ITU Workshop on
"Using ICTs for Climate Change Adaptation"

(Naples, Italy, 21 October 2013)

ICTs and Adaptation to Climate Change in Telefonica

Daniela Torres Espinosa,
Head of Green ICT & Environment

daniela.torres@telefonica.com

@TEF_green

Telefónica

Index

Telefónica

01. Telefónica positioning & strategy_

Telefónica global positioning

Customers	**315** million customers
Services	ICT services in the digital world
Countries	Presence in **24 countries**
Employees	More than **130.250 professionals**
Energy & CO2	5.8 TWh & 1,66 mil tons CO2eq

O₂ — movistar — vivo
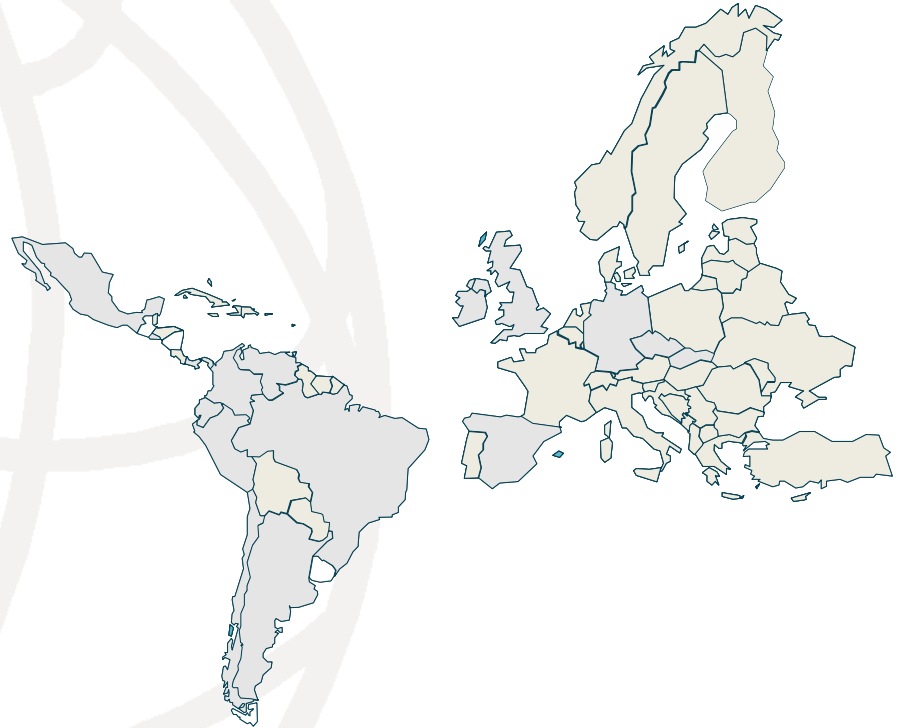
Telefónica

Telefónica integrated approach to climate change

To increase energy efficiency measures to reduce energy consumptions & CO_2

Telefónica

To find new income opportunities by the development of new Green ICT solutions

Green From ICTs
- Eco efficiency
- GHG reduction
- Risk management

Global Green TIC
- Standards
- Leadership
- Public advocacy

Green By ICTs
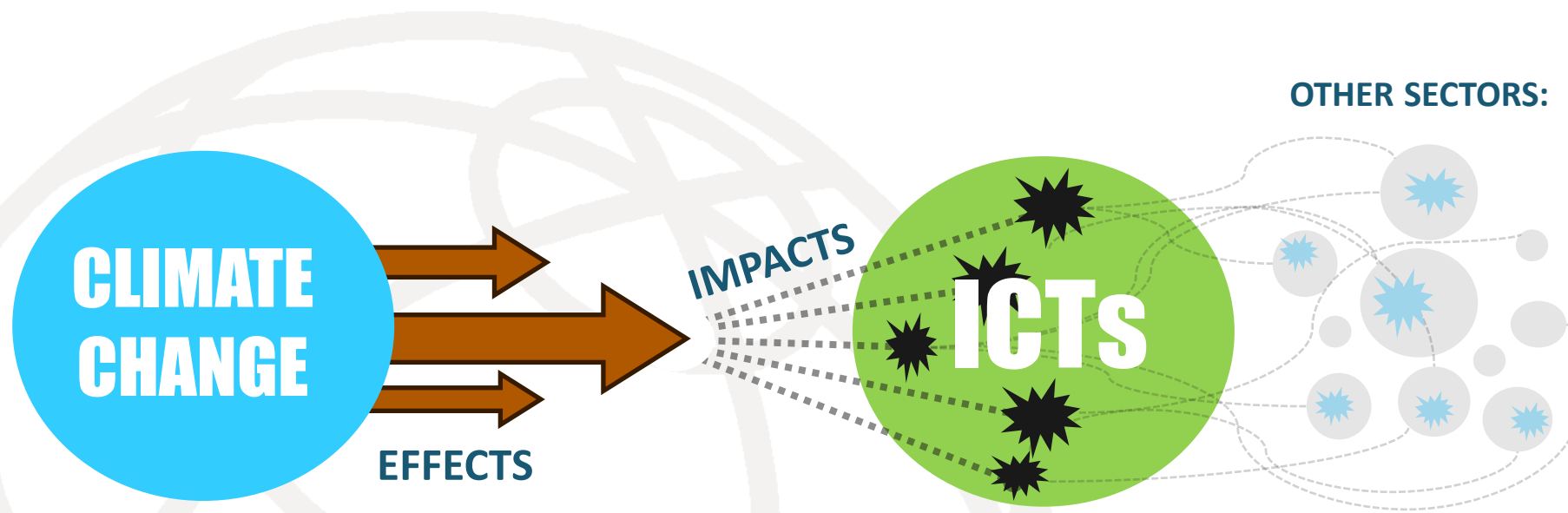- Green ICT Services eco-efficiency & climate change management

O_2 — **M** movistar — vivo

02. Climate Change (CC) Adaptation in Telefónica_

Climate Change Adaptation in Telefónica

OTHER SECTORS:

CLIMATE CHANGE

EFFECTS

IMPACTS

ICTs

EFFECTS OF CLIMATE CHANGE :

- SEA LEVEL RISE
- TEMP. INCREASE
- GREENHOUSE GASES
- OTHERS

IMPACTS ON ICT :

- NETWORKS
- GOODS
- SERVICES

Telefónica

Climate Change Adaptation in Telefónica

ADAPTATION TO CLIMATE CHANGE

FROM ICT

ADAPTATION TO CLIMATE CHANGE

BY ICT

How Telefónica adapts to the effects
of Climate Change
- *Resilent infrastructure, Vulnerabilty
assestments,*

How Green ICT Services provided by
Telefónica can support climate
change adaptation
Cities, Countries, Companies, etc

Telefónica

Climate Change Adaptation in Telefónica

01

Climate Change Adaptation Risks & Opportunities Evaluation

02

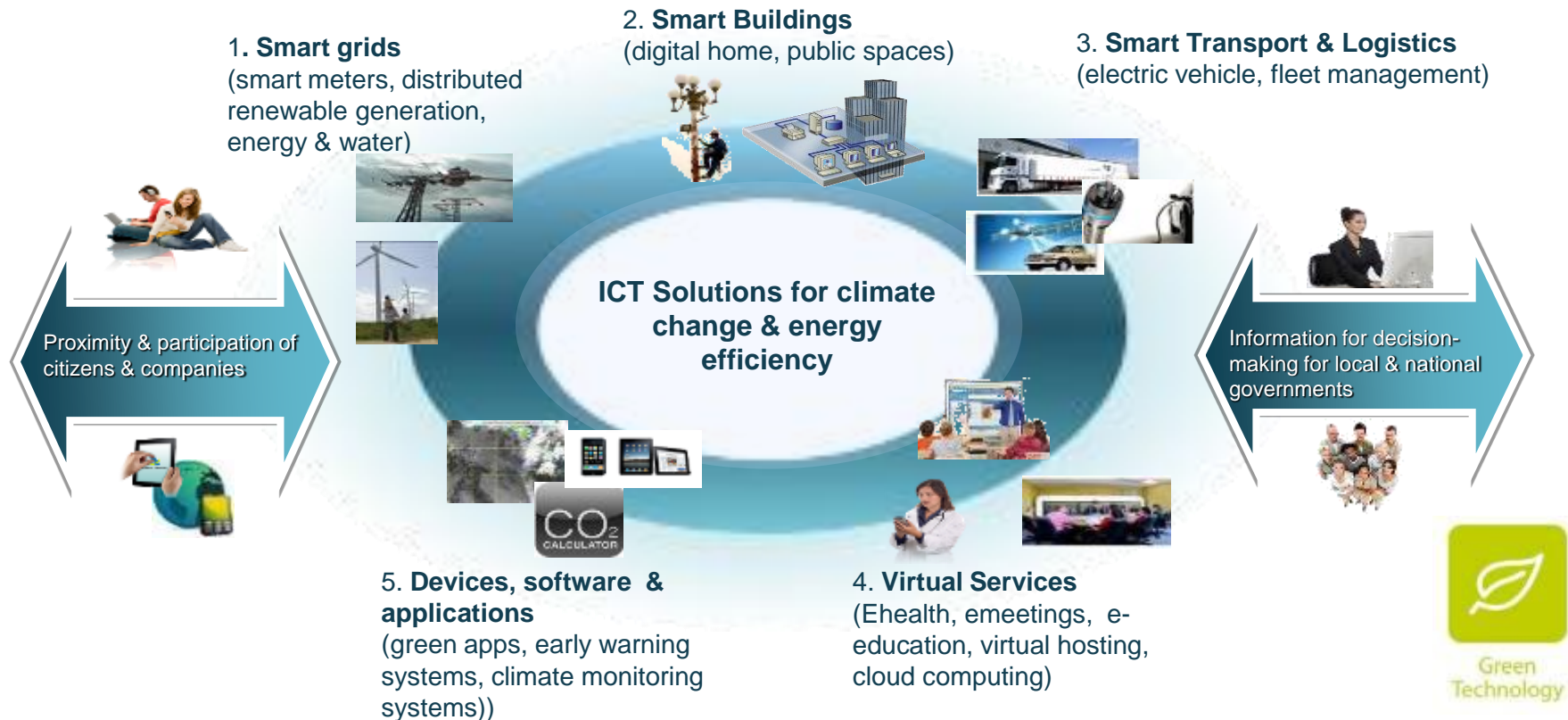Network Infrastructure Resilience (submarine cables & networks)

03

Green ICT Services for climate change adaptation

Telefonica

03. Green ICT services for Climate Change adaptation_

Green ICT Services in Telefonica

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

2. Smart Buildings
(digital home, public spaces)

1**. Smart grids**
(smart meters, distributed renewable generation, energy & water)

3. Smart Transport & Logistics
(electric vehicle, fleet management)

Proximity & participation of citizens & companies

ICT Solutions for climate change & energy efficiency

Information for decision-making for local & national governments

5. **Devices, software & applications**
(green apps, early warning systems, climate monitoring systems))

4. **Virtual Services**
(Ehealth, emeetings, e-education, virtual hosting, cloud computing)

Green Technology

CO₂ CALCULATOR

Green Technology solutions in Telefónica have to be: measurable, demonstrable, standardized and global.

Climate Change & Energy Efficiency Offiice
Telefónica S.A

Telefonica

VIVO CLIMA in Brasil_

- **Vivo Clima** is a platform M2M that receive rain information in real time;

- **Pluviometers** (rain gauge equipment) installed in **telecommunication sites of Telefônica** that are located in risk areas**.** The data captured are sent through the **mobile phone network (3G/GPRS)**

- Data is sent to the information platform of the National Natural Disaster Monitoring **(CEMADEN),** which is part of the Ministry of Science, Technology and Innovation.

- The government acquired **1,500 pluviometers** that are going to be connected in the network 3G/GPRS by the end of 2014 in all provinces.

Green Technology
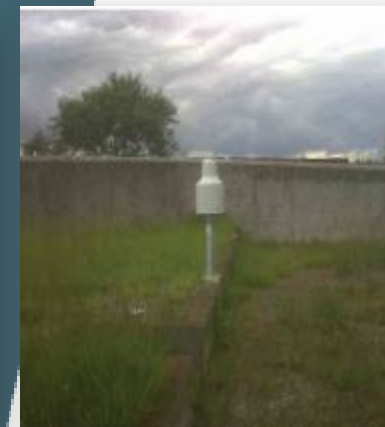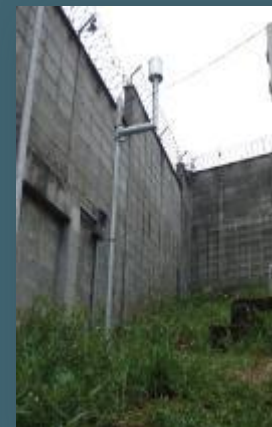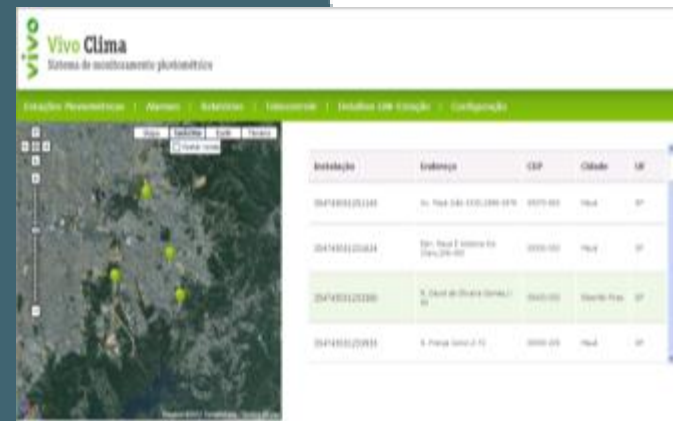
TDETECTA in Spain_

- **T Detecta** is a project that captures information of forest fires in real time

- Through **termogaphic camaras** installed in **telecommunication sites of Telefônica** that are located in risk areas. The data captured is sent to the Platforms of Emergency Response Institutions in Spain provinces
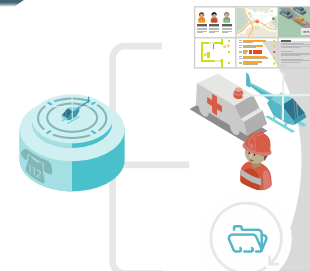
Green Technology

1 Cameras detect potential anomalies and automatically register them.

2 Information is sent to the Central Control Systems.

3 The incident is registered, geo-localized and gets images.

4 Management of protocols take place for forest fires control.

Climate Change & Energy Efficiency Offiice
Telefónica S.A

Telefónica

Thank you / Gracias

Daniela Torres Espinosa,
Head of Green ICT & Environment
Telefonica
daniela.torres@telefonica.com
@TEF_green