potential to reduce **emissions internally & in other sectors**

Internal energy efficiency & communication of benefits

Need for agreed methodologies

Deliver solutions to customers
Use and improvement of agreed methodologies

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