

# Moving to sustainable energy

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Andreas Beckmann, Director  
WWF Danube-Carpathian  
Programme

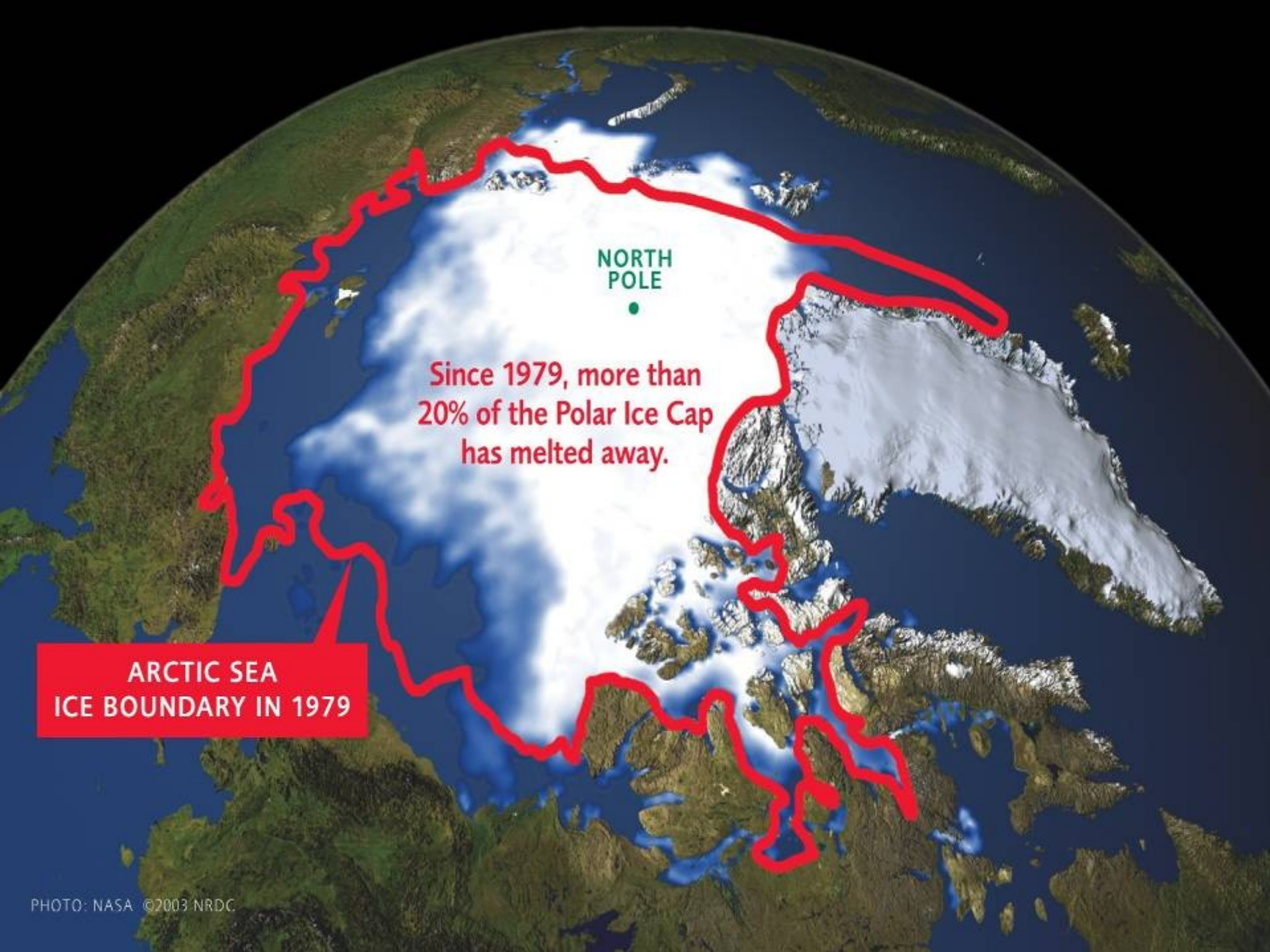
# Urgency?



YOU CAN'T AFFORD TO BE SLOW IN AN EMERGENCY  
ACT NOW FOR THE PLANET



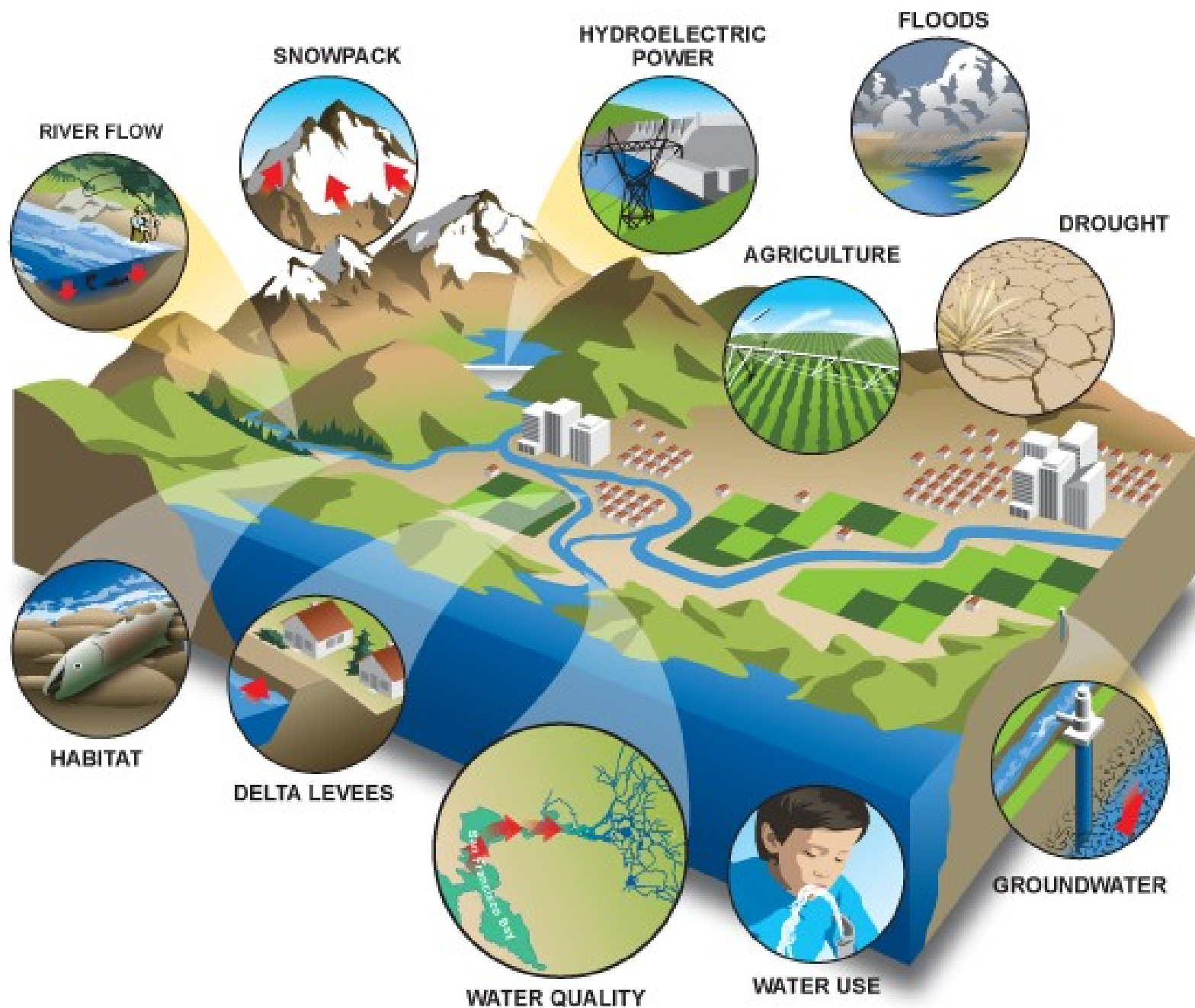




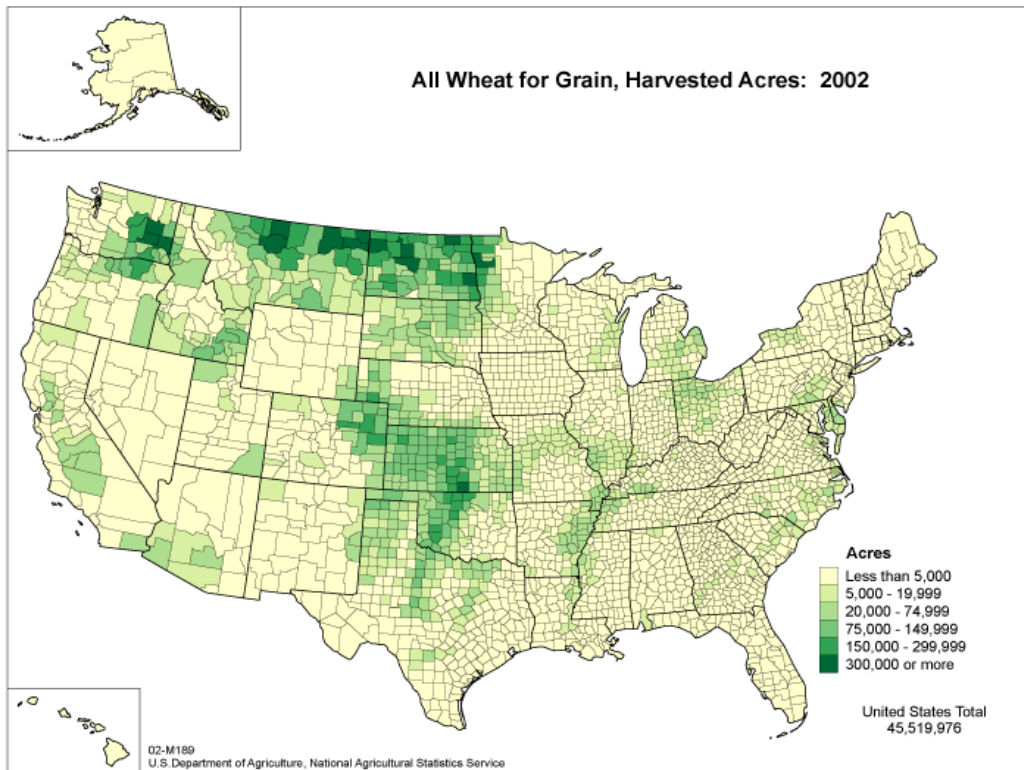
NORTH  
POLE

Since 1979, more than  
20% of the Polar Ice Cap  
has melted away.

ARCTIC SEA  
ICE BOUNDARY IN 1979





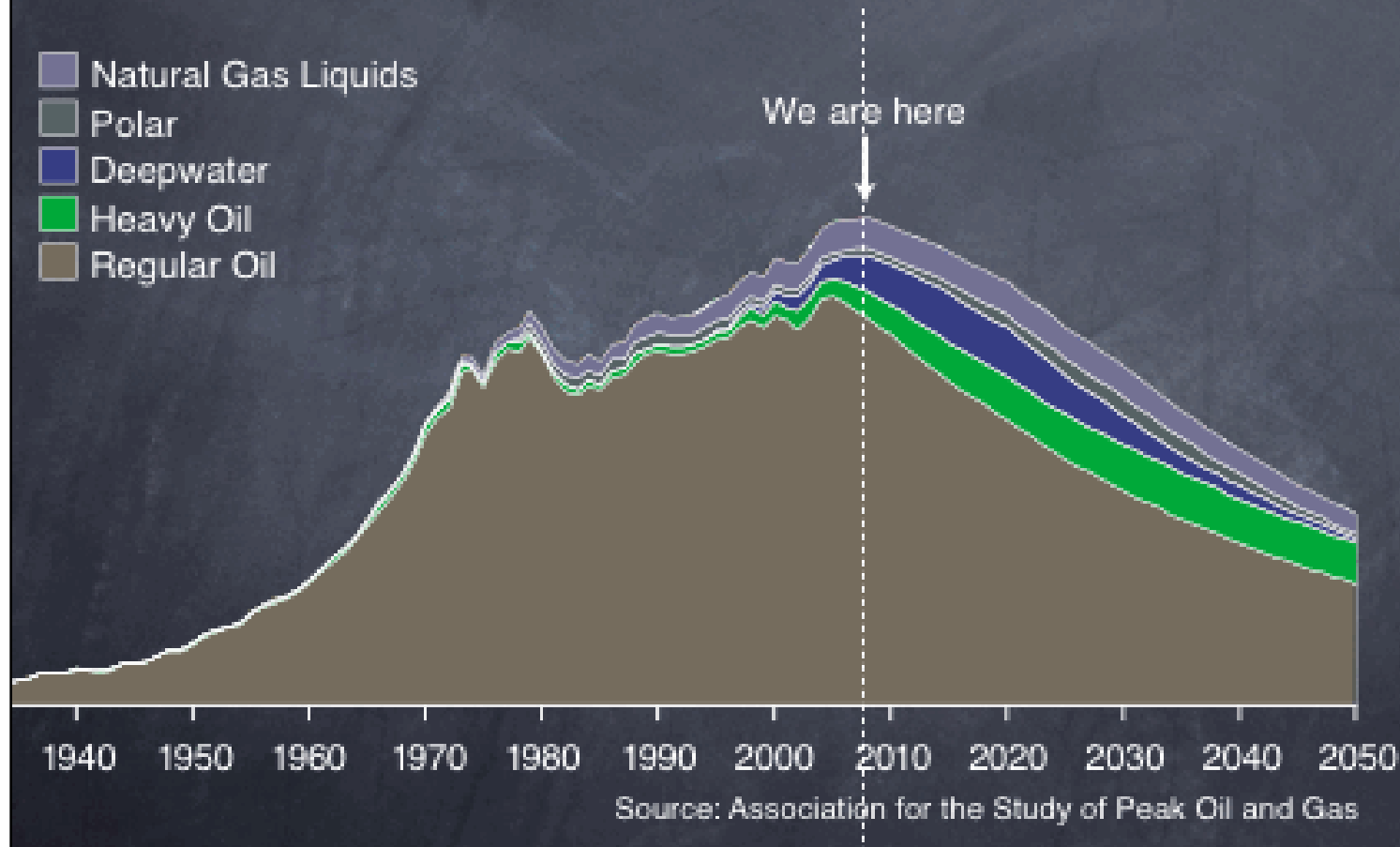


“Dust Bowl”, 1930-1936 (1940)

# The Age of Oil

First Half

Second Half

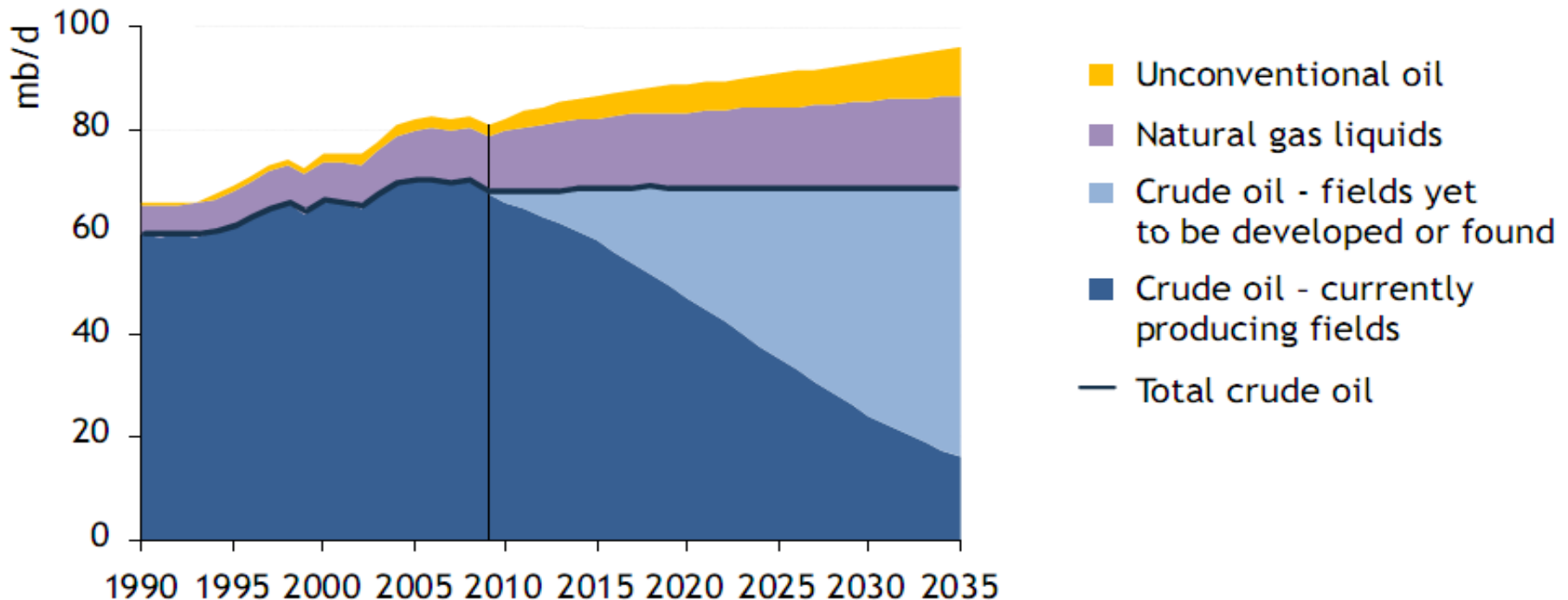




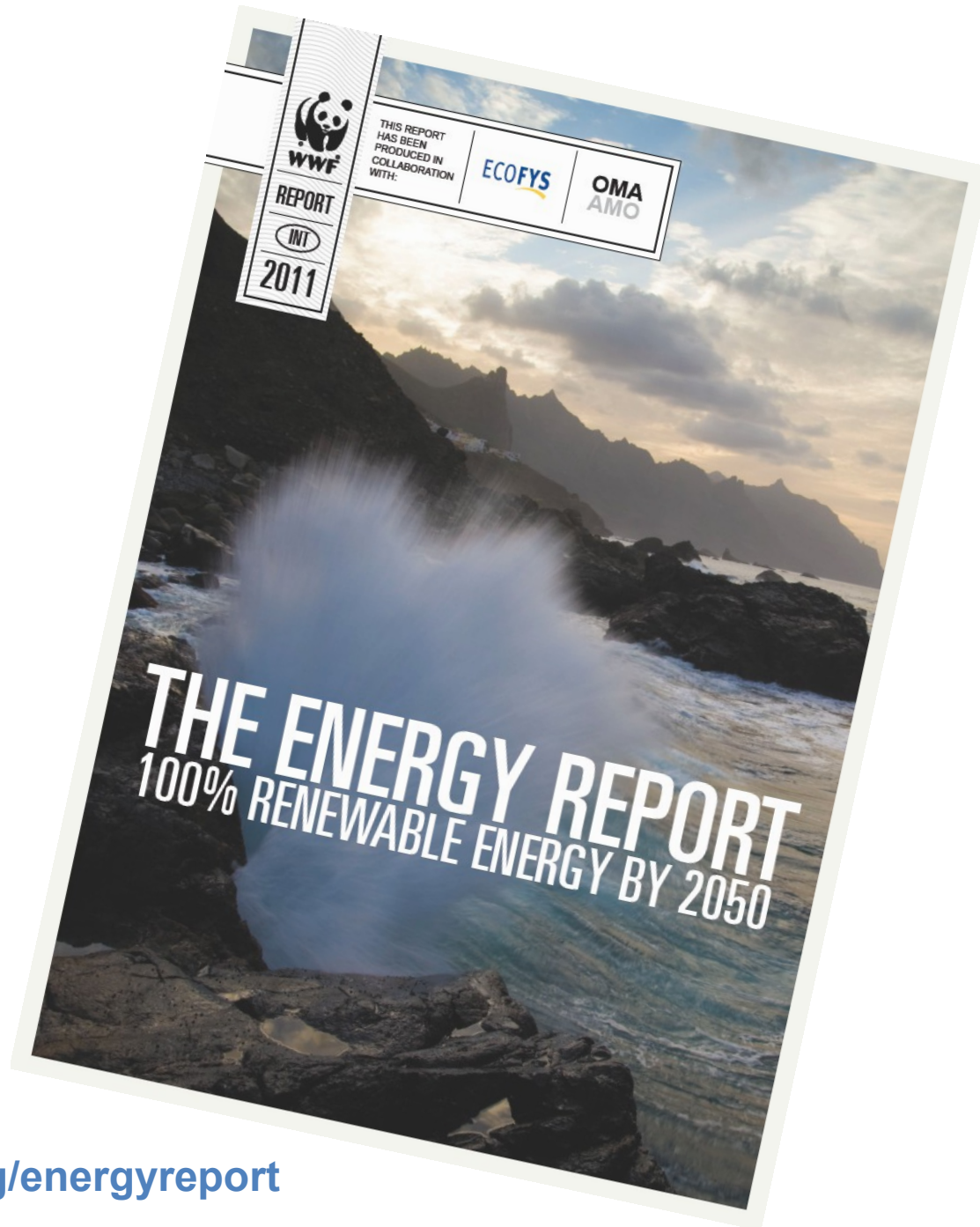
# We're Running Out of Oil – We Have No Other Choice

(IEA, 2010)

## World Oil Production by Type in the New Policies Scenario



Global oil production reaches 96 mb/d in 2035 on the back of rising output of natural gas liquids & unconventional oil, as crude oil production stagnates



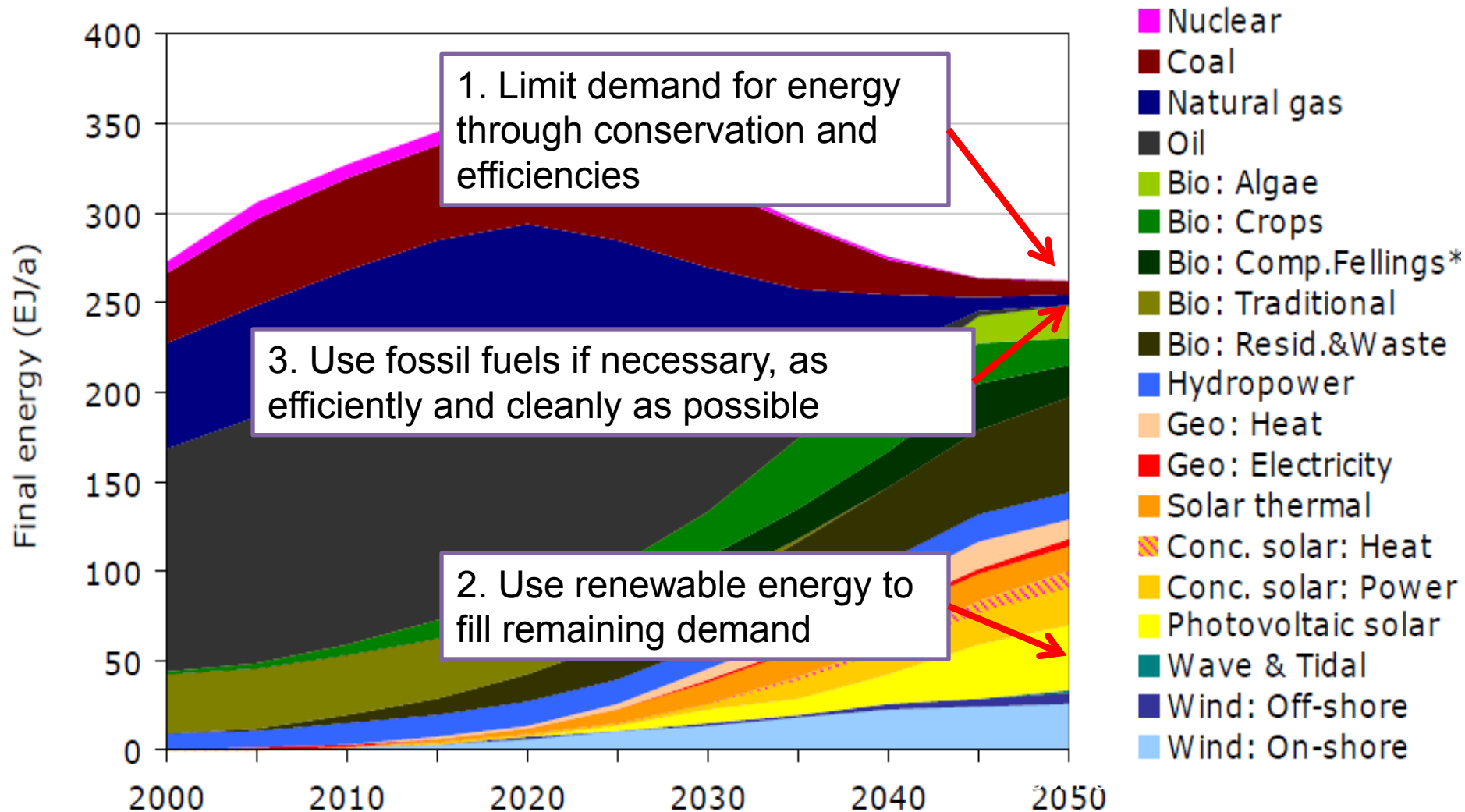
[www.panda.org/energyreport](http://www.panda.org/energyreport)





# The Scenario

The Energy Report  
The Ecofys Scenario



SOURCE: Ecofys Energy Scenario, 2010

# The Scenario - Principal Assumptions

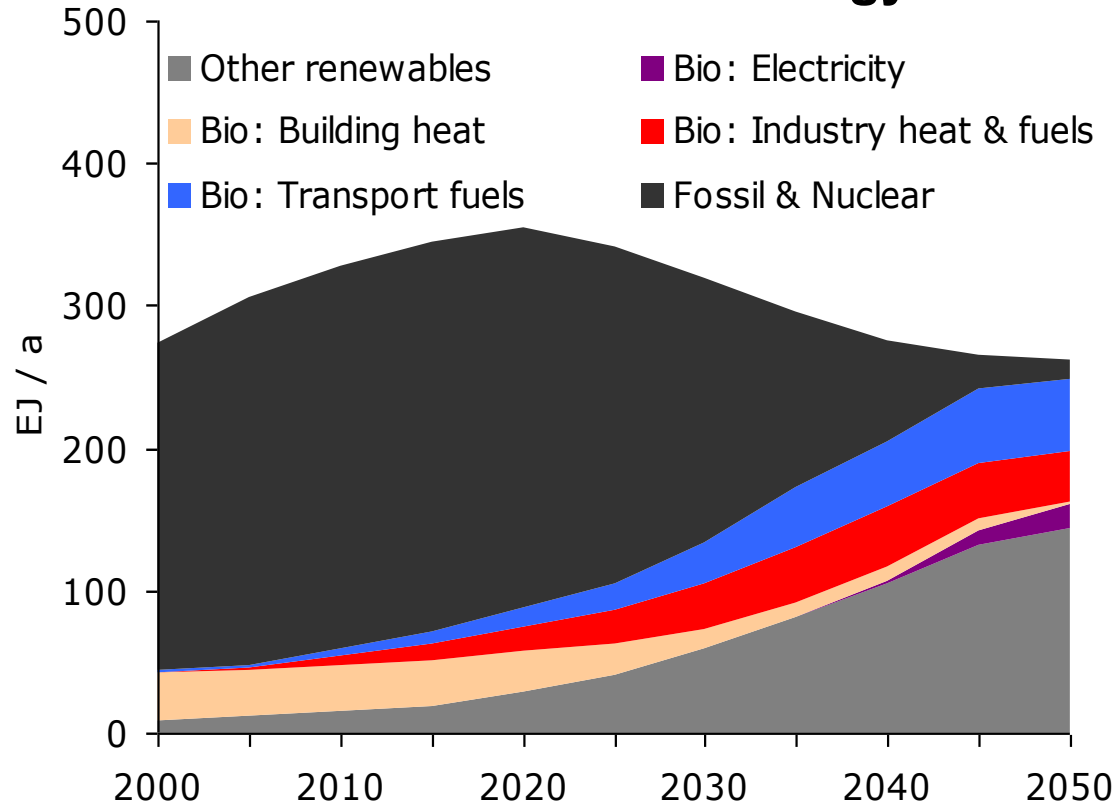
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- Population growth (9 bn), GDP (3x), transport (50%/200% OECD/non-OECD), fuel prices (2%+/yr)
- Only materials, products currently available
- Renewable growth rates below 'realisable' potential
- No nuclear, no CCS
- All bioenergy based on sustainable practices – cropland minimized, no undisturbed forests, no protected areas

CCS: Carbon Capture & Storage  
GDP: Gross Domestic Product

# Role of Bioenergy

## Fossil and other renewable energy sources



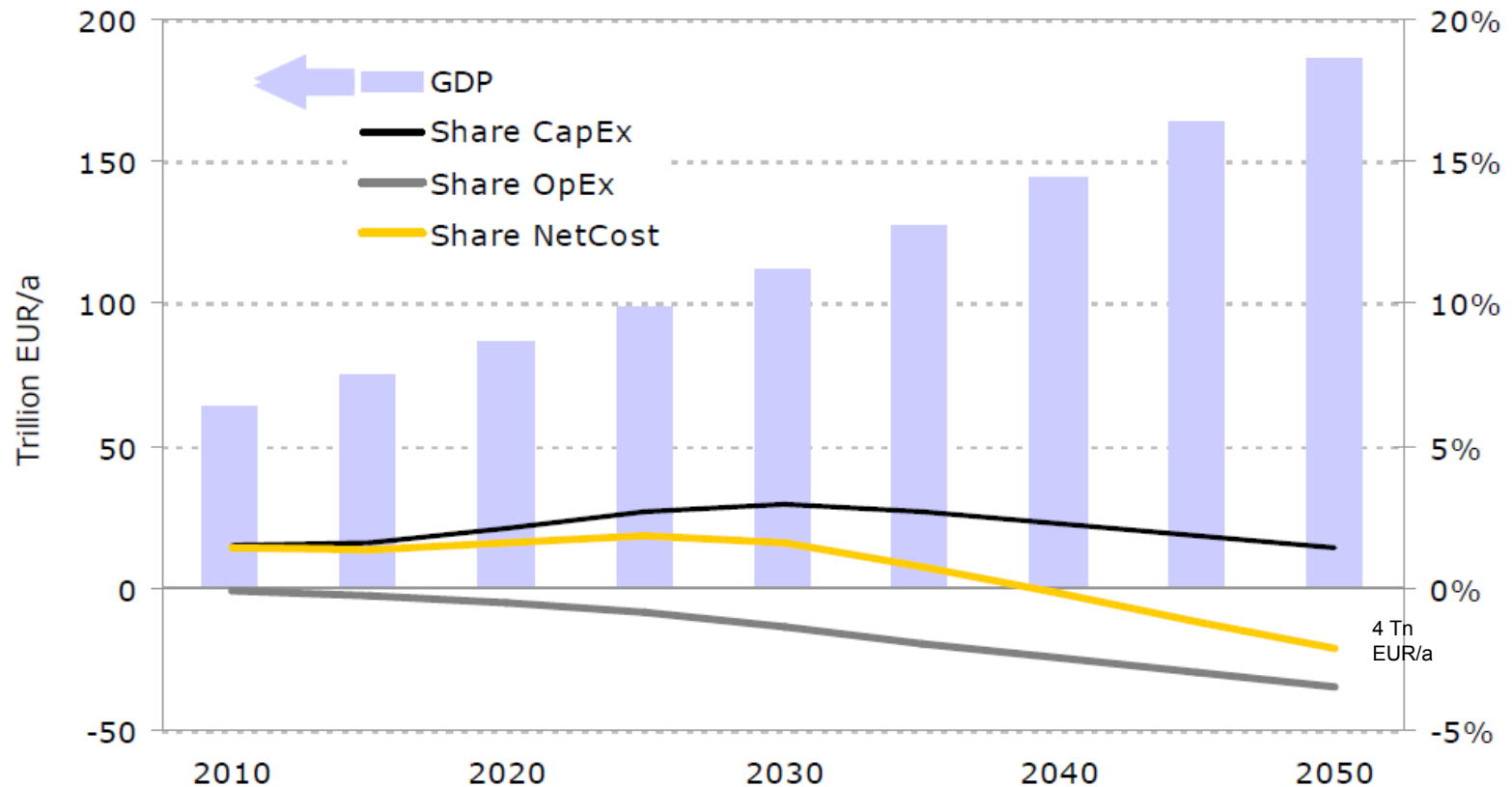
**Bioenergy used where other renewables provide no alternative, or no complete alternative**

SOURCE: Ecofys Energy Scenario, 2010



# Upfront Investment

High upfront investments needed, Saving money long term



Comparison of cost results with global GDP

SOURCE: Ecofys Energy Scenario, 2010

NB: Cost savings do NOT include avoided damage costs from climate change, reduced health costs and other monetary environmental impacts from using fossil fuels



# The Energy Report

100% Renewable Energy by 2050

## A VISION

A world powered by 100% renewable, sustainable energy by mid-century

## A SCENARIO

Extensive electrification of transport; enhanced energy conservation; super and smart grids; based on existing technology and solutions.

## CHALLENGES

Conserving energy & reducing demand; electrification; investment; land/water/sea-use implications; governance; innovation and R&D

## SOLUTIONS

In all of our hands - policy-makers, investors, corporate leaders, communities and individuals.

## BENEFITS

Stop fossil fuel pollution; save money; address climate change; improve health; no nuclear risks; new jobs; innovation; protect nature





*There is no question if the world is going to transition to renewable energy, the question is the pace in which it occurs. This is highly dependent on strong leadership of decision makers in the public and private sector.*

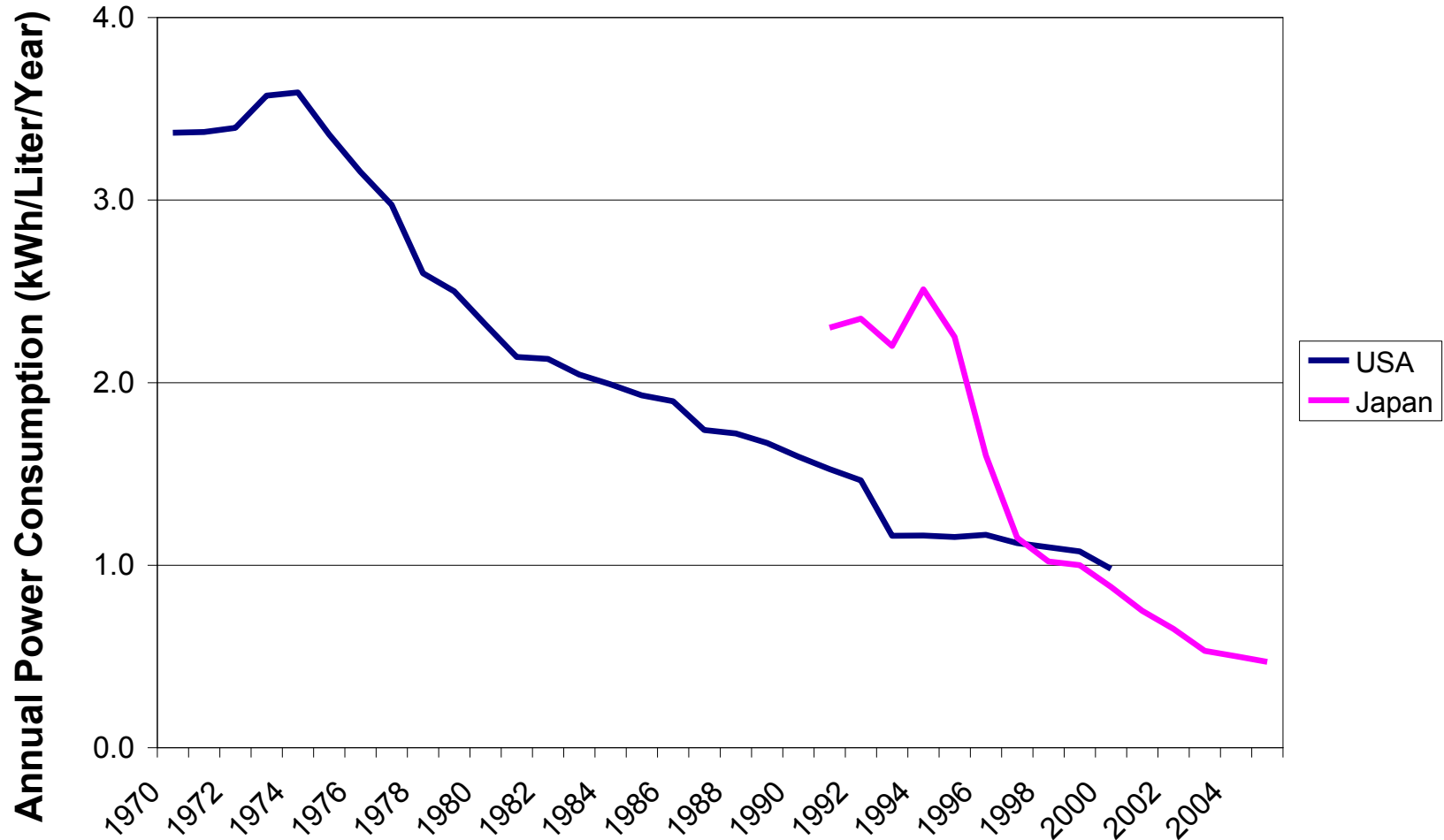
*The WWF Energy Report provides tangible guidelines on how to achieve a 100% renewable energy future and a perspective for businesses to develop towards a sustainable economy.*

*It's another proof that action is needed and that current sustainability leaders are future winners.*

Yvo de Boer, Special Advisor, KPMG Global Climate Change and Sustainability, former head UN Climate Change Secretariat



# Example: Refrigerator Energy Use



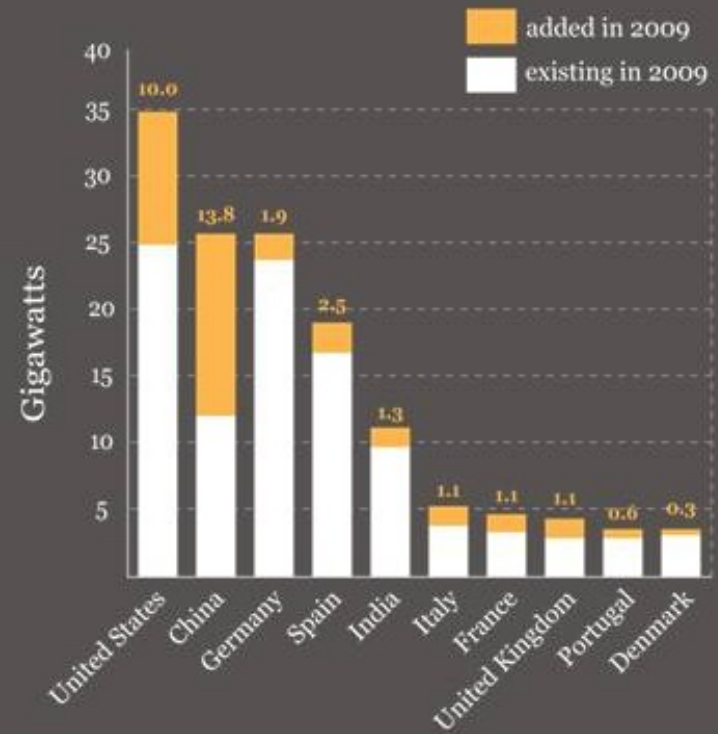
# Wind Power Growth

REN 21 2010

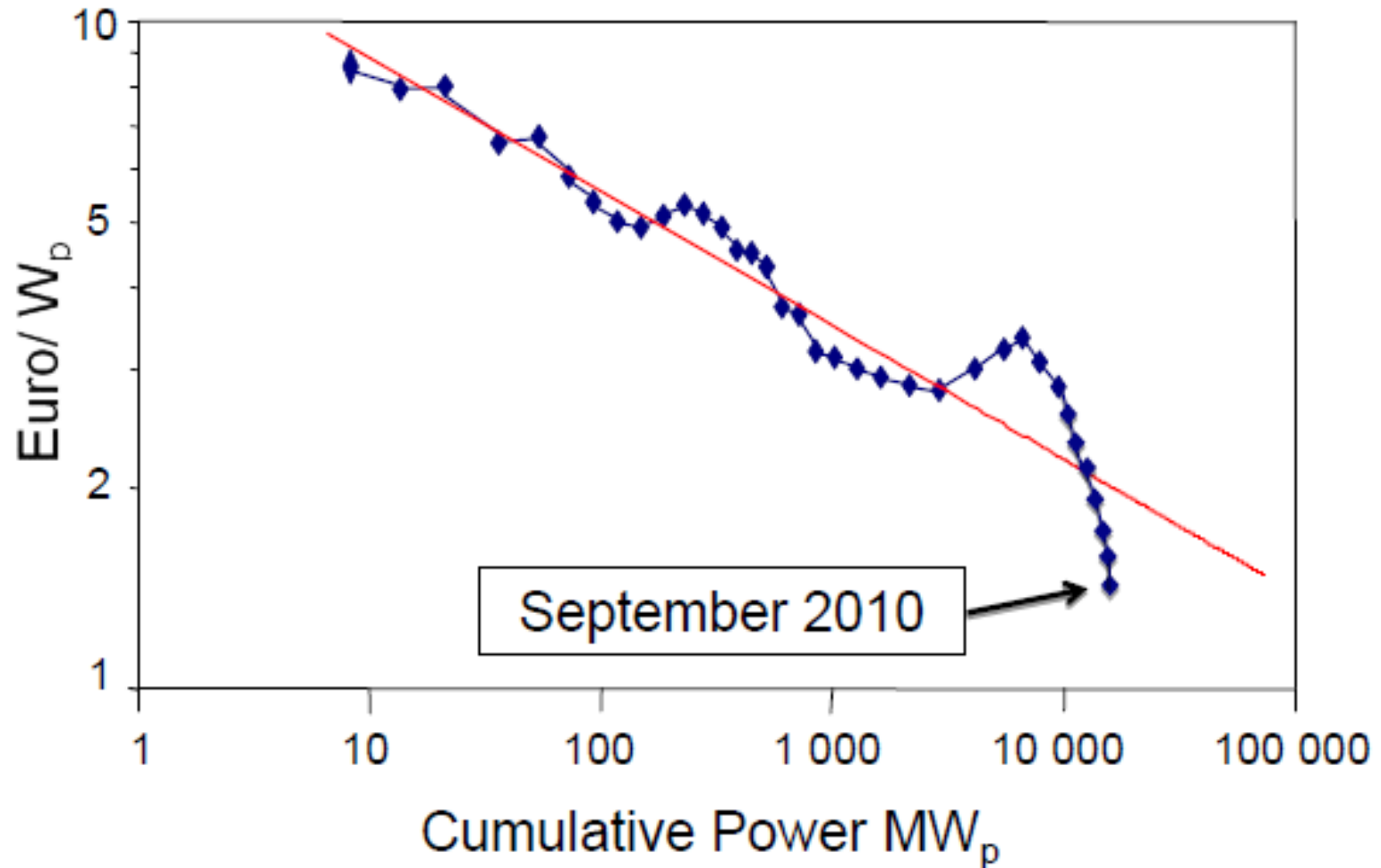
Existing World Capacity 1996 - 2009



Capacity in Top 10 Countries, 2009



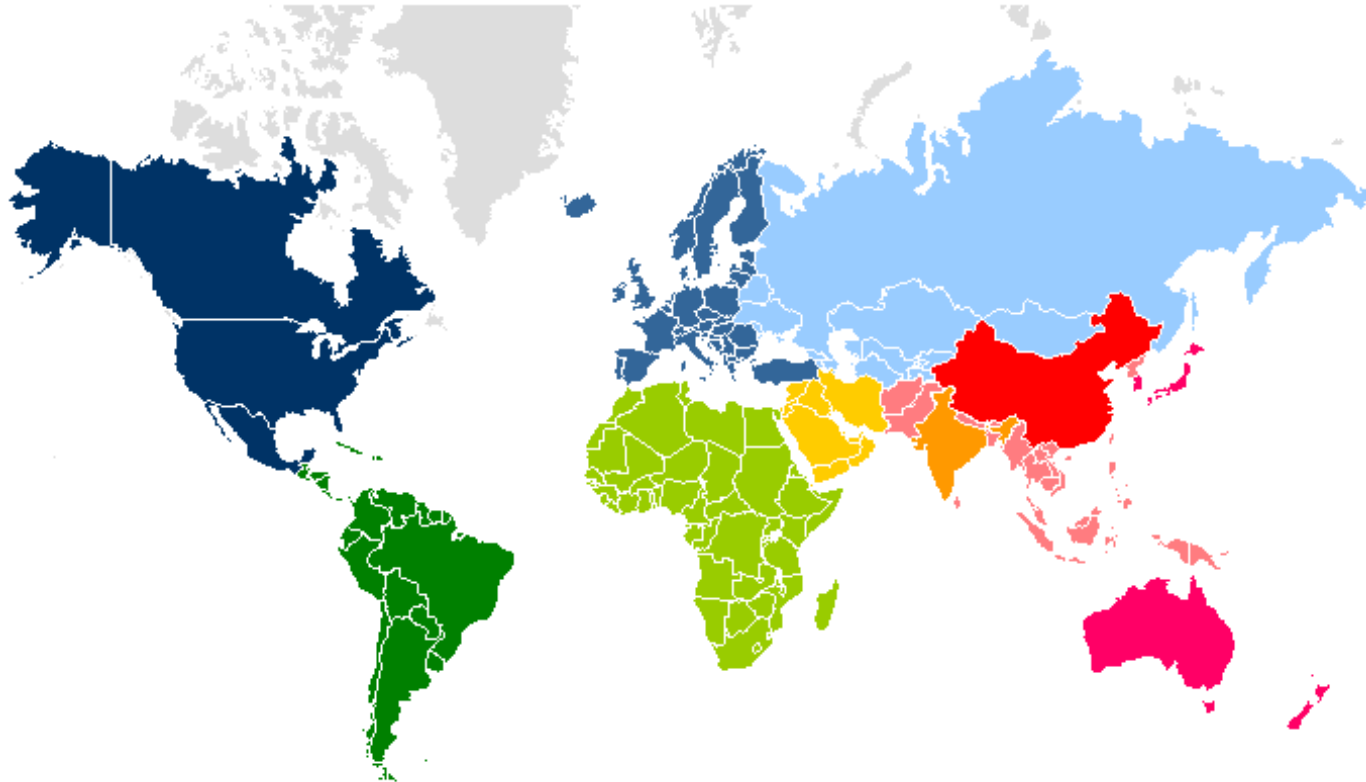
# Price Experience Curve, Silicon PV Modules





# Scope of the Scenario

Demand and supply examined in 10 world regions



What does the Energy Report mean for **Serbia and the Western Balkans**?



# Observations for W Balkans

1. Energy efficiency – energy saved is energy earned
2. Resource efficiency – eliminate waste, optimise design and production
3. Exploit renewable energy sources – but do so with care, or risk throwing the baby out with the bathwater



# Climate and energy tour







Млади истраживачи Србије  
Волонтерски сервис Србије  
e-mail: office@mladi.org.rs | http://www.mla.org.rs

LJUBAV  
& DRUGI  
ZLOČINI

ARA

ULAZ







# Earth Hour

OM Agency

# Sat za našu planetu


Subota 27. mart 20:30

60

EARTH HOUR

Isključi svetlo  
na 60 minuta.  
Osvetli budućnost planete.

[www.panda.org/serbia](http://www.panda.org/serbia)





# One Planet Living



China





# One Planet Living

South Africa



THE BODY SHOP<sup>®</sup>  
**foundation**  
*effectively taking risks*

**KING**  **SHER**

## International level – “WWF Climate Savers”

The „Who is Who“ of companies



Defensores do Clima



クライメート・セイバーズ

*"For companies who want to enhance their **leadership** on climate solutions ... And endorse a cutting-edge **climate strategy**. ... Climate Savers offers end-to-end management of the target setting process, supported by one of the world's **most trusted brands**"*



Reduction of **50 m tons of CO<sub>2</sub>**  
(equal to carbon emissions of **Switzerland**)

Catalyst



## National level – Austria “WWF Climate Group”

The biggest private platform for leading companies in the area of climate protection in Austria.

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Members of the programme reduced their emissions by app. 100.000 t CO<sub>2</sub>  
[~1.6 m € in EUA-certificates]



## Full commitment

### The Vienna Declaration of the WWF CLIMATE GROUP

1. We reduce our greenhouse gas emissions by at least 15 per cent in the course of the next three years.

2. We support the raising of awareness among our customers, employees and stakeholders concerning the efficient and sustainable use of energy resources.

3. We facilitate a climate friendly lifestyle for the Austrian people.

The member  
GROUP com  
king and ac  
way and pr  
in order to a  
greenhouse

We – the WWF CLIMATE GROUP – companies in Austria, at a level of energy efficiency concerning energy resources in order to reduce the worldwide emission of greenhouse gases. Thereby we will contribute to the adherence of the „Two-Degrees-Limit“ decided upon by the G8 summit. In order to prevent an extended amount of animal and plant species from extinction, the average temperature must not exceed two degrees Celsius. This knowledge obliges us to act!

With a customer share of about six million people in Austria, the members of the WWF CLIMATE GROUP are able to reach out to almost the entire country.

We acknowledge our responsibility towards the Austrian citizenry. As a platform of climate friendly enterprises under the auspices of WWF we stand by this Charter.

Die WWF CLIMATE GROUP ist eine Plattform von Unternehmen in Österreich, die sich zum Klimaschutz bekennen.

Vienna Declaration of the  
**WWF CLIMATE GROUP**

The WWF CLIMATE GROUP is a platform of enterprises in Austria, who commit themselves to the protection of the global climate.



1. We reduce our greenhouse gas emissions by at least 15 per cent in the course of the next three years.

2. We support the raising of awareness among our customers, employees and stakeholders concerning the efficient and sustainable use of energy resources.

3. We facilitate a climate friendly lifestyle for the Austrian people.



# What can companies do?

## 3 major areas of engagement

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### Reduction of own CO<sub>2</sub> emissions

- Rise in the share of renewables in the energy mix
- Implementation of energy efficiency measures

### Effective communication

- Awareness rising among customers for climate issues
- Using different communication channels (media)
- Active involvement of employees

### Innovative products & services

- Promotion of climate-friendly products possible together with WWF
- Increase in climate-friendly products and services

## Realised projects – internal operations

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„Green Building  
Certificate“ for  
Allianz’s HQ in  
Vienna



**-80%**  
CO<sub>2</sub> reduction  
by IKEA  
within 3 years



Promotion of online  
billing to save paper  
& energy  
management  
system

## Realised projects – Green products

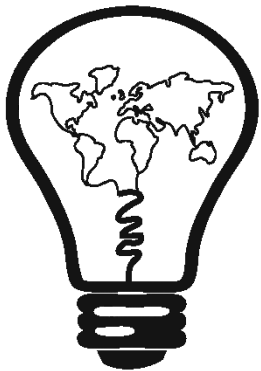
Austria's first climate friendly apple juice (Pfanner)



Promotion of energy saving lightbulbs (IKEA) – 520.000 given away for free



# Realised projects – Awareness raising



**DIESE EARTH HOUR  
GEHT ÜBER DIE STUNDE HINAUS**  
Zusammen können wir etwas bewegen.

**EARTH HOUR SAMSTAG 26. MÄRZ 20:30**



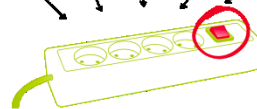
earthhour.org

Promoting EARTH  
HOUR to customers

Employee  
awareness raising  
campaigns

## Mach mit! Stop-Standby-Initiative

Stecken Sie um und schalten Sie abends aus:  
Stecken Sie Ihre Elektrogeräte richtig ein und haben Sie so einen wichtigen Beitrag zum Umweltschutz.



Wir bleiben dran, aber herunterfahren:



Wichtig: PCs und Notebooks mit Dockingstation sollen nicht an die Steckdosensteckdose angeschlossen, aber auch Aufnahmegeräte, Kopierer, Scanner, Drucker, Faxgeräte, etc. sollten auch über einen separaten Schalter zum Strom sparen.



> 400 media  
clippings since 2007



## Individual climate partners – Spar Austria

### Product “Chinese cabbage is Climate cabbage”

- Promotion of Chinese cabbage under Spar’s own brand
- Characteristics: improvement of humus layer, organic farming, biodegradable packing

Wir haben es in der Hand!  
Setzen wir gemeinsam Zeichen.



**Chinakohl als „Klimakohl“:  
SPAR fördert klimaschonenden Anbau**

Es liegt in unserer Hand, Methoden des klimaschonenden Anbaus von Obst und Gemüse zu forcieren. Es liegt in ihrer Hand, dieses Angebot zu nutzen.



„Ernährung macht rund 30% unseres ökologischen Fußabdrucks aus. Umso wichtiger sind klimafreundliche Produkte.“  
Mag. Thomas Kaindl, WWF Österreich

Setzen wir gemeinsam Zeichen für den Klimaschutz!

Gemeinsam mit der Ökoregion Kaindorf/Steiermark und dem WWF Österreich baut SPAR Österreichs ersten Chinakohl auf Böden mit gezieltem Humusaufbau an. Humusböden speichern CO<sub>2</sub> und freies Nitrat im Boden, schützen unser Grundwasser und entlasten die Atmosphäre.

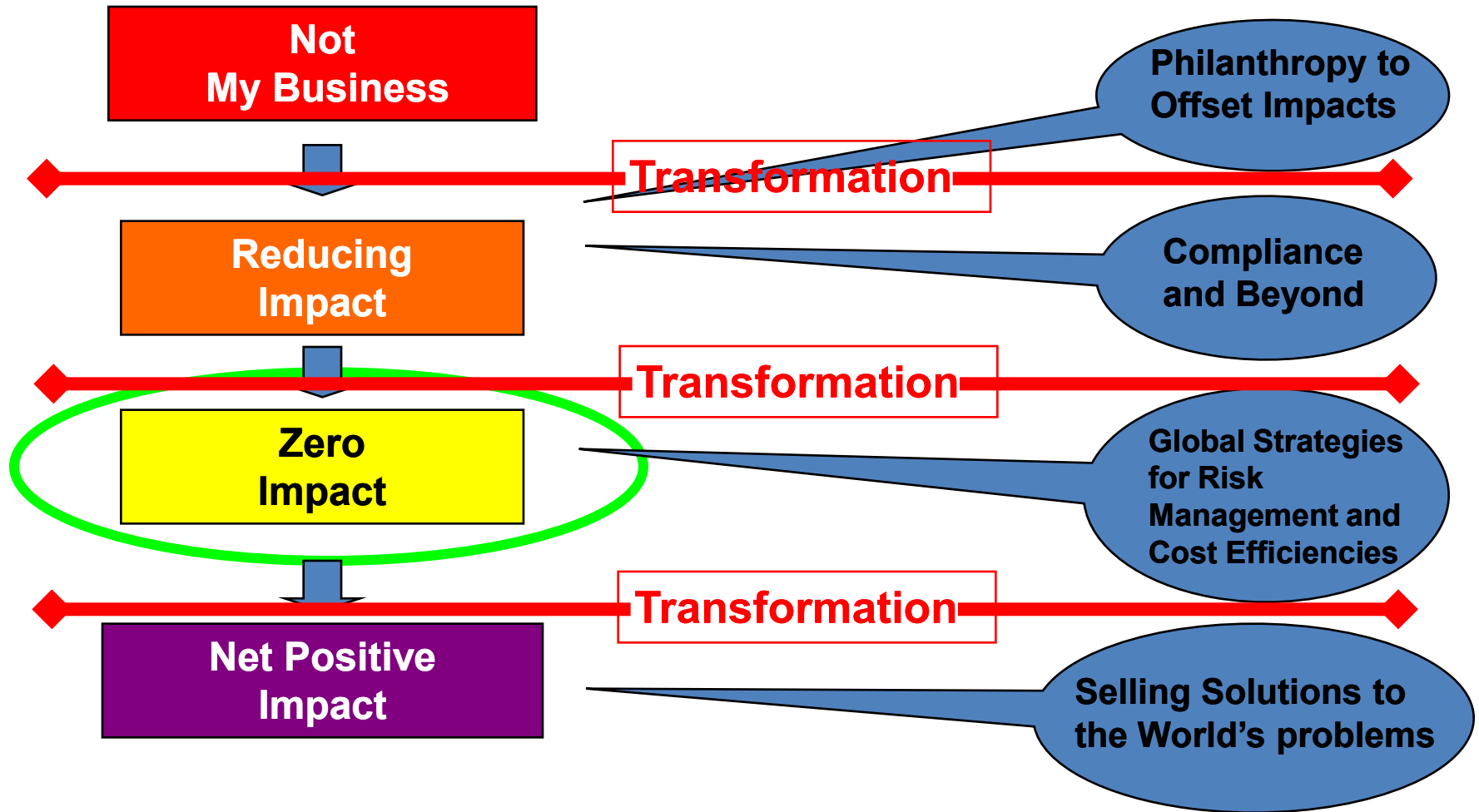


www.spar.at/zeichensetzen





# WWF's Challenge for Change





Thank you for your attention!

LET THE  
**CLEAN**  
ECONOMY  
BEGIN



# The opportunity and challenge: **100% renewable energy**



[www.panda.org/energyreport](http://www.panda.org/energyreport)

# Key Issue: Scaling Efforts

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“Total investment for energy-efficient technologies currently estimated to be €60 billion per annum” (REEEP, 2009)

“In 2009, more than \$150 billion was invested in new renewable energy capacity... more money than in new fossil fuel capacity” (REN 21, 2010)

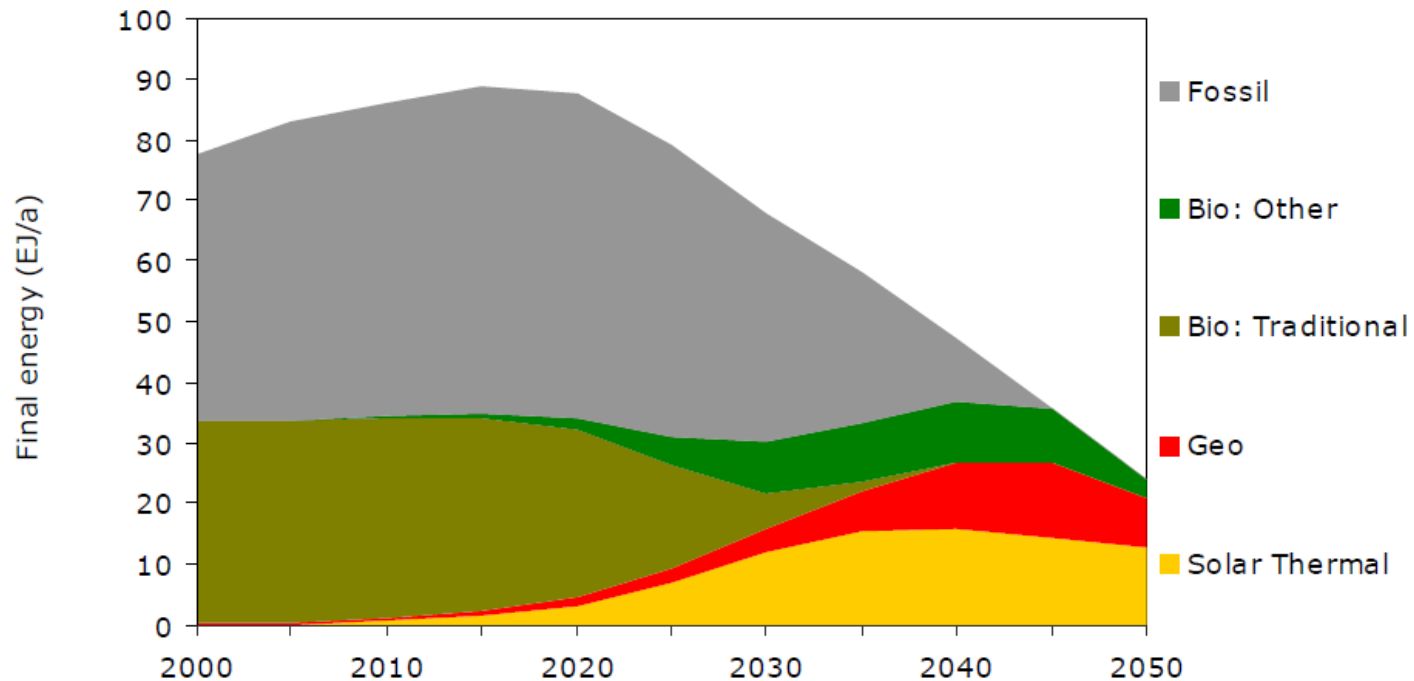
Vs: annual CAPEX costs ca €1 trillion /year initially, growing to almost €3.5 trillion/year in 2035 (WWF, 2011)

But, e.g.: €700 billion/year in subsidies for fossil fuels



# Building Heat Supply

Split of supply options in the global Buildings sector (excluding electricity)

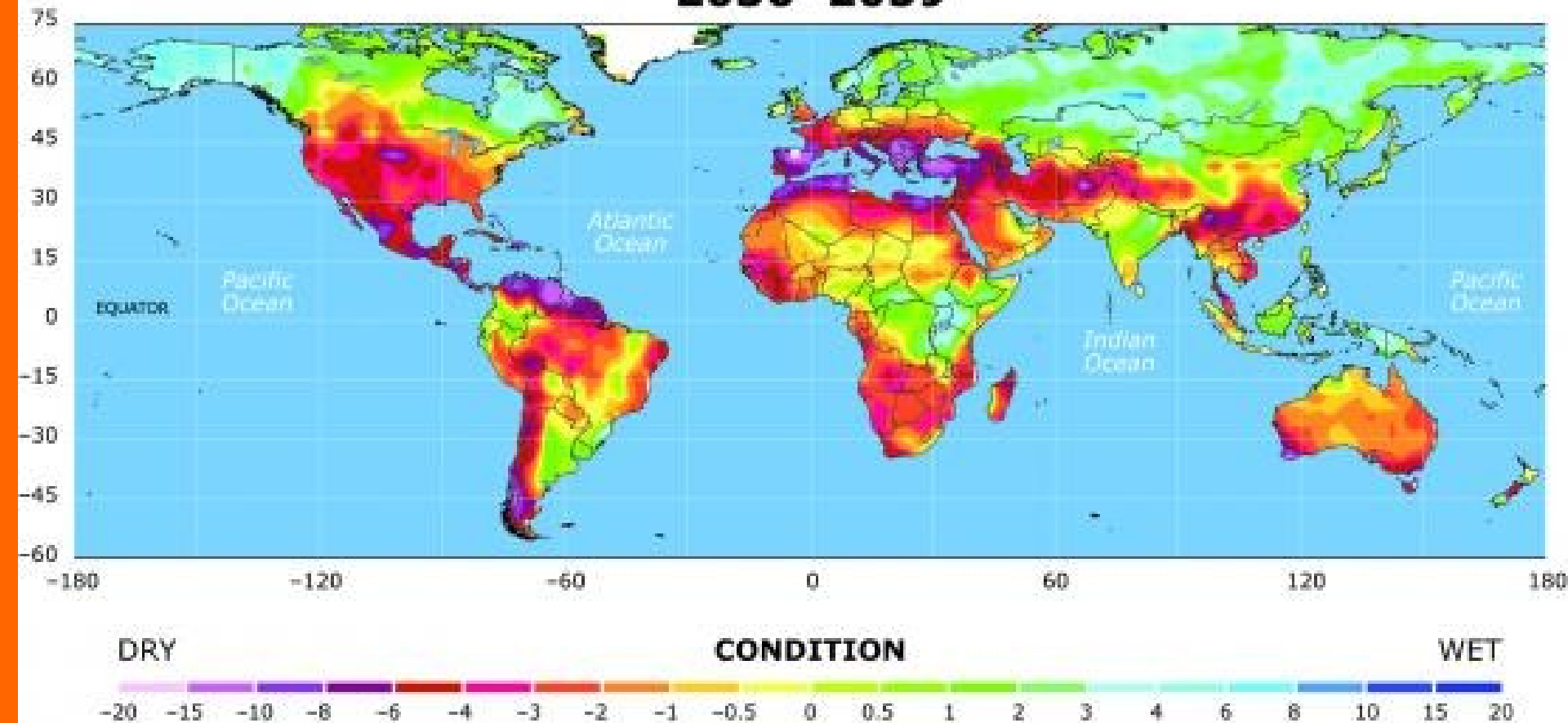


Renewables to provide all building heat needs

Space heating from:

- Decentralized solar heating
- Centralized or district-level renewable sources

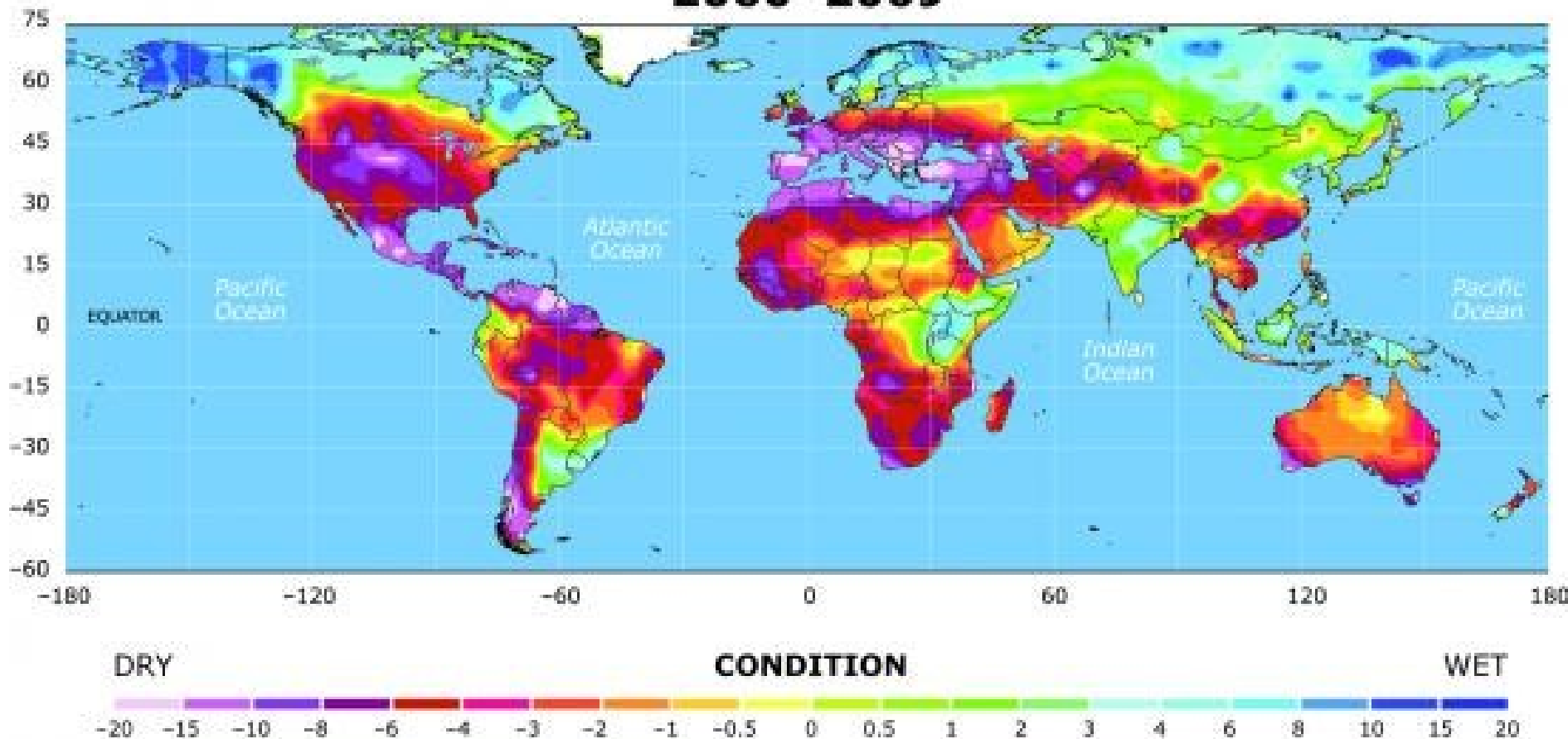
**2030–2039**



Which regions face Dust-Bowlification - **Palmer Drought Severity Index**  
- **reading of -4 or below is considered extreme drought**

- Much of Latin America, including large sections of Mexico and Brazil
- Regions around Mediterranean Sea, which could become especially dry
- Large parts of Southwest Asia
- Most of Africa and Australia
- Southeast Asia, including parts of China and neighboring countries

**2060–2069**



PDSI v oblasti Veľkých planín počas Dust Bowl nakrátko vrcholil pri hodnote -6, ale inak počas dekády zriedka prekonal -3 ...

<http://climateprogress.org/2010/11/11/veterans-day-2030/>