WWF for a living planet®

ICT as a winner in the low carbon economy

- enabling energy services for 9 billion people

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8 Dec 2009, Copenhagen





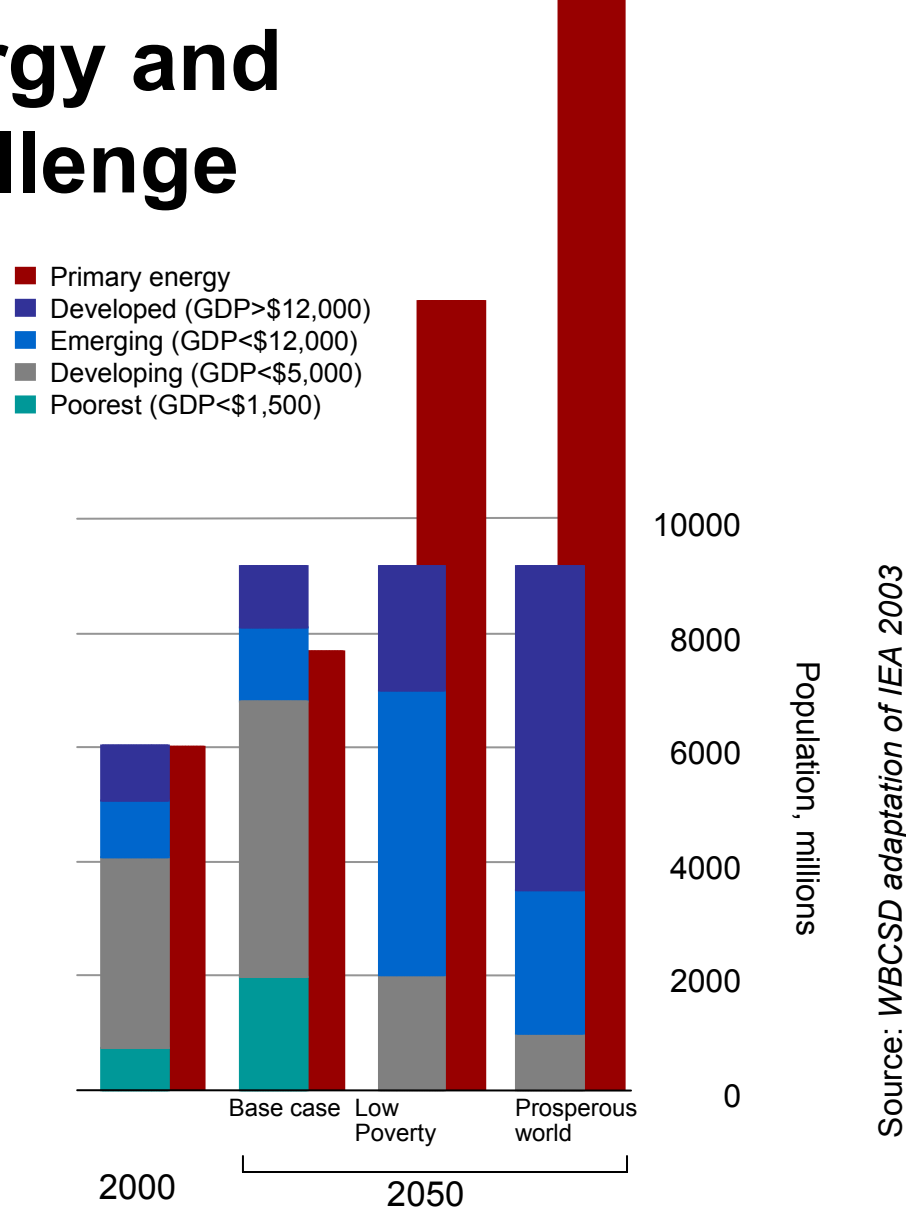


Primary energy and climate challenge

Population expected to rise to 9 billion by 2050, mainly in poorest and developing countries.

Shifting the development profile to a "low poverty" world means energy needs double by 2050

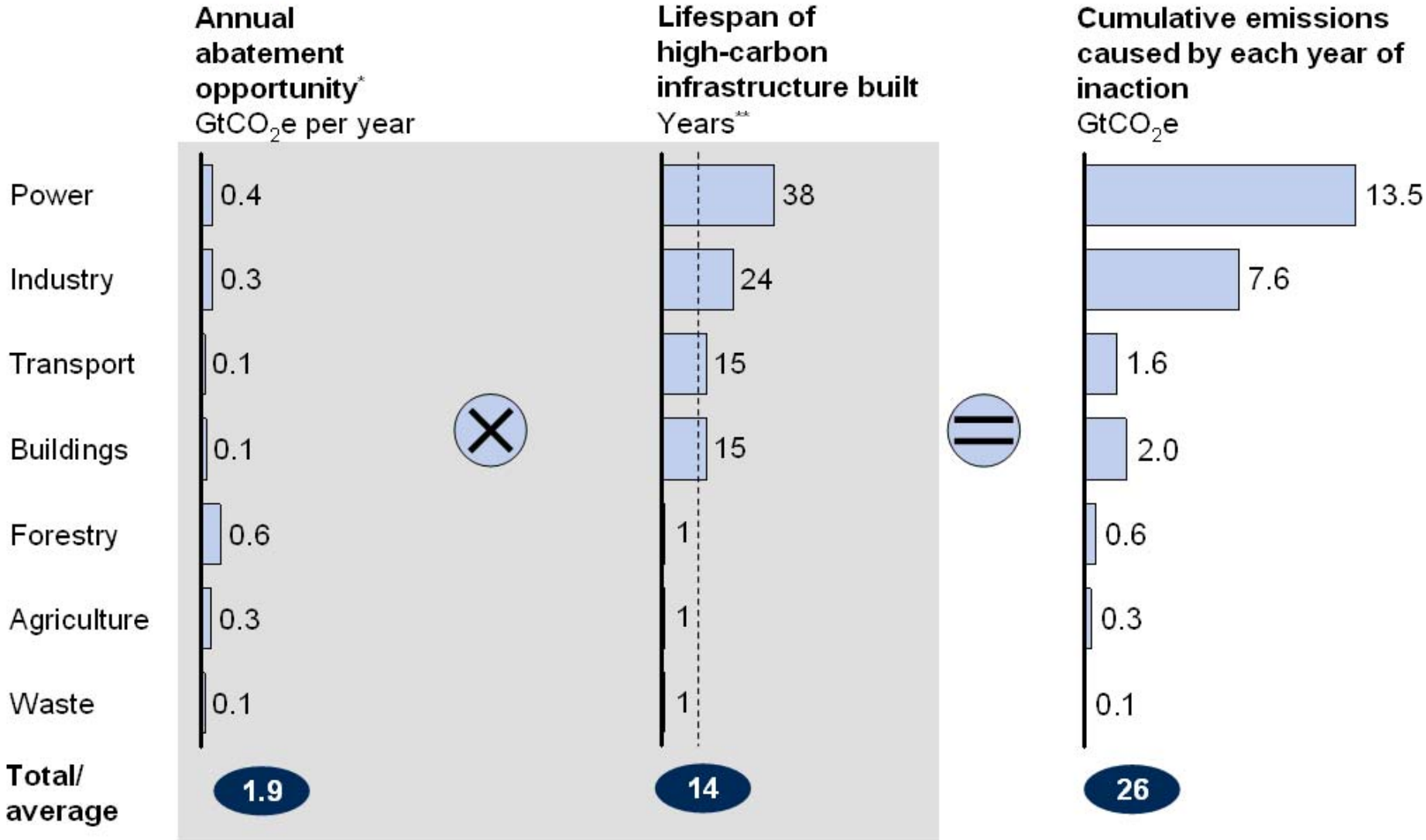
Shifting the development profile further to a "developed" world means energy needs triple by 2050



Source: *WBCSD adaptation of IEA 2003*

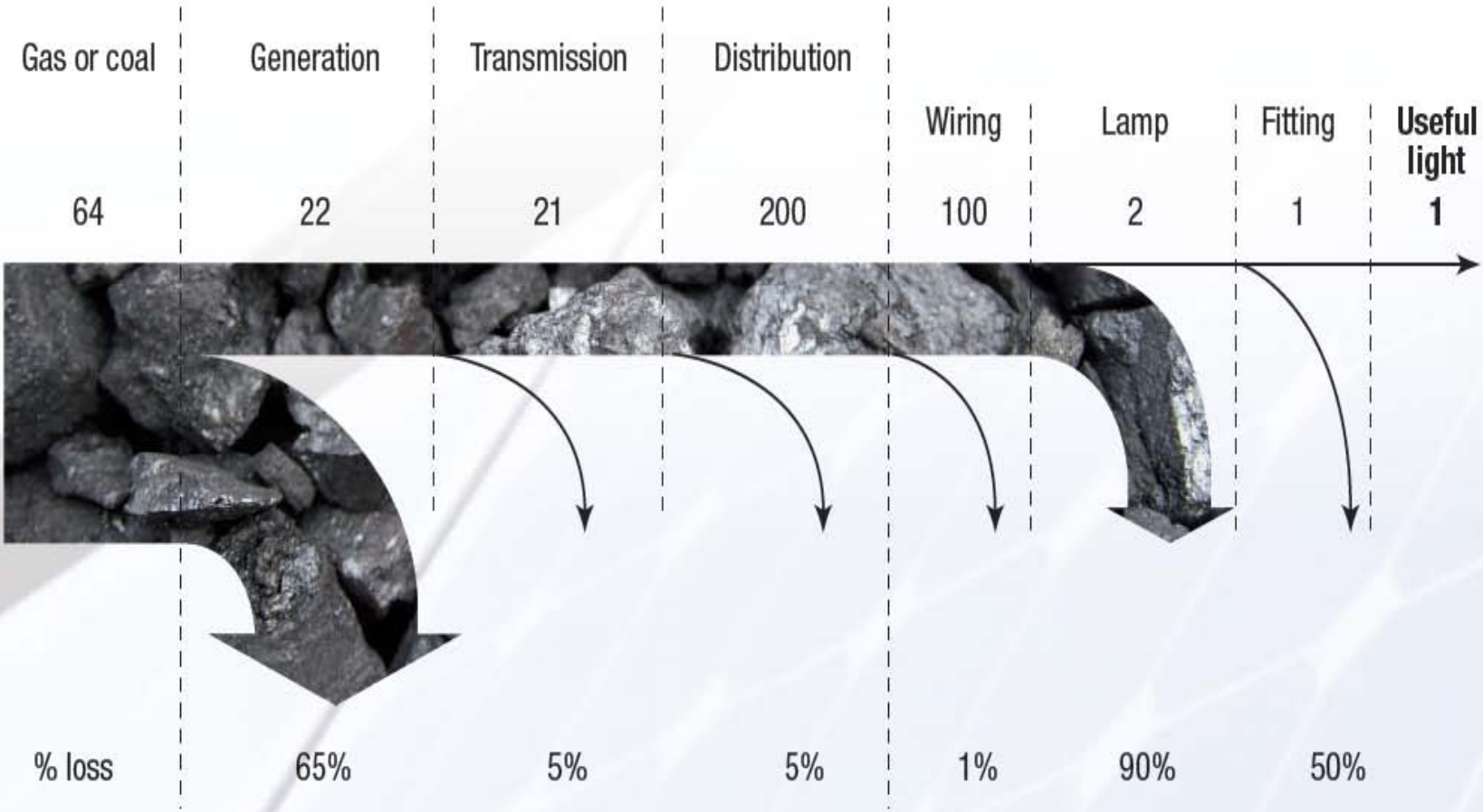
Exhibit 29

Lock-in into high-carbon infrastructure



* Annual between 2010–15; calculated as emission difference between BAU and emissions after abatement.
** Weighted average of lifespan of carbon-intensive assets or infrastructures in each sector.
Source: Global GHG Abatement Cost Curve v2.0

Unmodern energy service a la 2009
One service – two approaches
Approach 1: More power

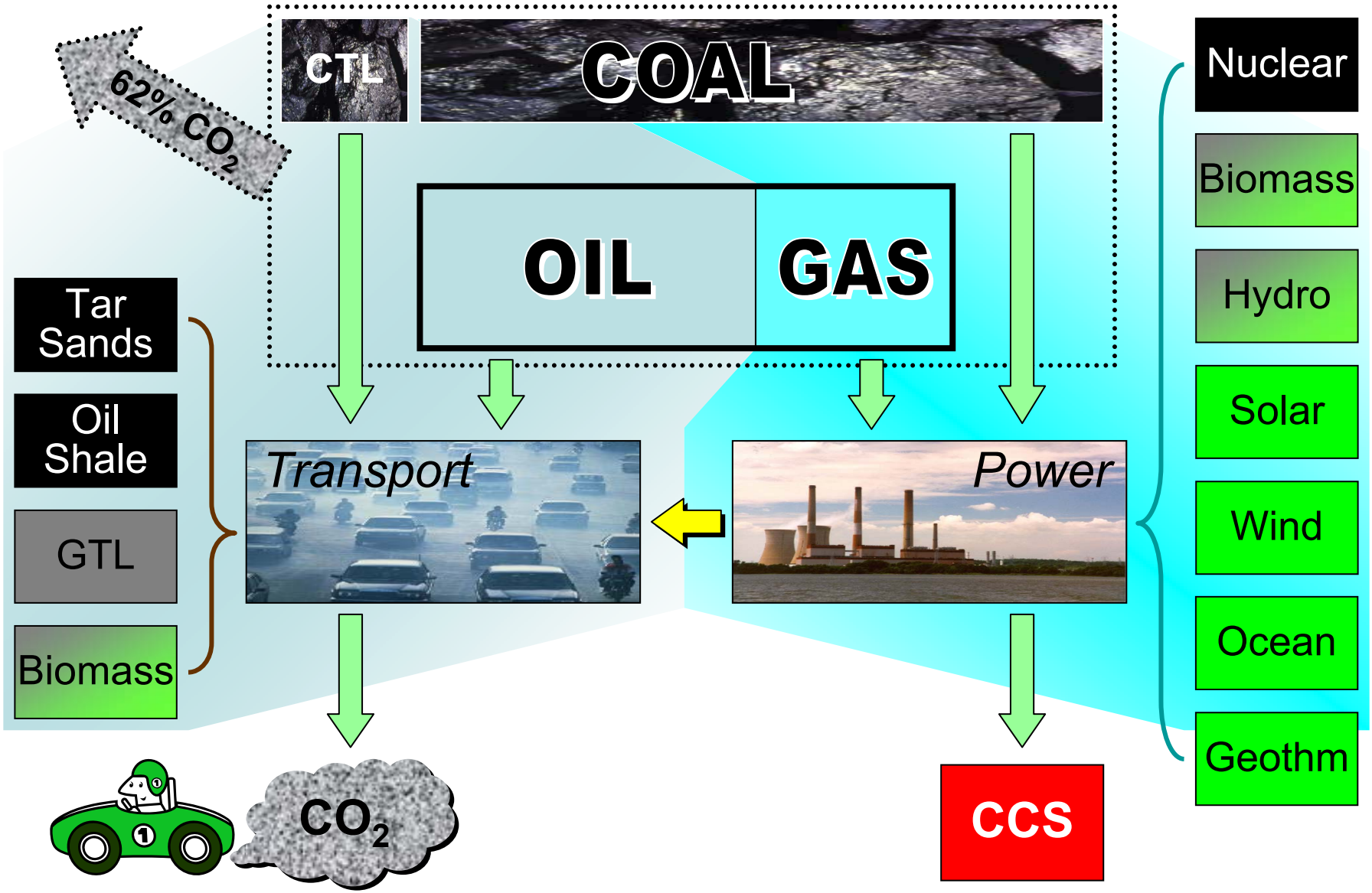


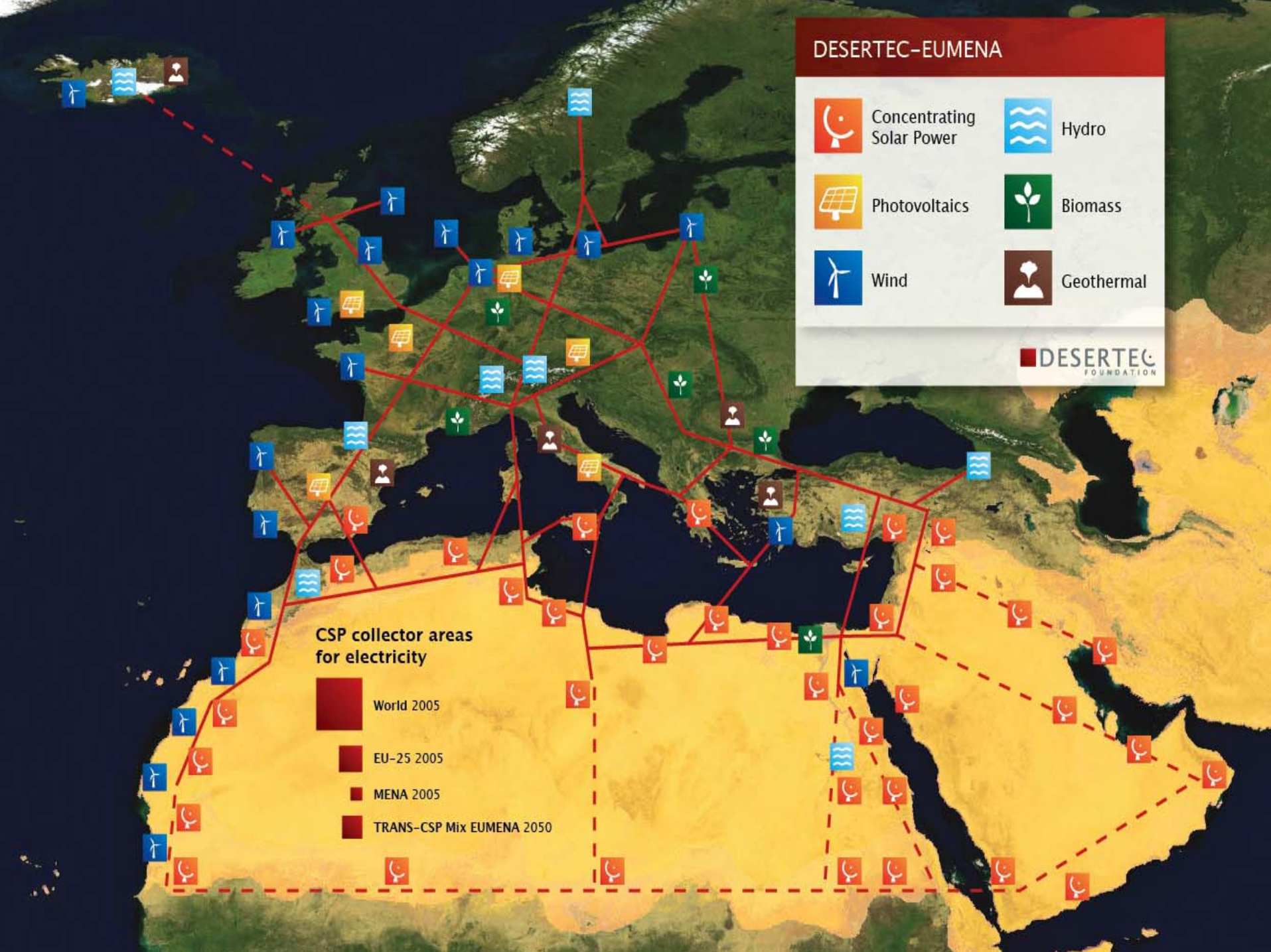
Source: Based on Cleland, 2005, as presented in IPCC's Fourth Assessment Report, Working Group III report "Mitigation of Climate Change", p. 258

Modern energy service a la 2009
One service – two approaches
Approach 2: More brain

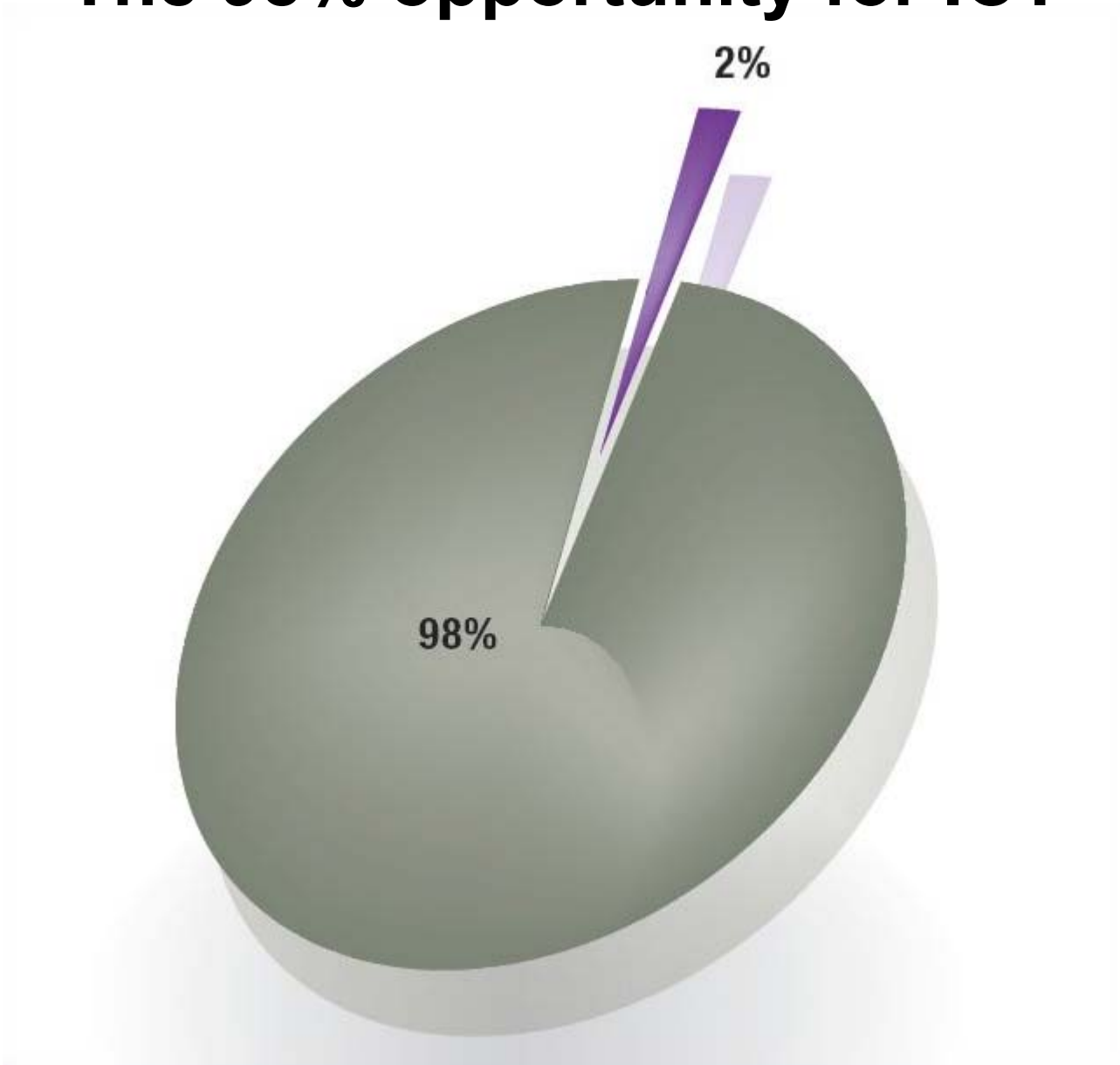
ICT enabling an *attractive* low carbon economy

Ending the age of stupid




DESERTEC-EUMENA
Concentrating Solar Power
Hydro
Photovoltaics
Biomass
Wind
Geothermal
DESERTEC FOUNDATION
CSP collector areas for electricity
World 2005
EU-25 2005
MENA 2005
TRANS-CSP Mix EUMENA 2050

The 98% opportunity for ICT



16 Telecom winners and 6 IT services

Flexi-work

If 10% (19.3024 million) of EU-25 countries' employees became flexi-workers, then 22.17 million tonnes of CO_2 can be saved per year.

Audio-conference

If 50% (96.512 million) of EU-25 countries' employees replaced one meeting with one audio-conference call per year, then 2.128 million tonnes of CO_2 can be saved per year.

Business travel replacement (video-conference)

If 20% of business travel in EU-25 Countries is replaced by a non-travel solution (e.g. video-conference), around 22.35 million tonnes of CO_2 can be saved per year.

Online phone-bills

If all households, with Internet access, in EU-15 countries, and all mobile customers in EU-25 countries would get an online phone-bill, then 491.57 thousand tonnes of CO_2 can be saved per year.

Virtual answering machine

If 20% of households in EU-15 countries (31 million) use virtual answering machines instead of physical answering machines, then 1.03 million tonnes of CO_2 can be saved per year.

Web-based tax return

If all employees in EU-25 countries (193 million) deliver their tax return via the Internet, then 195.78 thousand tonnes of CO_2 can be saved per year.

Together this would mean saving approximately 50 million tonnes of CO_2 emissions per year.

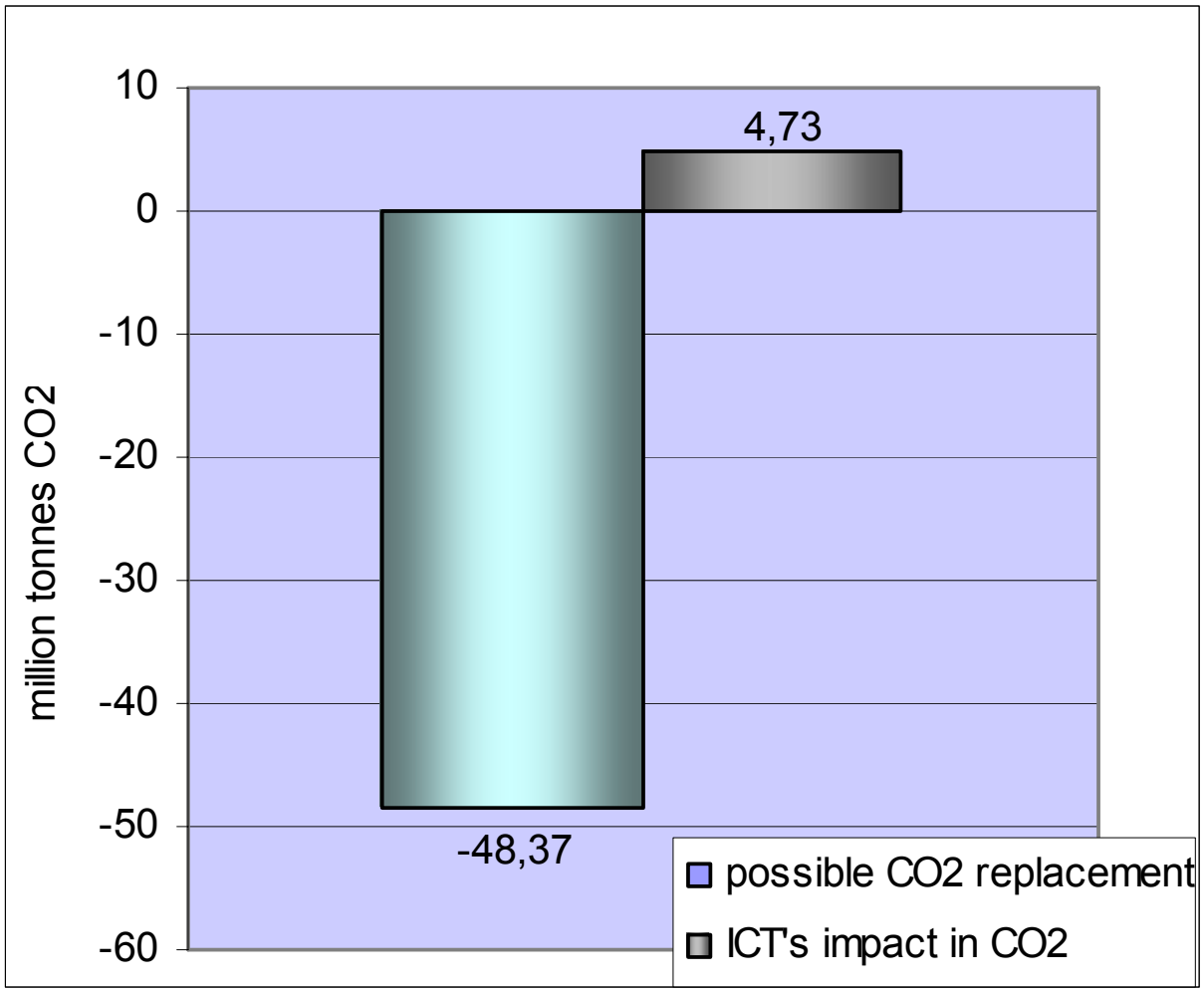
Source: Saving the Climate @ the speed of light, WWF and ETNO







16 Telecom winners and 6 IT services









SOLUTION	ACTION	100 MT CO_2 EMISSION REDUCTIONS
1 Smart City Planning	*Deploy mode… sis software … and planning … efficiency.*	
2 Smart Buildings	*Use … In… e… e… n…*	
3 Smart Appliances	*Utilise IT co… sors and AS… improve effic… es use with a…*	
4 Dematerialisation Services	*Use IT as a f… substituting … interactions … bricks'.*	
5 I-optimisation	*Use IT-based … management… dual product… operations, s… efficiency.*	

OUTLINE FOR THE FIRST GLOBAL IT STRATEGY FOR CO_2 REDUCTIONS

A BILLION TONNES OF CO_2 REDUCTIONS AND BEYOND THROUGH TRANSFORMATIVE CHANGE

THE FUTURE OF THE INTERNET ECONOMY
ICT'S AND ENVIRONMENTAL CHALLENGES

SOLUTION	ACTION	100 MT CO_2 EMISSION REDUCTIONS
	…l software … analyse … processes	*Reduce 1% of total CO_2 emissions generated by industry.*
	…d communi… …in electricity … way com… …ergy users …nd to deliver …es such as …eting" …and	*Reduce about 1.25% of the CO_2 emissions associated with electricity use in buildings within a decade.*
	…, analytical …t tools to …eployment of …y, for …ing bottle… …ission …g a wider …ation.	*Add 75 GW renewable energy capacity to the global energy system.*
		About 5% of car commuters become tele-commuters and 15% of airplane business trips are substituted by virtual meetings.
	…y advanced …rs and … analytical …ools, and …ications to …tion to … forms of transport (such as public transport).	*Substitute less than 6% of all km travelled by 'light-duty vehicles' with public transport.*

ICT as part of a Global Climate Deal ?
RE – THINK TOMORROW

ICT as part of a Global Climate Deal ?
RE – THINK TOMORROW

Technology Objectives in Shared Vision - will require more ICT

a) RD&D - double by 2012 - four times by 2020
b) at least two thirds of world's primary energy demand from renewable energy by 2050, and 20% by 2020;
c) Improving energy intensity of the global economy by 2.5 % per year until 2050;
d) Securing access to modern energy services for all people by 2025, avoid high-carbon lock-in
e) adaptation technologies, e.g. targets for establishing a world-wide early warning system and development support for poor countries to get access to drought resistant crops.

ICT in negotiation text

In Shared Vision

Suggestions for New Text by and in Copenhagen.
In **Shared Vision para 22 in present Non-paper No 43** that is currently reading

"In order to enable the fulfilment of the long-term global goal of on emissions reductions, Parties agree on"

add

"the unique opportunity that the use of modern ICT solutions play as an enabler for reaching many of the technology objectives through: smart grid that is needed for the high levels of renewable energy needed; energy efficiency in buildings, industry and transport; providing joint access to information and energy for the poor and; in building adaptive capacity for ex through establishment of a world-wide early warning system for natural catastrophies."

ICT in negotiation text

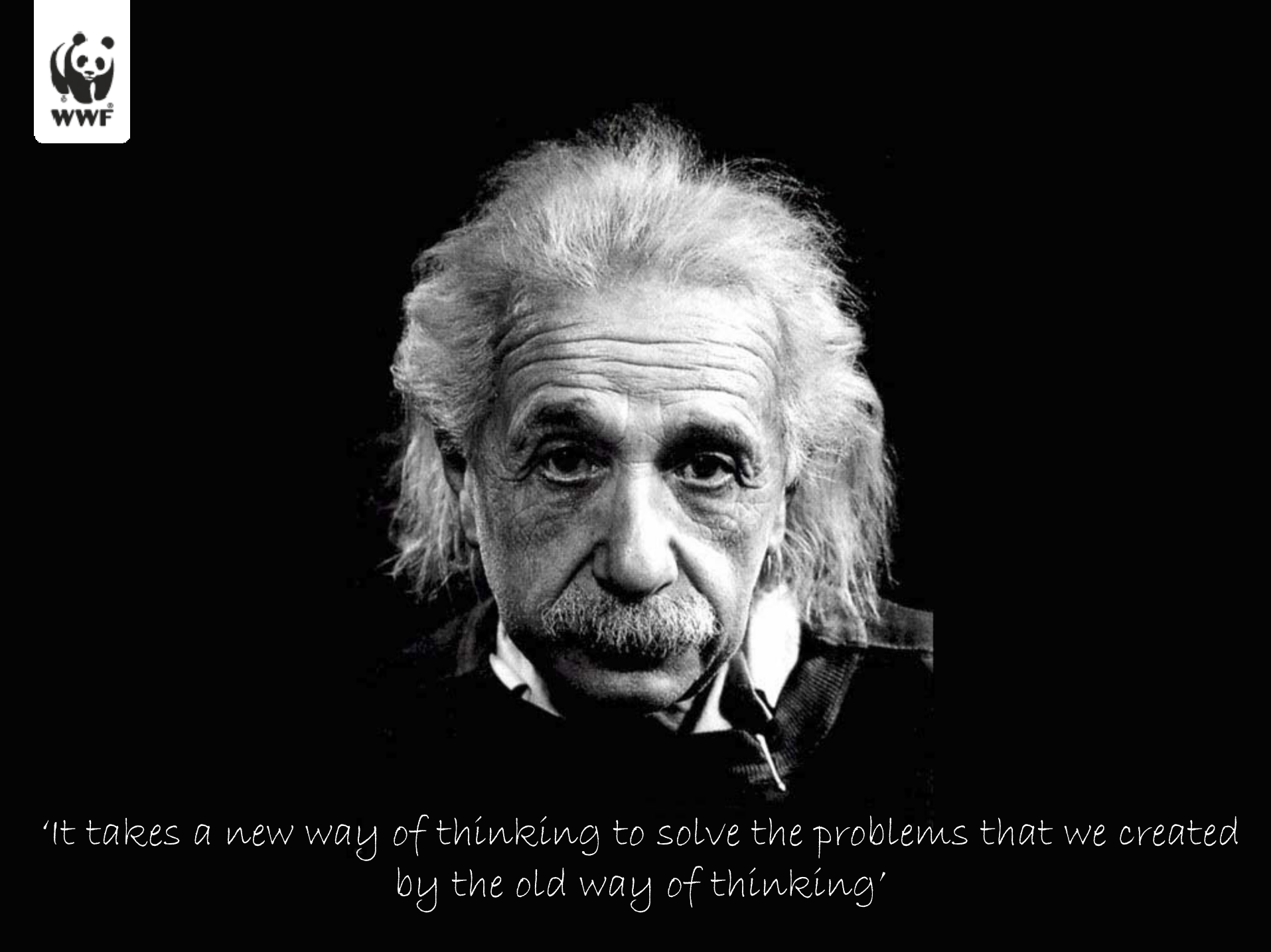
In Technology Section

Non-paper 47 from the contact group on enhanced action on development and transfer of technology that came out of Barcelona the following addition is suggested under **paragraph 2 that fits as a bullet point under all existing 5 options** in text:

It is of crucial importance to "avoid the lock-in effects of technologies that are not environmentally sound" (option 1, para 4, bullet a)

add

and enable a new low carbon development path in which modern, global ICT infrastructures can be used to un-lock barriers for an efficient, low carbon, climate resilient and decentralised energy economy.


WWF
'It takes a new way of thinking to solve the problems that we created by the old way of thinking'

Materials at:

www.panda.org/ICT

Thank you