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Global Governance: Political Authority in Transition

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Confronting NAFTA's Climate Paradox:

A Sustainable Energy Perspective for the Post-Kyoto Regime & Rio+20

MA26: Monday 8:15 AM - 10:00 AM

Panel: Climate Change, Environmental Migration, Sustainable Energy and Security Theory

Sponsor: Environmental Section

Freie Universität Berlin

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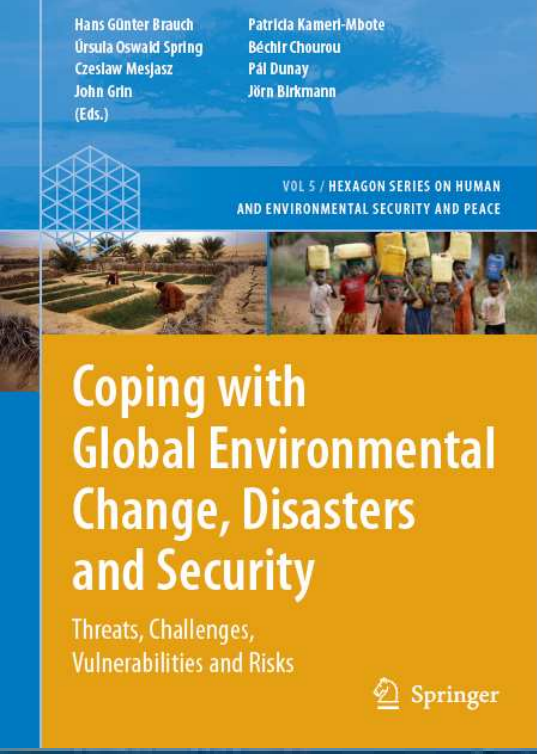
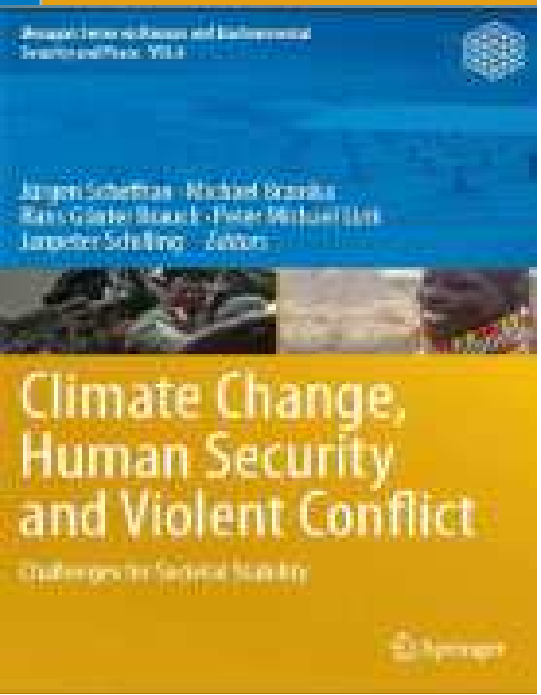
Abstract & Keywords

- The USA and Canada are confronted with a climate paradox. Since their 2007 the G8-countries agreed to reduce their GHG emissions by 80% by 2050 related to 1990. They endorsed the goal of the Copenhagen Accord and of the Cancun Agreements to stabilize the increase of the global average temperature at +2℃ by 2100. However, both major NAFTA countries failed to abide by their obligation under the UNFCC and the Kyoto Protocol the US signed but did not ratify. In 2010 the GHG emissions of Canada and the U.S. were above both targets. Given their implementation gap both will most likely be unable to reduce their GHG by 80% by 2050 if they continue their “business-as-usual” approach. Rather, fundamental changes in their worldview, mindset, dominant culture and governance pro-cesses are needed towards a “fourth sustainability revolution” with a decarbonization of their economies. After reviewing the European DESERTEC Industrial Initiative project for the MENA region this paper offers a conceptual proposal for NAFTA for a sustainable solar energy project (NAFSOLTEC) from the deserts of Mexico and the US for Canada, the USA and Mexico applying innovative financial tools for a sustainable energy transformation.

- **Keywords:** climate change, implementation, NAFTA, Canada, USA, Mexico, sustainable energy transformation, solar energy, deserts, DESERTEC, NAFSOLTEC





Acknowledgement

Springer
the language of science

- This talk was stimulated by the final chapter co-authored with **Ursula Oswald Spring:** "Coping with Global Environ-mental Change – Sustaina-bility Revolution and Sustainable Peace", in: Brauch et al. (eds., 2009): *Coping with Global Environmental Change:* 14875-1504.

And it tries to apply a debate focusing on the EU-MENA region to the NAFTA region:

- Brauch, Hans Günter, 2012: "Policy Respon-ses to Climate Change in the Mediterranean and MENA Region during the Anthropo-cene", in: Scheffran, Jürgen et al. (Eds.): Climate Change, Human Security and Violent Conflict: Challenges for Societal Stability (Berlin – Heidelberg – New York: Springer-Verlag, 2012): 719-796.

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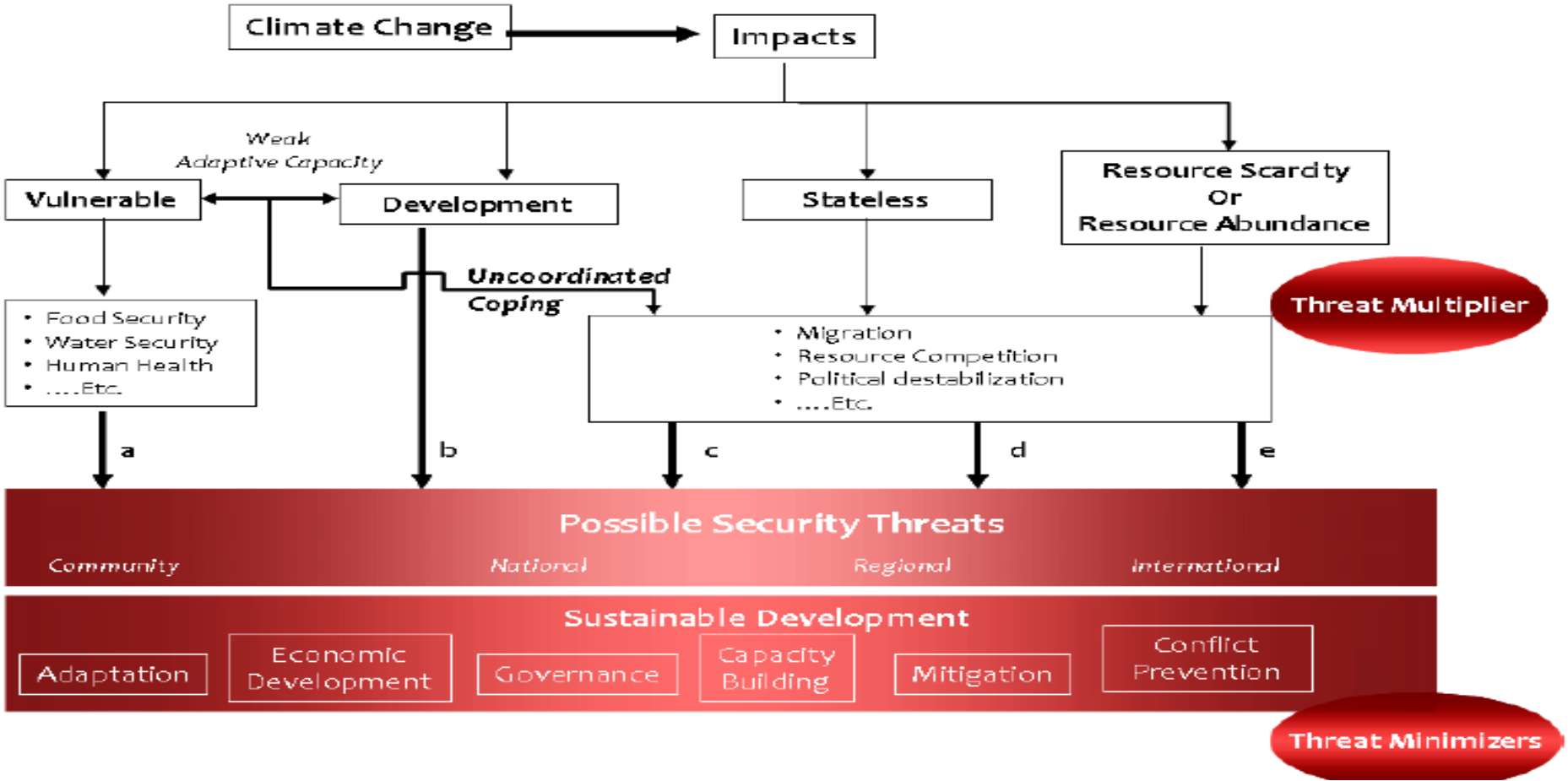
1. Introduction

Two alternative discourses on climate change impacts

- Threat multiplier: Climate change & security
- Threat minimizer: Climate change & sustainability transition



1.1. Two Opposite Visions

Anthropocene Two Ideal Type Future Visions:

- ***Business-as-usual*** where economic and strategic interests and behaviour prevail leading to a major crisis of humankind, in inter-state relations and destroying the Earth ('security' and 'market first' scenarios, UNEP 2007)
- The need for a ***transformation*** of global cultural, environmental, economic (productive and consumptive patterns) and political (with regard to human and interstate) relations ('sustainability first' scenario, UNEP 2007).

1.2. Two Alternative Strategies

Both visions refer to different coping strategies :

- Vision of ***business-as-usual*** suggests primarily technical fixes (such as geo-engineering, increase in energy efficiency or renewables), defence of economic, strategic and national interests with adaptation strategies that are in the interest of and affordable for the ‘top billion’ of OECD countries.
- Alternative vision of **comprehensive transformation** a ***sustainable perspective*** has to be developed and implemented into effective new strategies and policies with different goals and means based on global equity and social justice.

2. Climate Paradox: Policies without Implementation

- Most governments agree that climate change is due to human interventions into the earth system and supported the goal to stabilize global average temperature at 2℃ above the pre-industrial level b y. Since 2007, G8 countries supported the goal, most recently in May 2011 in Deauville (France):
  - of developed countries reducing emissions of greenhouse gases in aggregate by 80% or more by 2050, compared to 1990 or more recent years.
  - Consistent with this ambitious long-term objective, we will undertake robust aggregate and individual mid-term reductions. Similarly, major emerging economies need to undertake quantifiable actions to reduce emissions significantly below business-as-usual by a specified year.

2.1. Legal Obligations: UNFCCC & KP

There is a weak not very specific legal commitment

- **UNFCCC (1992): Art. 2, Objective:**

  The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, **stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system**. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

- **Kyoto Protocol (1997): Art. 3,1:**

1. The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by **at least 5 % below 1990 levels in the commitment period 2008 to 2012.**
   - **USA: - 7% under KP (signed but never ratified)**
   - **Canada: -6% under KP (signed, ratified and withdrew on 31 December 2011**
   - **Mexico: no legal obligations but voluntary commitments: -50% (by 2050) base year 2000**

2.2. Policy consensus to stabilize temperature rise 2°C above preindustrial levels by 2100

Copenhagen Accord agreed (COP 15, 2009)

„…we shall, recognizing the scientific view that the **increase in global temperature should be below 2 degrees Celsius**, on the basis of equity and in the context of sustainable development, enhance our long-term cooperative action to combat climate change.“

But legally nonbinding reduction obligations

Cancun Agreements (COP 16, 12.12.2010):

- 10. *Realizes* that addressing climate change requires a **paradigm shift towards building a low-carbon society** that offers substantial opportunities and ensures continued high growth and sustainable development, based on innovative technologies and more sustainable production and consumption and lifestyles, while ensuring a just transition of the workforce that creates decent work and quality jobs;

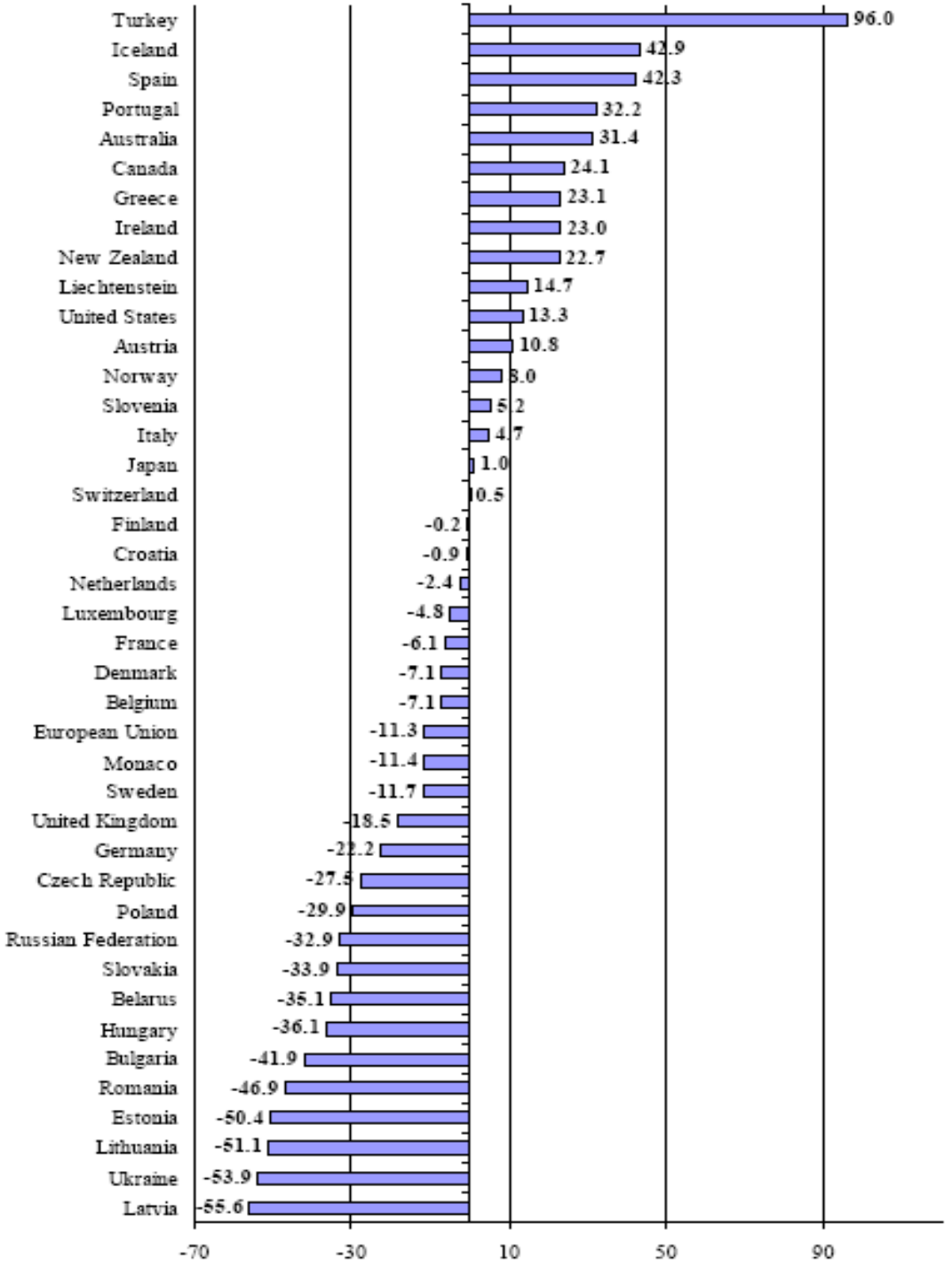
2.3. GHG Reduction Implementation Gap

QELRO, Kyoto Protocol

- EU countries: -8%
- Canada: -6%
- USA: - 7% (no party KP)
- Japan: -6%
- Australia: +8%

Changes in GHG Emissions: Annex I Part., 1990–2008 (exc. [incl.] LULUCF (%).

- EU countries:-11.3 [-11.3]
- Canada: + 24.1 [+33.6]
- USA: +13.3 [+15.3]
- Japan: +1% [-0.2]
- Australia: +31.4 [+33.1]
- Turkey: +96.0 [101.1]



2.4. Failure of Climate Negotiations to Adopt Post Kyoto Regime

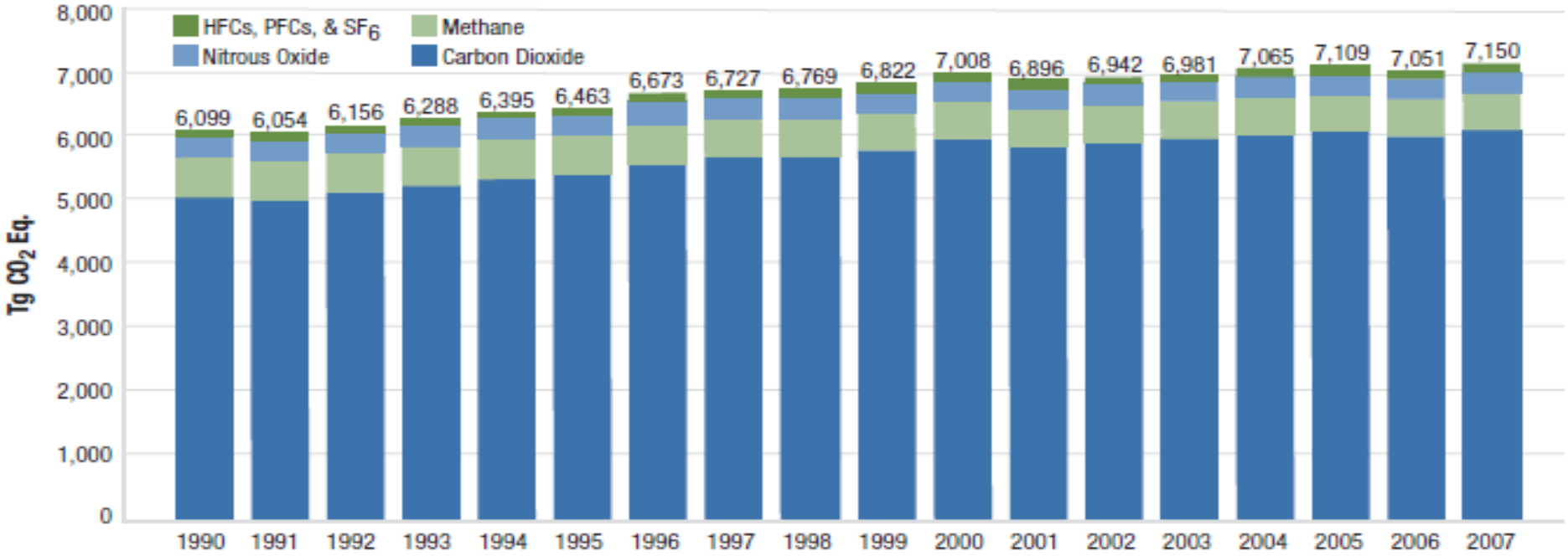
- **Obstacles in major industrialized countries due**
  - Economic opposition of interest groups (lobbies)
  - Short-term interest of policy makers (re-election)
  - Lack of public awareness partly due to manipulation of media
- **Lack of political will of parliaments and governments to implement policies (in USA)**
  - Bush Administration adopted 50-80 reduction goals
  - But no legally binding reduction targets for US
  - Obama: proposal -17% (now), -5% (1990) until 2020

3. Climate Policies of NAFTA Countries: US Performance

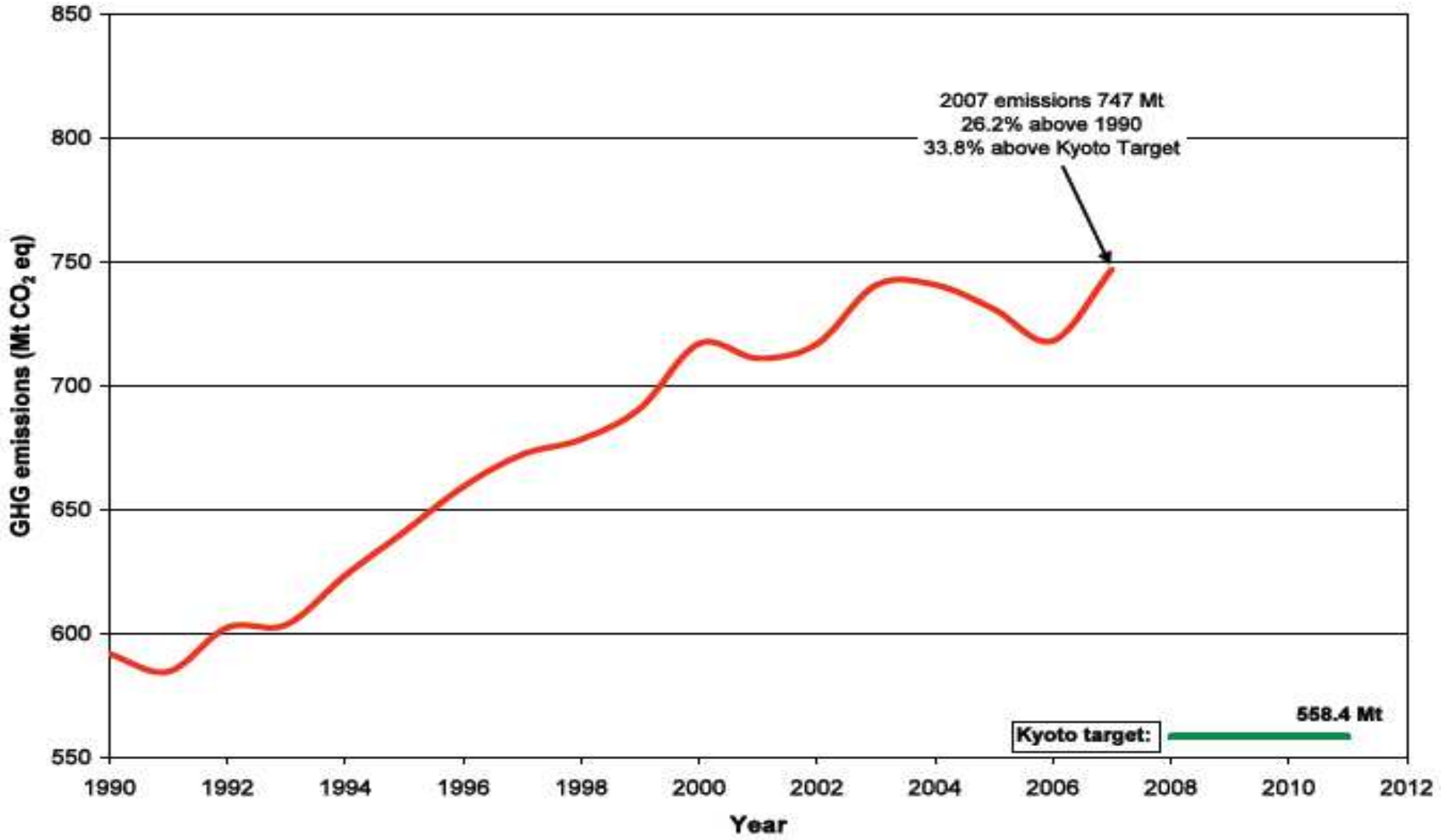
- **President Obama:** The threat from climate change is serious, it is urgent, and it is growing. Our generation's response to this challenge will be judged by history, for if we fail to meet it—boldly, swiftly, and together—we risk consigning future generations to an irreversible catastrophe (CAR 2010).

Figure 3-1 **Growth in U.S. Greenhouse Gas Emissions by Gas: 1990–2007**

In 2007, total U.S. greenhouse gas emissions rose to 7,150.1 Tg CO_2 Eq., which was 17 percent above 1990 emissions, and 0.6 percent above 2005 emissions.

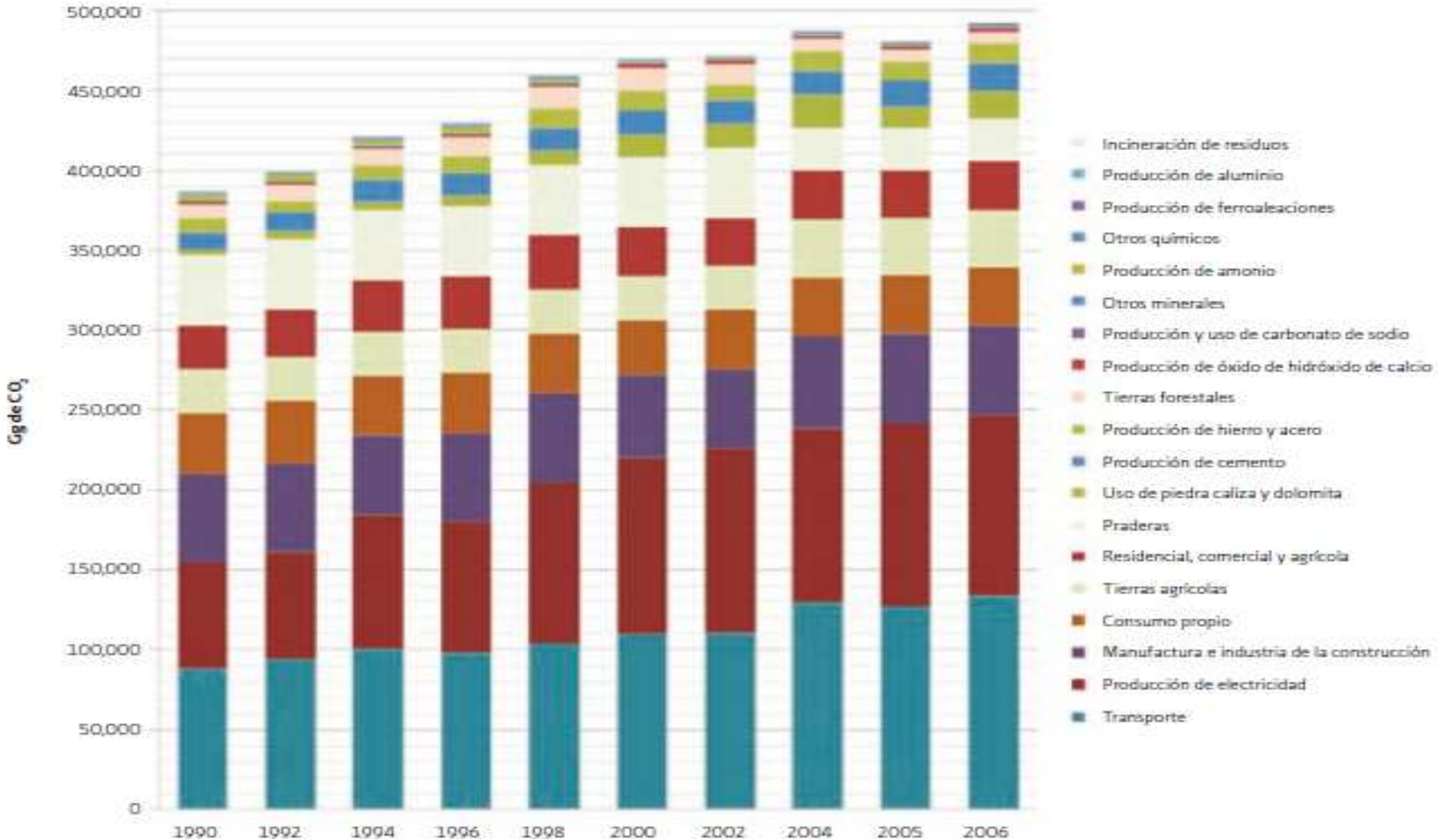


3.1 Climate Policies of NAFTA Countries: Performance of Canada



3.2 Climate Policies of NAFTA Countries: Performance of Mexico

Figura II. 3 Emisiones por sector en Gg de CO_2, 1990-2006



4. European Proposal for a Sustainability Transition in the Energy Sector

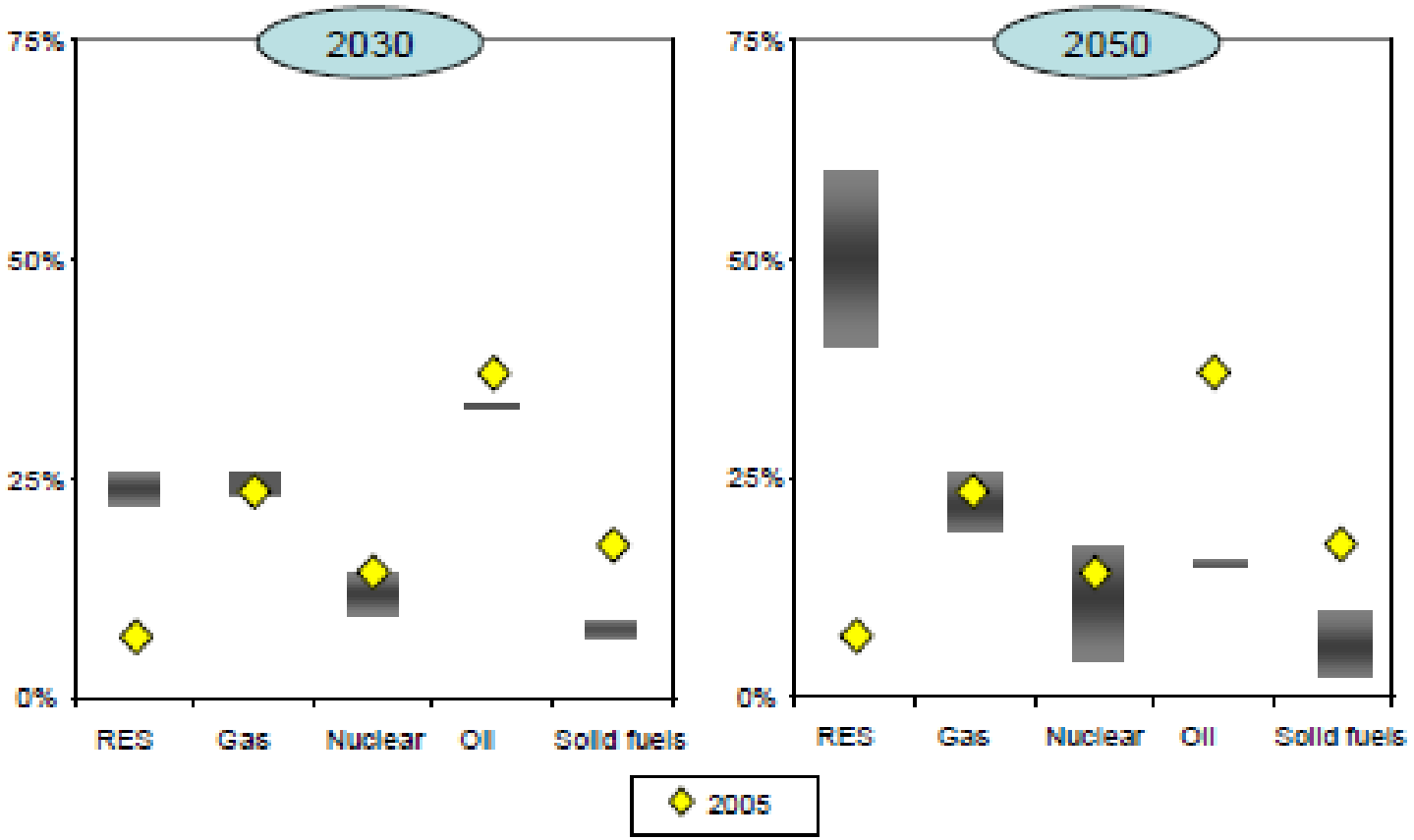
- UNFCCC Secretariat (2011):“total aggregate greenhouse gas emissions of l Annex I Parties, 1990-2009 (including LULUCF)”
- GHG emissions of 27 EU member countries **declined by 20.2%,**
- 15 December 2011, EU Commission in its Energy Roadmap 2050
- **EU is committed to reducing greenhouse gas emissions to 80-95% below 1990 levels by 2050 in the context of necessary reductions by developed countries as a group.**
- The Commission analyzed the implications in its ‘**Roadmap** for moving to a competitive **low-carbon economy in 2050**’. The ‘Roadmap to a **Single European Transport Area**’ focused on solutions for the transport sector and on creating a Single European Transport Area.
- In this **Energy Roadmap 2050** the Commission explores the challenges posed by delivering the EU’s decarburization objective while at the same time ensuring security of energy supply and competitiveness. It responds to a request from the European Council.

4.1. Performance of EU Member Countries (1990-2009)

- UNFCCC Secretariat (2011):“total aggregate greenhouse gas emissions of l Annex I Parties, 1990-2009 (including LULUCF)”
- GHG emissions of 27 EU member countries declined by 20.2%,
- Four Mediterranean countries increased their emissions above the targets of the KP: Malta (+39.7%; KP: no target), Spain (+28.3%; KP: -8%; EU goal: +15%), Portugal (+20.9%; KP: -8%; EU:+27%), Greece (+17.2%; KP: -8%; EU:+25%) and in addition Ireland (+ 11.0% KP: -8%; EU:+13%),
- Of initial 15 EU countries (EU’s burden sharing agreement of 1998): Germany (-23.0%; KP: -8%; EU: -21%), UK (-27.7%; KP: -8%; EU: -12,5%), and Sweden (-33.7%; KP: -8%; EU: +4%) were both above their national targets under the KP and the EU’s internal targets that reflect different stages of development.
- Goals of the KP were achievable if the people accept urgency & governments took the courage to implement their commitments nationally and in the EU case the European Commission inde-

4.2 EU Decarbonization scenarios - 2030 and 2050 (comp, with 2005 in %)

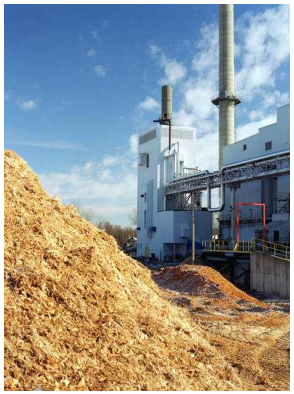
Graph 1: EU Decarbonisation scenarios - 2030 and 2050 range of fuel shares in primary energy consumption compared with 2005 outcome (in %)



4.3. Coping with the Causes and Impacts: Potential of Renewables: Technologies

Hydro power

Solar thermal Electricity generation



Biomass

Geo thermal

Tide energy

Wave

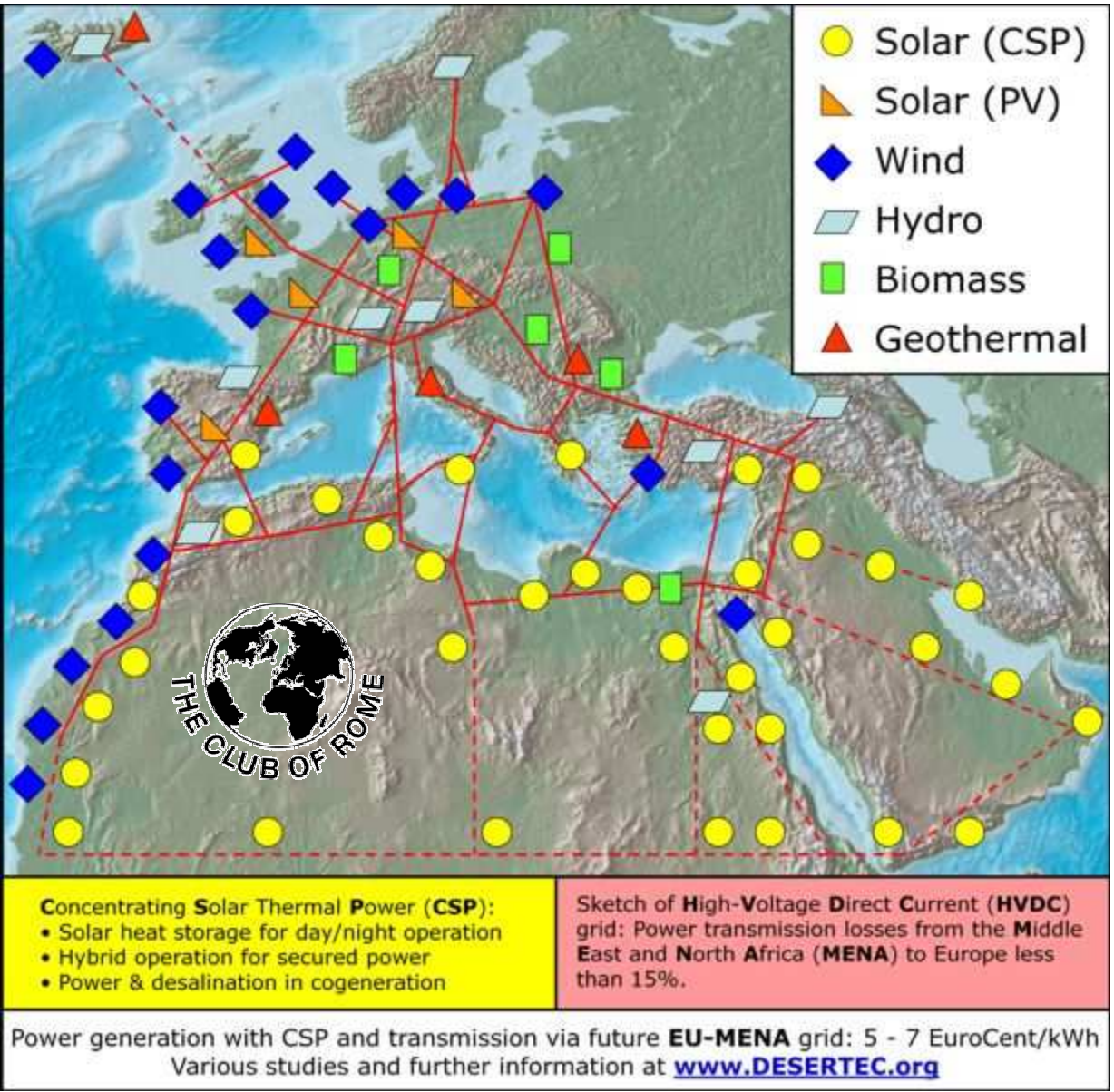
Photovoltaic

Wind power

http://www.erneuerbare-energien.de/inhalt/36983/35338/

4.4. System of Solar Electricity Generation
SEGS, California, USA (354 MW, since 1985)
ANDASOL 1, Spain (50 MW, 7h storage, 2009)

4.5. Mediterranean Renewable Energy Potential



Trans-Mediterranean **R**enewable **E**nergy **C**ooperation (**TREC**) is an initiative that campaigns for the transmission of clean power from deserts to Europe.

Since 2003 TREC has developed the **DESERTEC Con-cept**.

DESERTEC FOUNDATION

An initiative of

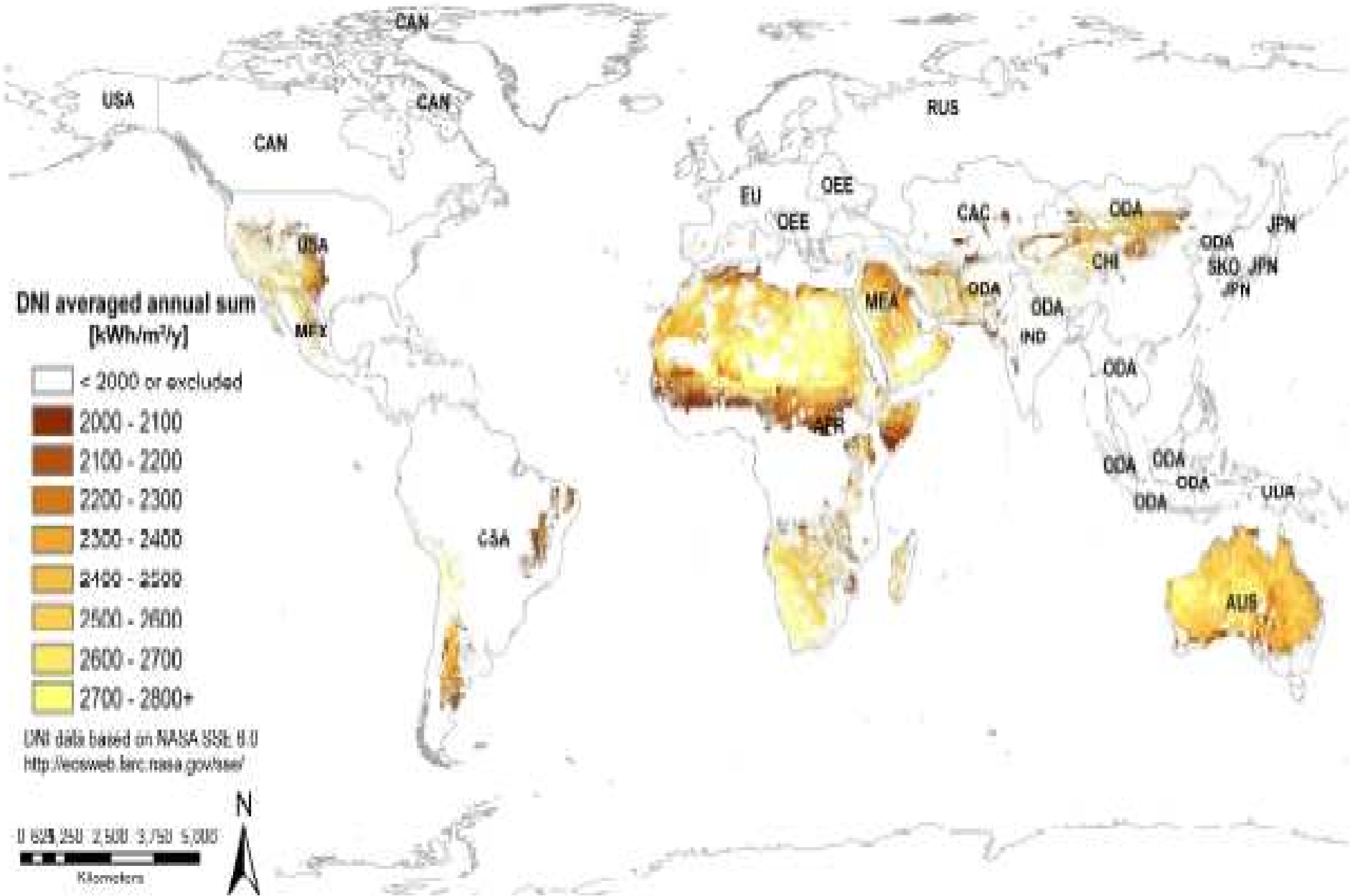
TREC
Clean Power from Deserts

4.6 Desertec Vision: An Intercontinental Mega Project

5. **NAFTA Proposal for a Sustainability Transition in the Energy Sector**

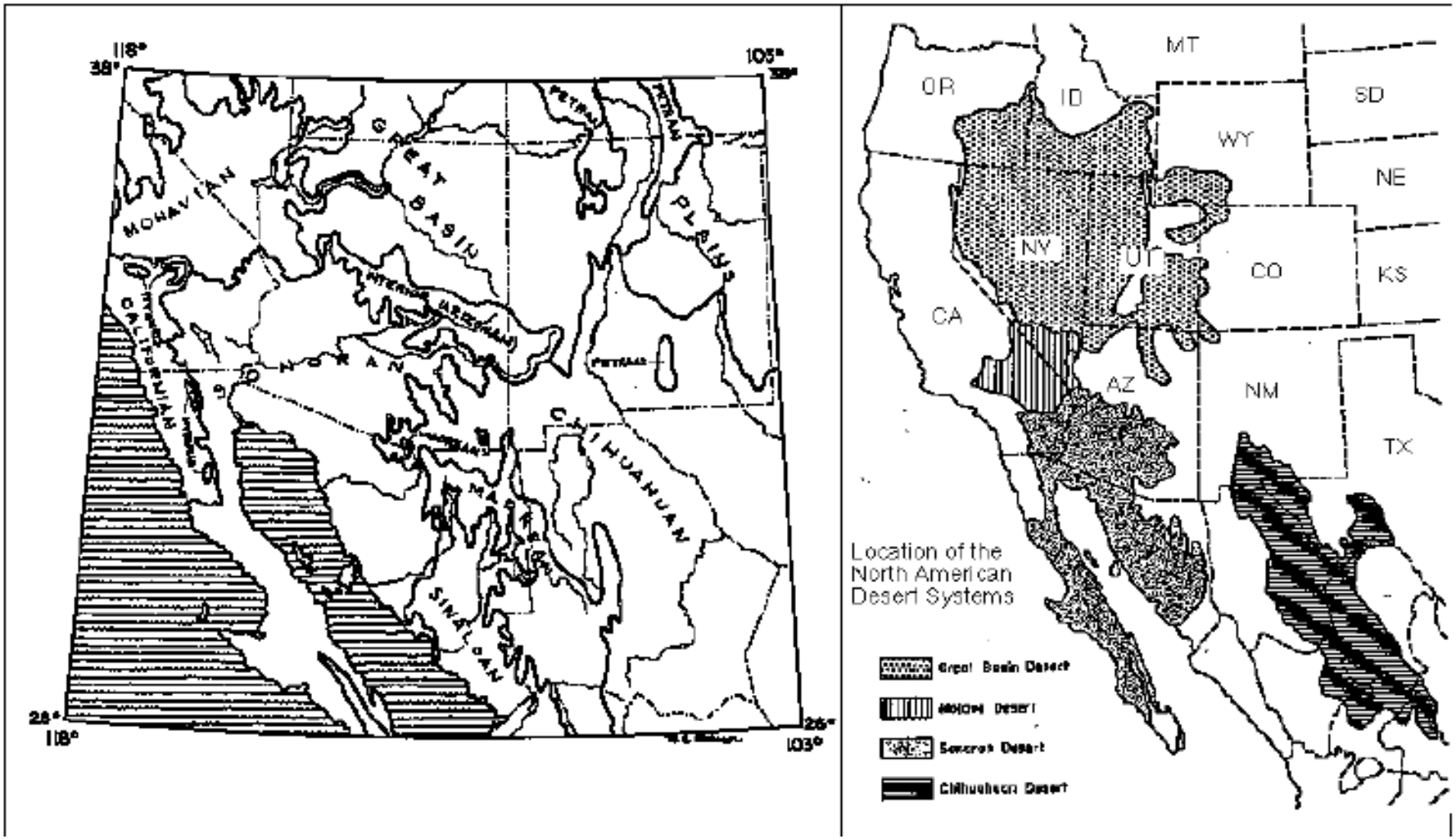
- Change in public perception of Climate change has occured in the US/Canada since 2007
- Lobby Groups & Climate skeptics (Heartland Institute, Tea party, Fox News, WSJ)
- Climate change policy blockades in US Congress
- Analogue to Desertec Industrial Initiative for the EU-MENA region a **NAFSOLTEC concept** (solar energy from deserts of US & Mexico) is suggested below
- Shift in legitimization is suggested: **climate change** as a threat to an **opportunity** (millions of new jobs in RES) for NAFTA countries, enhanced competitiveness

5.1. World Solar Potential



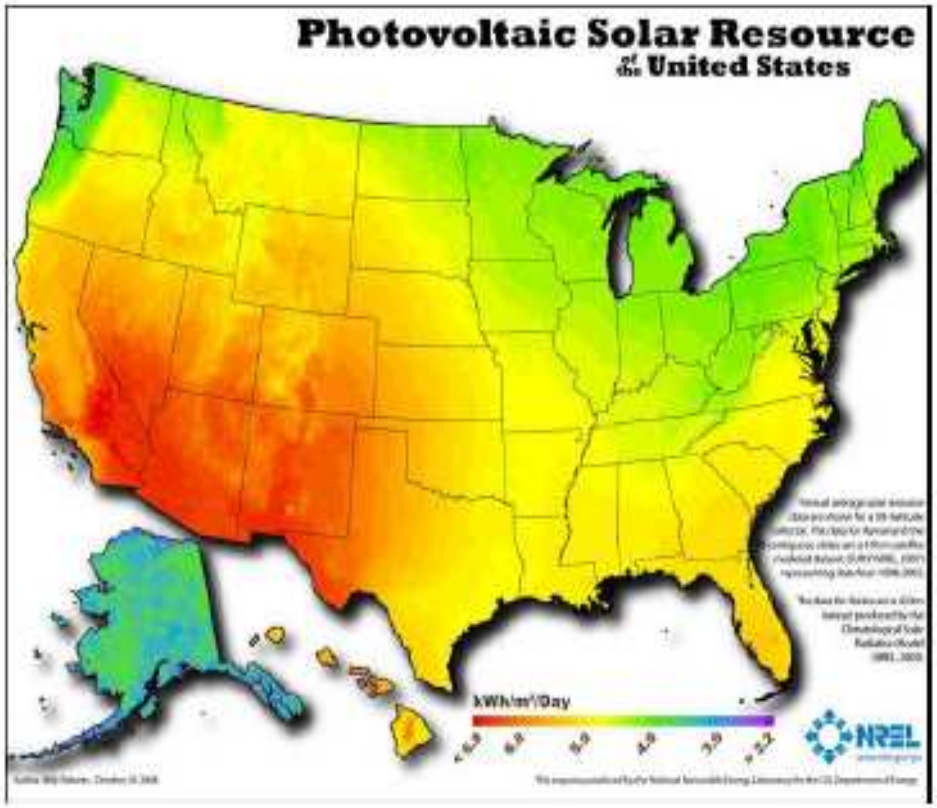
5.2 Deserts of North America

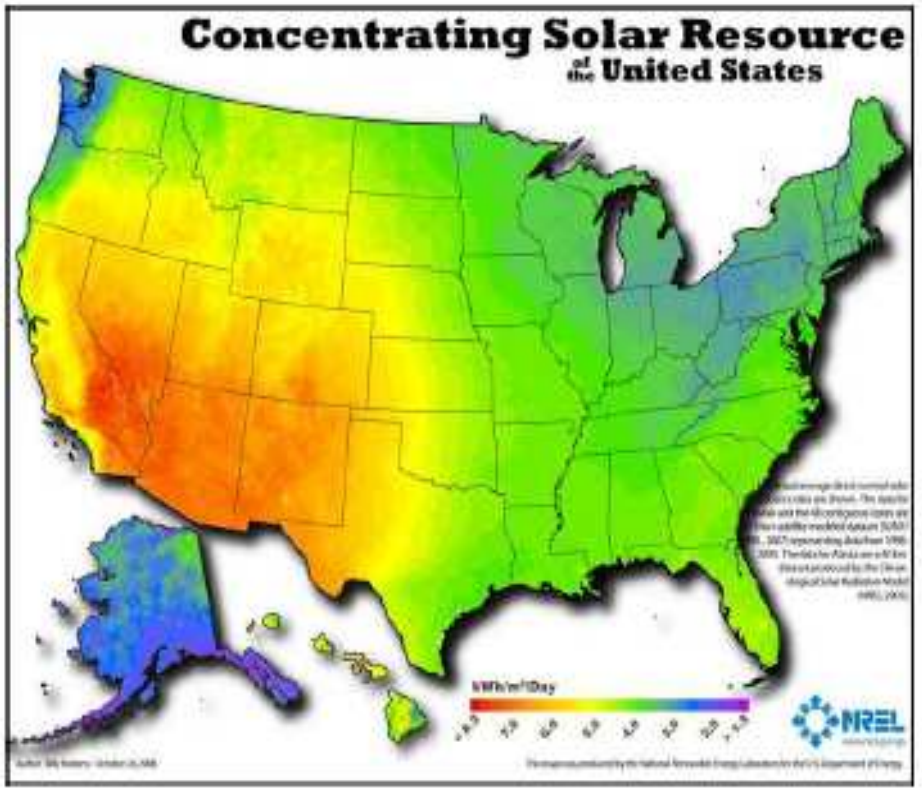
Figure 9: Deserts of North America. **Source:** "deserts of North America"; at: <http:// instruct.uwo.ca/biology/320y/ namdes.html>.



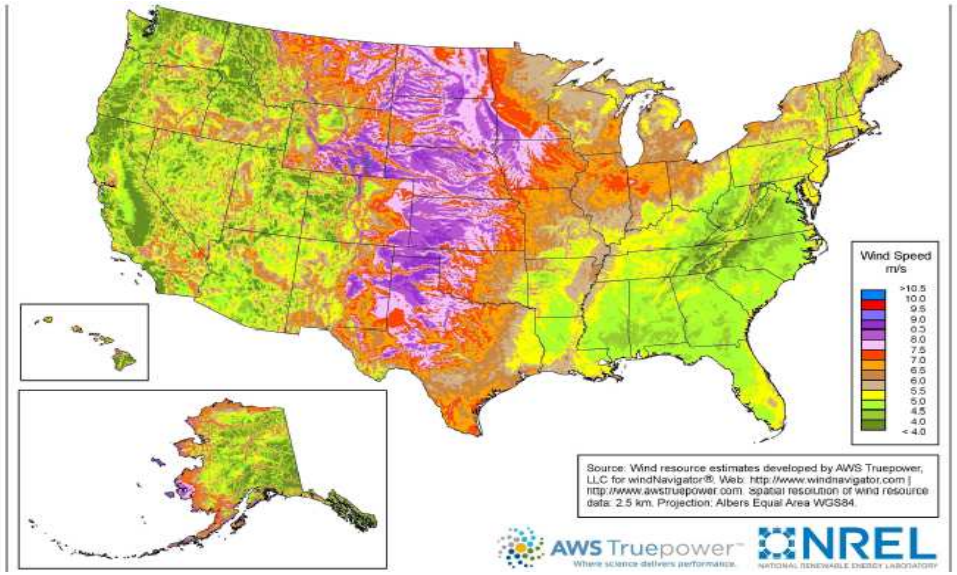
5.3. Solar Potential of the USA

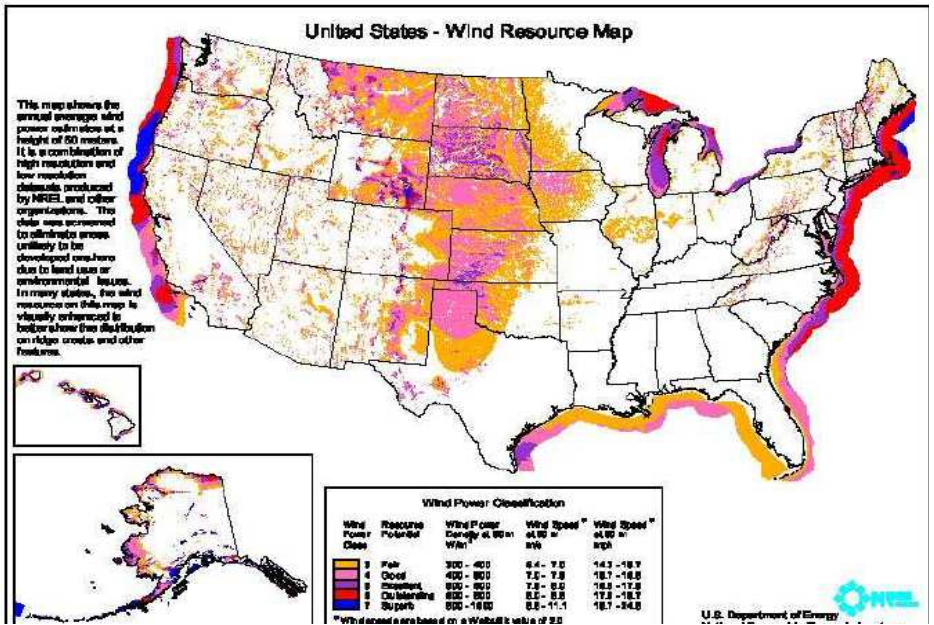
- While physical solar potential is better in the Sahara, geopolitical situation for a suggested NAFSOLTEC project is better than in the Mediterranean because only two or three countries would cooperate
- Figure 11 offers data on photovoltaic and concentrating solar resources of the US that overlap with the deserts in the Southwestern part of the US.





5.4. Wind Potential of the USA





- US also has very good wind power conditions in the great plains and in the Mid West & offshore on both the Atlantic & the Pacific Coast .
- There are superb, out-standing and excellent conditions along both coasts and good and fair conditions in the Great Plains.

5.5. Requirements of NAFSOLTEC

- Major improvements of energy efficiency across all sectors in North America to reduce the energy demand to be increasingly satisfied by renewables.
- Determined decision of the governments of the USA, Mexico & Canada to shift towards a sustainable energy policy & to gradually replace coal, gas & oil as a source of electricity generation with gradually declining subsidies that guarantee investors a calculable rate of return;
- To require renewable energy sources for both cooling (air conditioning) and heating;
- To move from a petrol based transportation system to alternative renewable fuels what would require the buildup of a new infrastructure within the continental USA, Canada and Mexico;
- To develop new tools of financing that make it attractive for investors to enter the field
- To develop a redundant infrastructure for energy distribution systems that enable the feed-in of renewable energy components taking the demand and demand peaks into account.

5.6. Enviromental & Securiy Advantages

Environmental advantages:

- It would reduce the reliance on new fossil fuel sources from offshore oil platforms in the Gulf of Mexico, from ecologically sensitive regions in Alaska and from oil sands from Alberta in Canada;
- It would permit the USA, Canada and Mexico to significantly replace the fossil component in the energy balance and thus enable all three countries to drastically reduce their emissions of CO2, the major source of GHG emissions.

Security advantages:

- NAFSOLTEC project would reduce the import dependence of the US on fossil fuels – from conflict areas, as the Middle East – that will intensify in the future due to the growing energy demand on the world market (e.g. by China, India and many other threshold and developing countries, and the gradually declining supply (peak oil);
- This project would reduce the military resources needed to guarantee the access to fossil fuels in major conflict areas, e.g. in the Middle East, where the US has been involved in costly wars since the end of the Cold War (Kuwait 1991, Iraq, 2003-2011);

5.7. Economic Advantages

Economic advantage:

- The development of the technical components, their production, installation as well as the needed new infrastructure for energy distribution systems will create millions of new and permanent jobs

Counter ideologues & shift of political awareness raising:

- The climate skeptics supported by the Heartland Institute, the Tea Party and many rightwing or conser¬vative media (e.g. Fox News) have argued that climate change destroys 100.000s of American jobs and threatens the US (or Canadian) economic competitiveness.
- The message of the promoters of a sustainable energy transition should be that NAFSOL¬TEC will create millions of new highly competitive jobs.
- The establishment of a NAFSOLTEC project would create an economy of scale that will bring the prices down and create a new export market for North American products and thus would necessarily compete with European, Chinese and Indian exports in the renewable energy sector.

6. Sustainable Energy Perspective for the Post-Kyoto Regime and Rio+20

Oswald Spring and Brauch (2011) argued that:

- Vision of business-as-usual with minimal reactive adaptation & mitigation strategies will most likely increase the probability of a 'dangerous climate change' or catastrophic GEC with linear and chaotic changes in the climate system & socio-political consequences that represent a high-risk approach.
- To avoid these consequences the alternative vision and sustainability perspective requires a **change in culture** (thinking on the human-nature interface), **worldviews** (thinking on the systems of rule, e.g. democracy vs. autocracy and on domestic priorities and policies as well as on interstate relations in the world), **mindsets** (strategic perspectives of policy-makers) and new forms of national and global **governance.**
- Alternative vision of a new **fourth 'sustainability revolution':** radical change in culture, worldview, mindset and participative governance in the thinking and action on sustainability laying out an alternative development path with a total transformation of productive and consumptive processes aiming at equity, social justice, and solidarity with the most vulnerable and marginal people and the poorest countries.

6.1. Coping Strategies: Business-as-Usual

- **Instant Response: Discredit the message & attack the messenger: 2009: Attack on IPCC**
- **Coping with Climate Change Impacts:**
  - **Market will provide means** for coping with physical climate change effects: **Washington neoliberal consens.**
  - **Military Protection:** Adjust military strategies, missions and tools to be able to operate under conditions of dangerous climate change („militarization“): **Hobbesian**
  - **Develop the technologies:** Geo-engineering schemes, strategy of energy independence: **Cornucopian**
- **No Need for a Sustainability Revolution**

6.2 Business-as-Usual: Hobbesian World

- *Business-as-usual* in a **Hobbesian world** where economic and strategic interests and behaviour prevail leading to a major crisis of humankind, in inter-state relations and destroying the Earth as the habitat for humans and ecosystems putting the survival of the vulnerable at risk.
- In this vision of ***cornucopian perspectives*** prevail that suggest primarily technical fixes (geo-engineering, increase in energy efficiency or renewables), defence of economic, strategic and national interests with adaptation strategies that are in the interest of and affordable for the 'top billion' of OECD countries in a new geopolitical framework, possibly based on a condominium of a few major countries.
- This vision with minimal reactive adaptation and mitigation strategies will increase the probability of a '**dangerous climate change' or catastrophic GEC** with both linear and chaotic changes in the climate system and their socio-political consequences that represent a high-risk approach.

6.3. Fourth Sustainability Revolution

- 2nd vision for a *transformation* of global cultural, environmental, economic (productive and consumptive patterns) and political (with regard to human & interstate) relations
- In the alternative vision of a comprehensive transformation a *sustainable perspective* has to be developed and implemented into effective new strategies and policies with different goals and means based on global equity and social justice.

6.4 Alternative Vision

- The alternative sustainability perspective requires a change in *culture* (thinking on the human-nature interface), ***worldviews*** (thinking on the systems of rule, e.g. democracy vs. autocracy and on domestic priorities and policies, interstate relations), ***mindsets*** (strategic perspectives of policy-makers) and new forms of national and global *governance*.
- This alternative vision refers to the need for a "**new paradigm for global sustainability**" (Clark/Crutzen/Schellnhuber 2004), for a "transition to [a] much more sustainable global society", aimed at peace, freedom, material well-being and environmental health. Changes in technology and management systems alone will not be sufficient, but "significant changes in governance, institutions and value systems" are needed, resulting in a fourth major transformation after "the stone age, early civilization and the modern era". These alternative strategies should be "more integrated, more long-term in outlook, more attuned to the natural dynamics of the Earth System and more visionary"

6.5. Worldview of Scientists

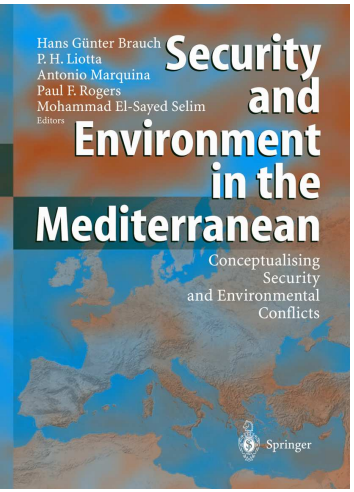
- *Worldview* concept evolved from ‘Weltanschauung’ that refers to a wide world perception and to a **framework of ideas and beliefs through which individuals interpret the world &** interact with it.
- A comprehensive worldview includes the **fundamental cognitive orientation of a society, its values, emotions, and ethics** through which a society or a group interprets the world in which it interacts.
- Worldview is the **fundamental cognitive, affective, & evaluative presupposition a group of people makes about the nature of things**, & which they use to order their lives.
- The **‘construction of integrating worldviews’** begins from fragments of worldviews offered to us by different scientific disciplines and various systems of knowledge to which different perspectives contribute in the world’s cultures.
- **Gert Krell** used this concept for distinguishing among several macro-theoretical approaches in international relations.

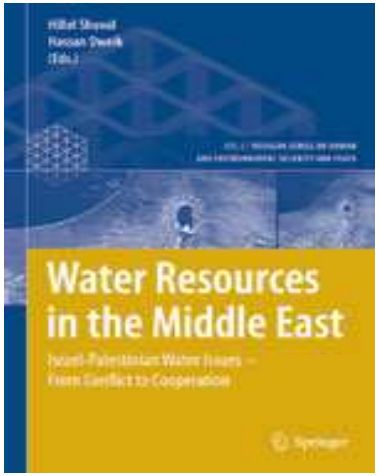
6.6. Mindset of Policymakers

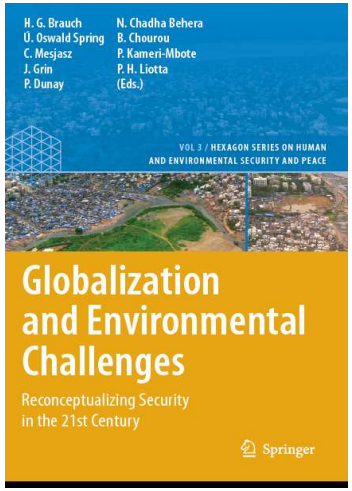
- **Ken Booth mindsets** "freeze international relations into crude images, portray its processes as mechanistic responses of power and characterize other nations as stereotypes". **Many mindsets have survived the fundamental global contextual change** of 1989/1990, as the Cold War "exists as our living past, and it exerts a powerful presence by being both remembered and forgotten in complex ways".
- ***Mindset*** includes a fixed mental attitude or disposition that predetermines a person's responses to and interpretations of situations by referring to different patterns of perceiving and reasoning.
- **Fisher used it as 'cultural lenses'** that filter our view of and reaction to the world.
- For 'Fourth Sustainable Revolution' this concept: discussion of a post-carbon society, where solidarity, equity, & social justice are key drivers instead of maximization of profits & destruction of Earth without thinking of next generations or of collapse of ecosystems.

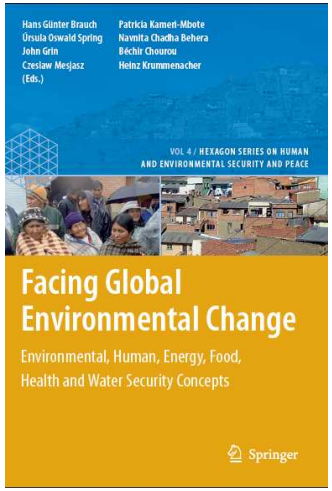

Moving from the Euro-Mediterranean Partnership Towards A Euro-Mediterranean Union:
6.7. An Enlightening Policy Vision Whose Time Has Come!?

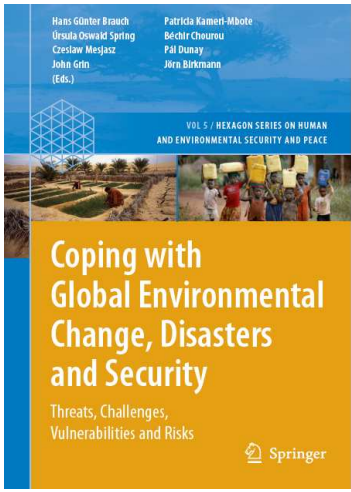
2.1. Hexagon Series: Volumes I-VIII

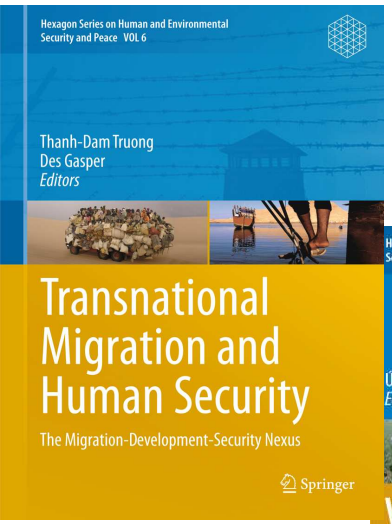


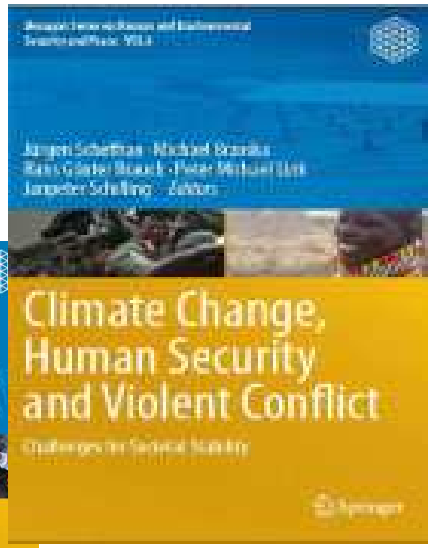












Forthcoming Volumes

- Truong, Thanh-Dam; Bergh, S.I.; Gasper, Des; Handmaker, J. (Eds.): Migration, Gender and Social Justice - Perspectives on Human Security. Hexagon Series on Human and Environmental Security and Peace, vol. 9 (Heidelberg – Dordrecht – London – New York: Springer, 2012).
- Czeslaw Mesjasz: ***Stability, Turbulence or Chaos? Systems Thinking and Theory and Policy of Security***. Hexagon Series on Human and Environmental Security and Peace, vol. 10 (Berlin et al. Springer-Verlag, 2013).

3. Global Environmental and Human Security Handbook for the Anthropocene

http://www.afes-press-books.de/html/hexagon.htm

Vol. 3 (1): Globalization and Environmental Challenges: 92 authors, 36 countries, 16 disciplines, (2008)

Vol. 4 (2): Facing Global Environmental Change: 132 authors, 49 countries on global debate and problems of environmental, human, energy, food, health, water security (2009)

➔**Vol. 5 (3): Coping with Global Environmental Change:** ***Disasters and Security – Threats, Challenges, Vulnerabilities and Risks*** **164 authors, 48 countries (2011).** ➘