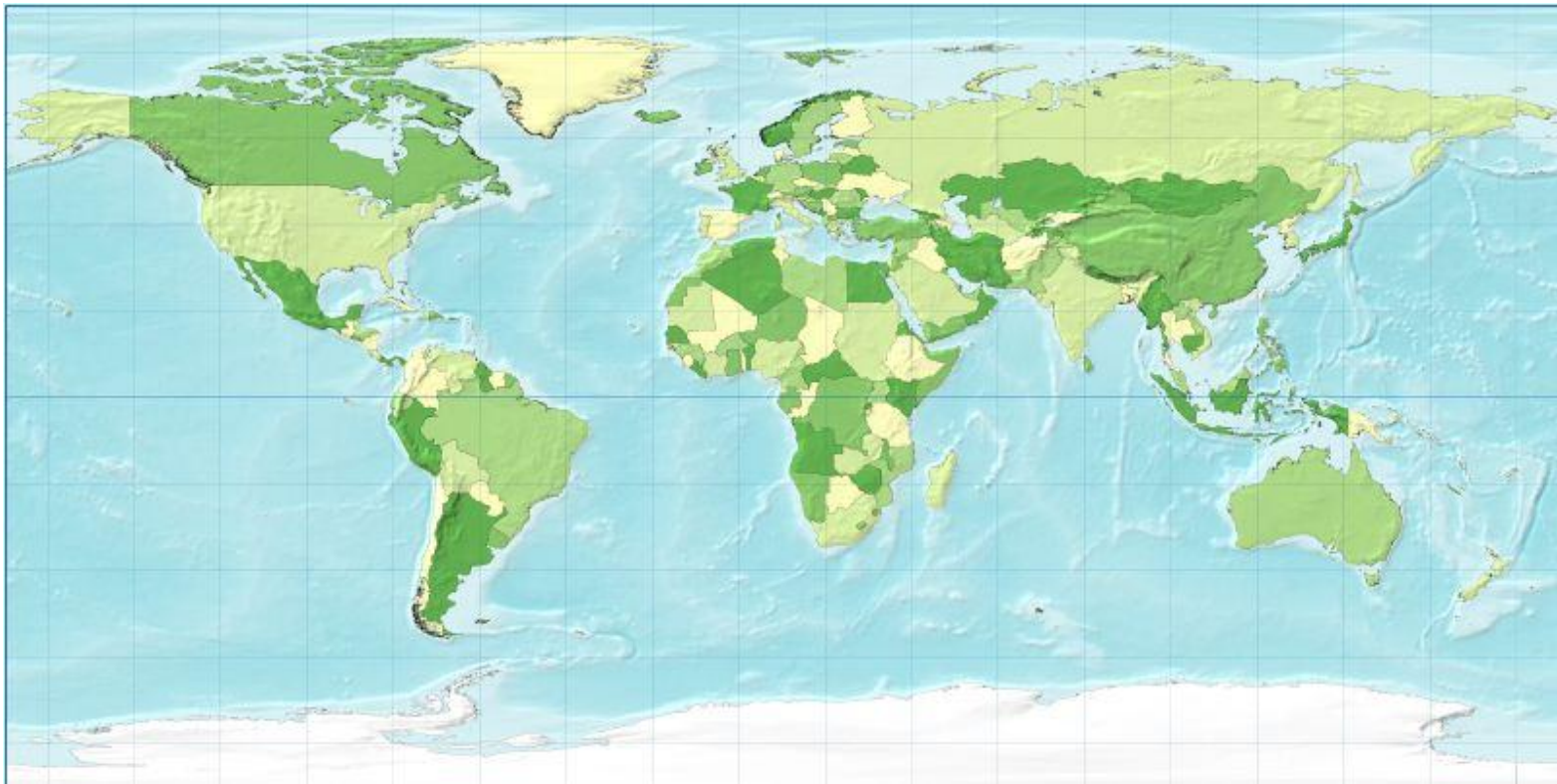




THE CLIMATE
(AND OTHER GPGs) CRISIS-
TRANSITIONS IN
DEVELOPMENT FINANCE

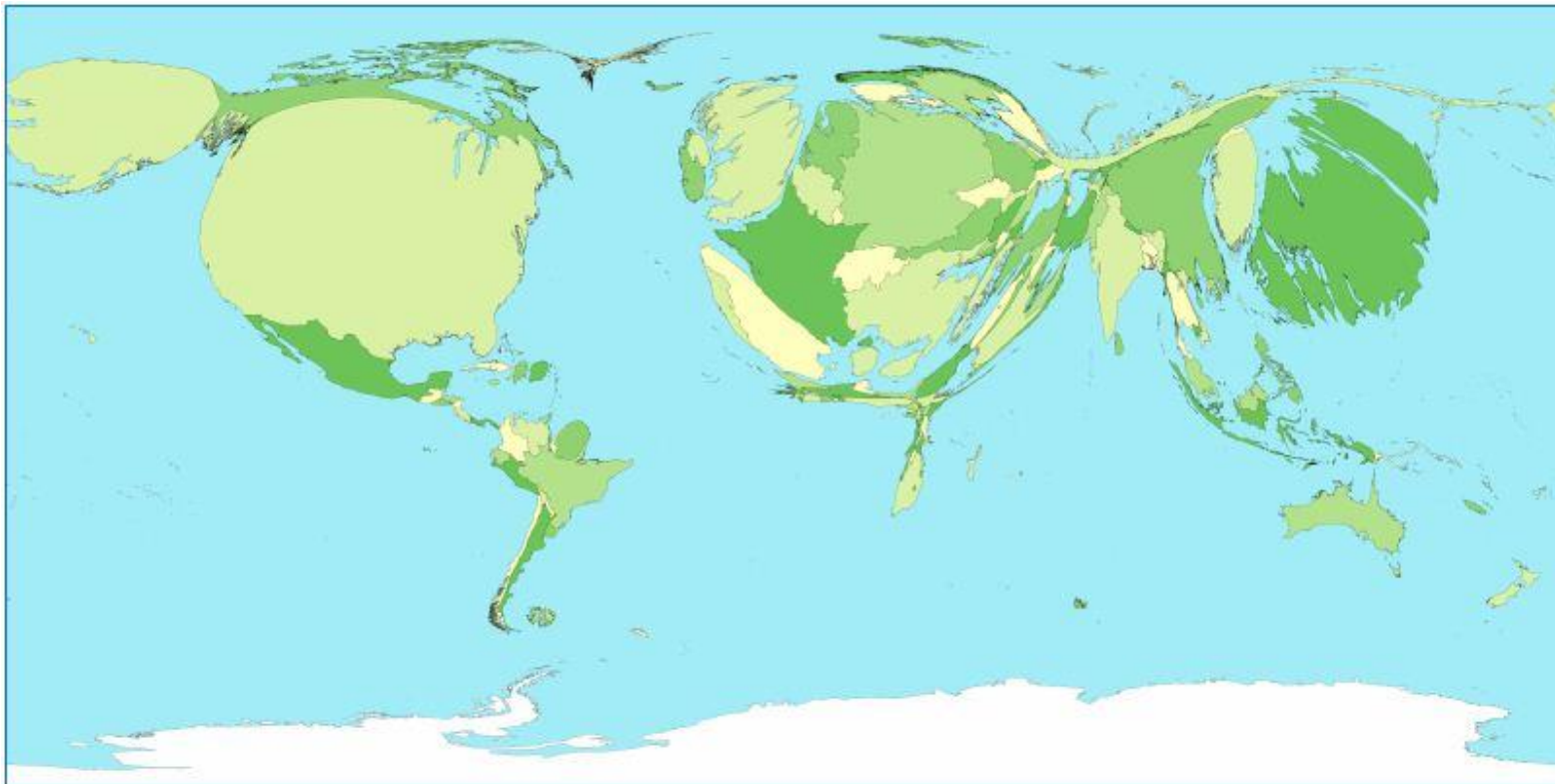
J. Warren Evans

CARTOGRAMS: SOCIAL AND POLITICAL MAPS*

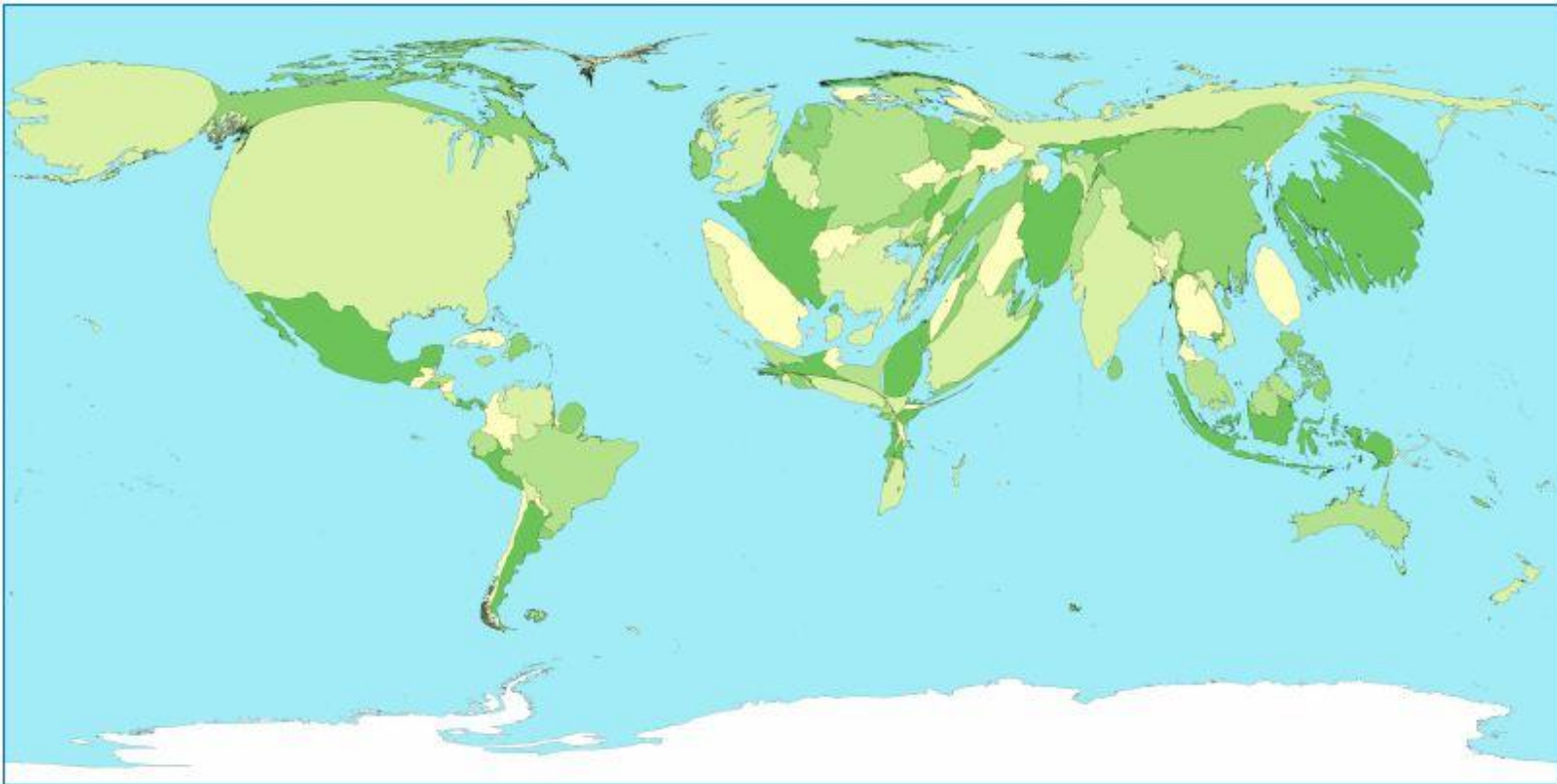


*All maps from www.rehydrate.org/resources/cartograms

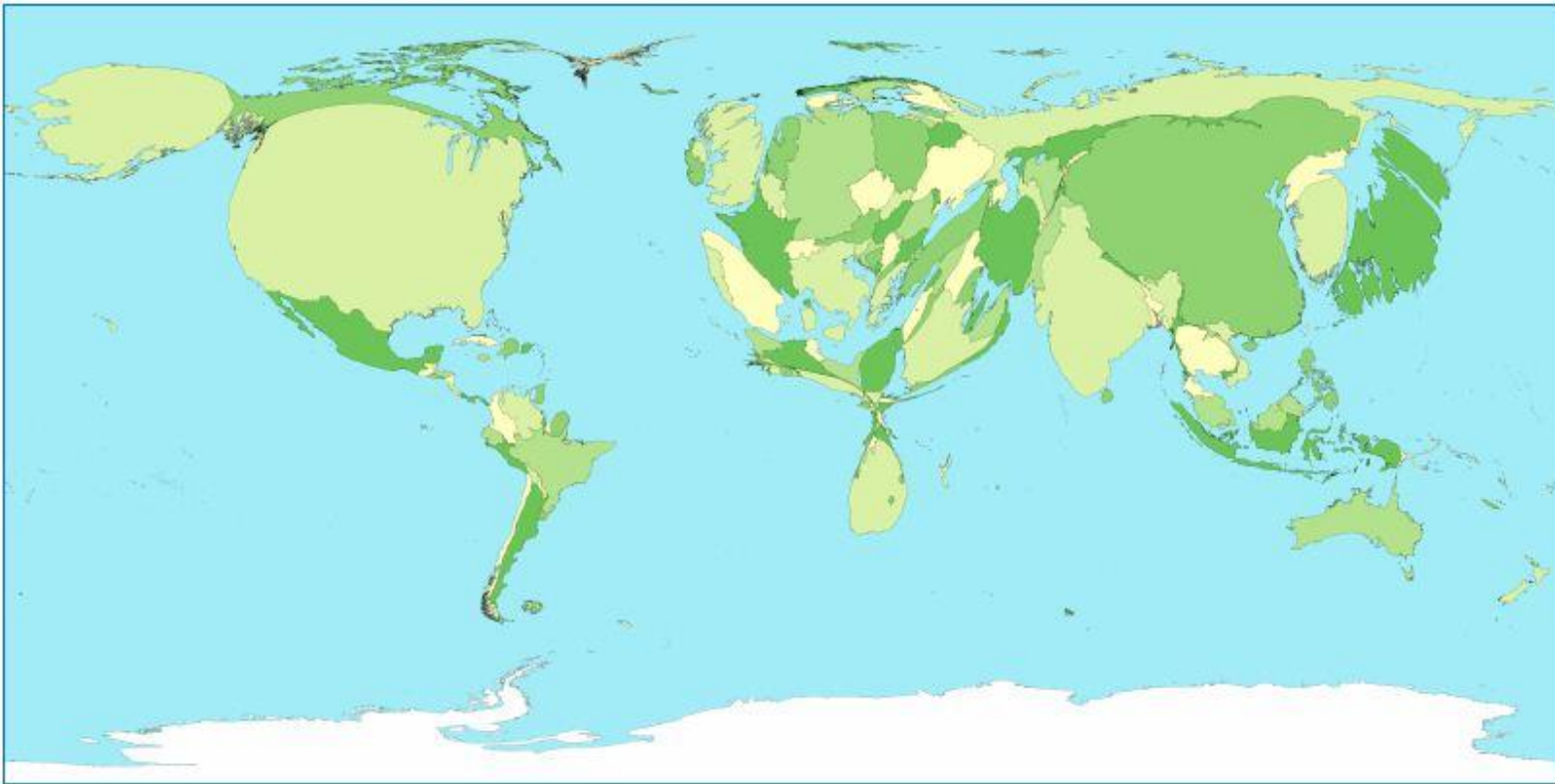
GROSS DOMESTIC PRODUCT, 2006



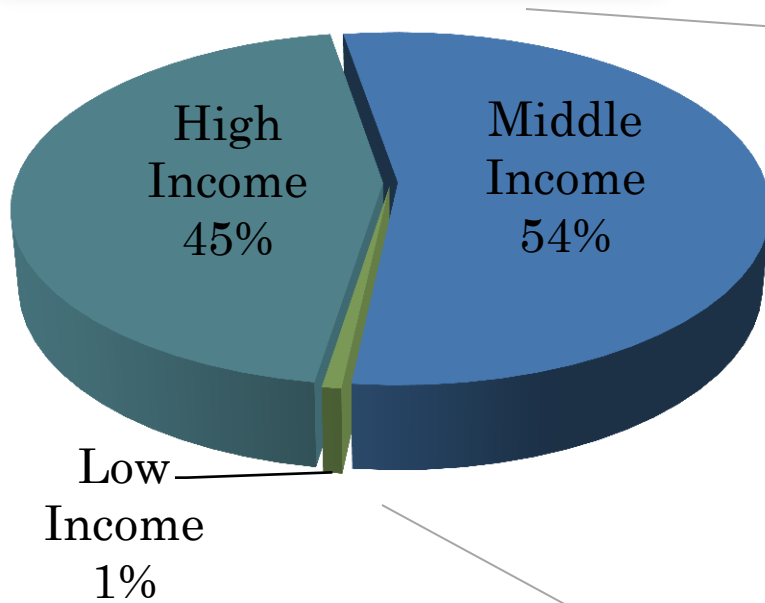
ENERGY CONSUMPTION (INCLUDING OIL), 2006



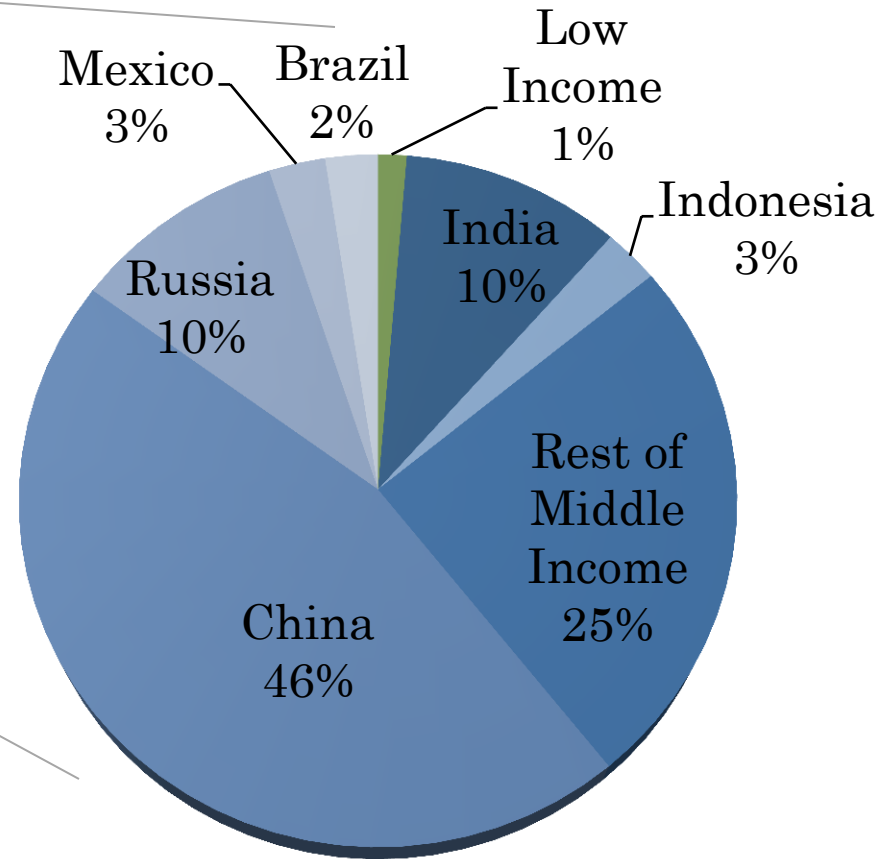
GREENHOUSE GAS EMISSIONS, 2006



Global GHG Emissions 2010



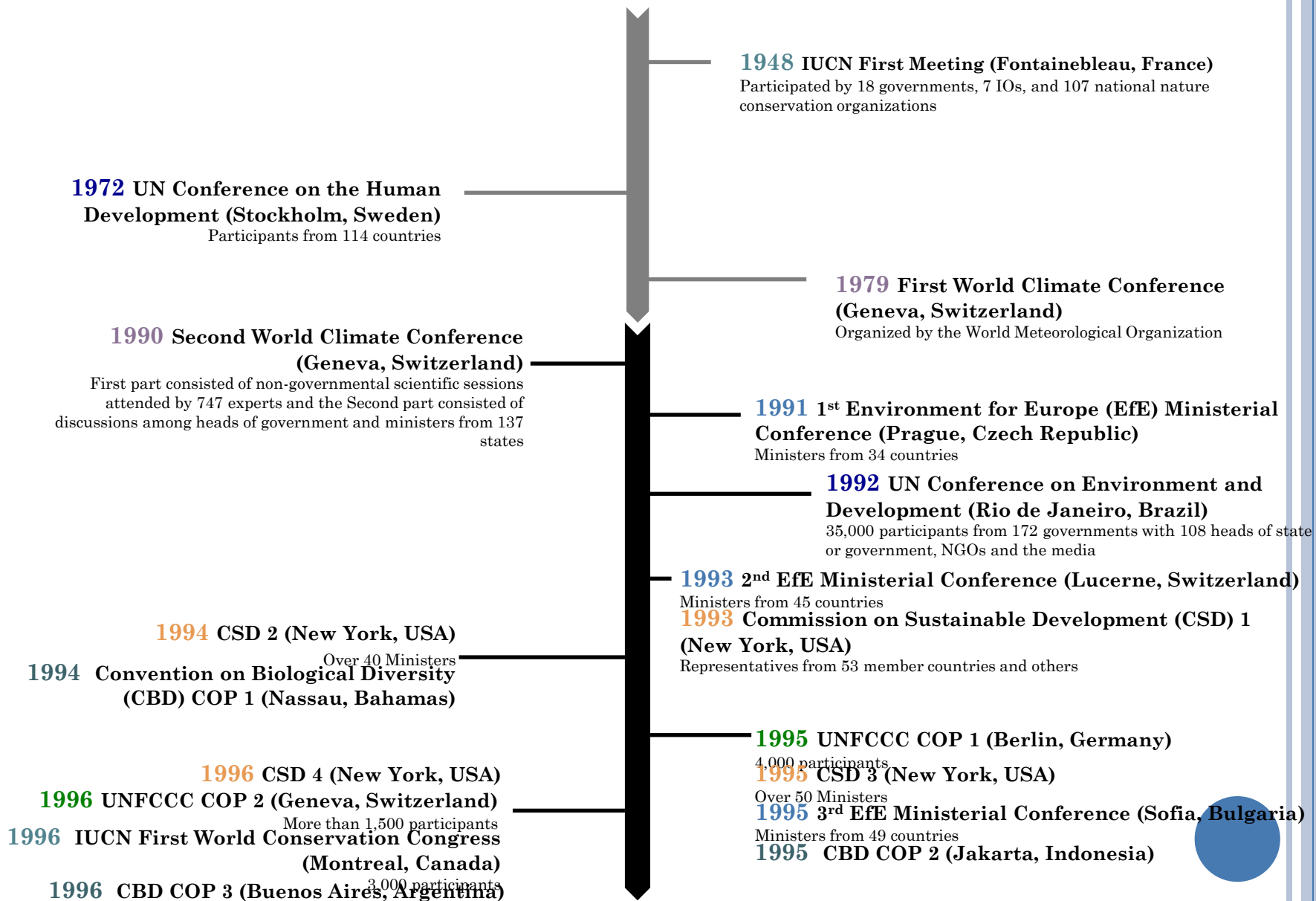
Emerging Markets Only



Source: International Energy Agency 2012

Timeline of Major International Events on Sustainable Development, Climate Change, and Biodiversity

June 2013



1998 CSD 6 (New York, USA)
1998 CBD COP 4 (Bratislava, Slovakia)

1,500 participants

1998 4th EFe Ministerial Conference (Buenos Aires, Argentina)

1998 UNFCCC COP 4 (Buenos Aires, Argentina)
 52 ECE member countries and 70 IGOs and NGOs
 More than 5,000 participants from 170 governments

2000 CSD 8 (New York, USA)

47 ministers

2000 CBD COP 5 (Nairobi, Kenya)

1,500 participants from 156 governments and others

2000 IUCN 2nd World Conservation Congress (Amman, Jordan)

2000 UNFCCC COP 6 (The Hague, the Netherlands)
 2,000 participants from 140 governments and others
 7,000 participants from 182 governments and others

2002 CBD COP 6 (The Hague, the Netherlands)

2,000 participants from 176 governments and others

2002 World Summit on Sustainable Development (Johannesburg, South Africa)

2002 CSD 10 (Johannesburg, South Africa)
 23,000 participants from governments and others

Over 500 participants

2002 COP 8 (New Delhi, India)

3,000 participants from 185 Parties and others

2004 CBD COP 7 (Kuala Lumpur, Malaysia)

2,300 participants from 161 governments and others

2004 CSD 12 (New York, USA)

80 Ministers

2004 IUCN 3rd World Conservation Congress (Bangkok, Thailand)

2004 COP 10 (Buenos Aires, Argentina)
 4,800 participants

6,000 participants from 180 Parties and others

1997 CSD 5 (New York, USA)

1997 UNFCCC COP 3 (Kyoto, Japan)

125 Ministers and more than 10,000 participants from 160 countries

1999 CBD COP Extraordinary Meeting (Cartagena, Colombia)

1999 CSD 7 (New York, USA)

1999 UNFCCC COP 5 (Bonn, Germany)

4,000 participants from 166 governments

2001 CSD 9 (New York, USA)

Over 500 participants

2001 UNFCCC COP 6-bis (Bonn, Germany)

4,600 participants from 181 governments and others

2001 UNFCCC COP 7 (Marrakesh, Morocco)

4,500 participants from 171 governments and others

2003 CSD 11 (New York, USA)

About 40 ministers and government representatives, and over 900 representatives from NGOs and other stakeholders

2003 5th EFe Ministerial Conference (Kiev, Ukraine)

Ministers from 51 countries

2003 UNFCCC COP 9 (Milan, Italy)

5,000 participants from 181 Parties and others

2005 CSD 13 (New York, USA)

About 40 ministers and government representatives, and over 900 representatives from NGOs and other stakeholders

2005 UNFCCC COP 11 (Montreal, Canada)

9,000 participants

2006 CBD COP 8 (Curitiba, Brazil)

3,900 participants

2006 CSD 14 (New York, USA)

80 Ministers and representatives from 1,250 organizations

2006 COP 12 (Nairobi, Egypt)

6,000 participants

2008 CSD 16 (New York, USA)

60 Ministers and 680 representatives from 126 NGOs

2008 CBD COP 9 (Bonn, Germany)

7,000 delegates

2008 COP 14 (Poznań, Poland)

9,250 participants

2008 CSD 16 (New York, USA)

60 Ministers and 680 representatives from 126 NGOs

2008 CBD COP 9 (Bonn, Germany)

7,000 delegates

2008 IUCN 4th World Conservation Congress (Barcelona, Spain)

2008 COP 14 (Poznań, Poland)

9,250 participants

2008 1st World Economic and Environmental Conference (Beijing, China)

2010 1st Petersberg Climate Dialogue (Berlin, Germany)

Environment and climate ministers from 43 countries to prepare for COP 16

2010 CSD 18 (New York, USA)

Representatives from over 1,000 major groups

2010 3rd World Economic and Environmental Conference (Beijing, China)

2010 CBD COP 10 (Nagoya, Japan)

Over 1,000 participants

2010 1st Asia-Pacific Climate Change Adaptation Forum (Bangkok, Thailand)

2010 UNFCCC Pre-COP 16 Ministerial (Mexico City, Mexico)

2010 COP 16 (Cancun, Mexico)

12,000 participants

2007 CSD 15 (New York, USA)

2,000 government delegates and representatives

2007 6th Efe Ministerial Conference (Belgrade, Serbia)

1,200 delegates

2007 UNFCCC COP 13 (Bali, Indonesia)

10,000 participants from over 180 countries and others

2009 Climate Change Summit 2009 (Gauteng, South Africa)

650 delegates

2009 CSD 17 (New York, USA)

40 ministers and 1,000 participants

2009 World Climate Conference-3 (Geneva, Switzerland)

2009 2009 Summit on Climate Change (New York, USA)

101 world leaders at UNSG Ban Ki-moon's invitation

2009 2nd World Economic and Environmental Conference (Beijing, China)

500 participants

2009 UNFCCC Pre-COP 15 Ministerial (Copenhagen, Denmark)

40 ministers responsible for the environment and climate

2009 UNFCCC COP 15 (Copenhagen, Denmark)

Over 24,000 delegates from 193 Parties



2012 OECD Environment Ministerial 2012 (Paris, France)
2012 Global Green Growth Summit 2012 (Seoul, Korea)
34 OECD member countries and others
2012 2nd Asia-Pacific Climate Change Adaptation Forum (Bangkok, Thailand)
1,500 participants
2012 UN Conference on Sustainable Development (Rio de Janeiro, Brazil)
800 participants
2012 CSD 20 (Rio de Janeiro, Brazil)
50,000 participants
2012 3rd Petersberg Climate Dialogue (Berlin, Germany)
2012 IUCN 5th World Conservation Congress (Jeju, Korea)
Ministers from 31 countries
2012 CBD COP 11 (Hyderabad, India)
11,000 participants
2012 UNFCCC Pre-COP 18 Ministerial (Seoul, Korea)
6,000 delegates
2012 5th World Economic and Environmental Conference (Beijing, China)
300 participants from 50 countries
2012 1st OECD Forum on Green Growth and Sustainable Development (Paris, France)
2012 UNFCCC COP 18 (Doha, Qatar)
17,000 participants

2011 CSD 19 (New York, USA)
1,000 participants
2011 4th World Economic and Environmental Conference (Qingdao, China)
500 participants
2011 Global Green Growth Summit 2011 (Seoul, Korea)
1,000 participants
2011 2nd Petersberg Climate Dialogue (Berlin, Germany)
Ministers from 35 countries
2011 UNFCCC Pre-COP 17 Ministerial (Stellenbosch, South Africa)
Representatives from 42 Parties
2011 7th EUE Ministerial Conference (Astana, Kazakhstan)
1,500 delegates
2011 UNFCCC COP 17 (Durban, South Africa)
12,500 participants

PREVIEW OF THE WORLD IN 2025-2050

- **Population Dynamics and Demographics**
 - By 2050, global population is expected to increase from 7 billion to over 9 billion
 - 95% of this growth to 2030 will occur in developing countries
- 3 billion urban residents today → 4.3 billion in 2025
- The world will move from 48% urban in 2010 → 64% urban in 2025
- Urbanization rates are highest in small/medium cities within low-income countries
- 100 largest cities would rank 3rd in the world for population

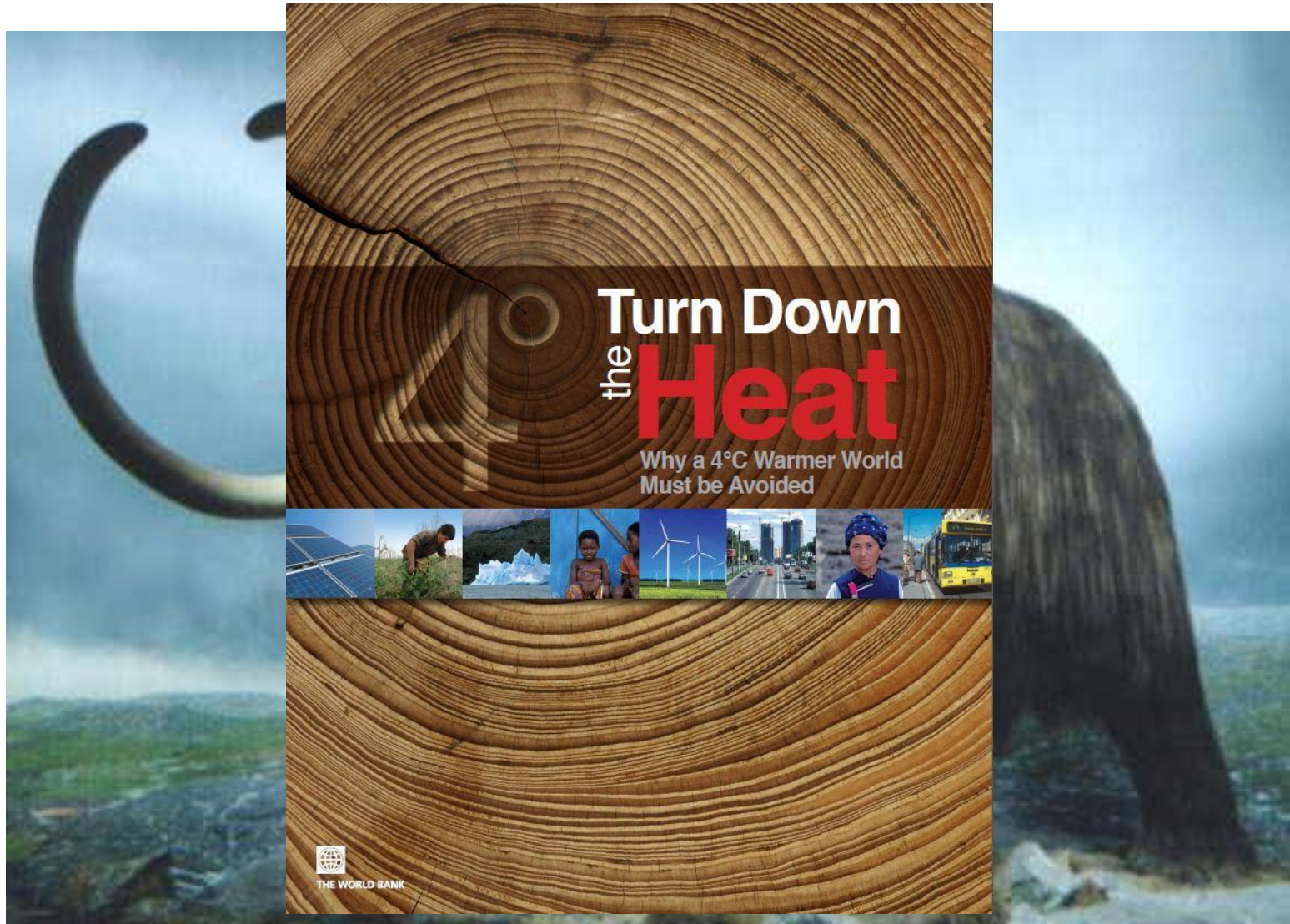
PREVIEW OF THE WORLD IN 2025-2050

○ GDP and Economic Growth

- 2010-2030, GDP largely driven by physical capital stock boosting economic activities in emerging economies
- developing countries, avg annual GDP growth in next 20 years ranges from 4.9% to 7% in the high-growth scenario
 - Africa will have highest growth rate or 6%/year from 2030-2050, but in absolute terms will remain poorest continent
- Developing countries share in world trade has roughly doubled, 14.6% in 1990 to 30.3% in 2010. In 2030, these countries will be the dominant force in global economy,

PREVIEW OF THE WORLD IN 2025-2050

- Cities as economies: 600 mill. new consumers living in 440 cities in emerging markets will generate almost 50% of global GDP growth from 2010-2025
- Increase in per capital disposable income is linked to increase in consumption of energy and water/waste generation

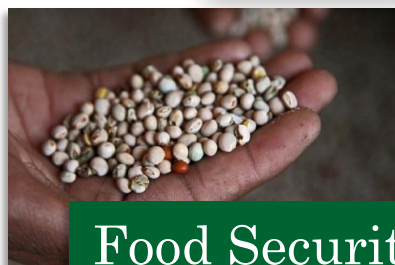


CLIMATE CHANGE THREATENS DEVELOPMENT GAINS

Severe weather events

&

Aggravated resource constraints



Food Security

35%

arable Sub-Saharan land unusable in 4^o world ¹

44 million

people driven into poverty from rising food prices in 2010 ⁴

200 million

permanently displaced 'climate refugees' by 2050 ²



Fragile States



Health

5 million

illnesses due to climate change in 2012³

Sources:

1. The World Bank "Turn Down the Heat"

2. Columbia University CIESIN:

"Environmentally Induced Population Displacements"

3. Journal Nature: "Impact of regional climate change on human health"

4. McKinsey: "Resource Revolution"

5. Bloomberg: "Thailand Says GDP May Shrink 3.7% on Floods"

147%

increase in commodity prices since 2000 ⁴

4% GDP

losses in Thailand from flooding in 2011⁵



Economic Impact

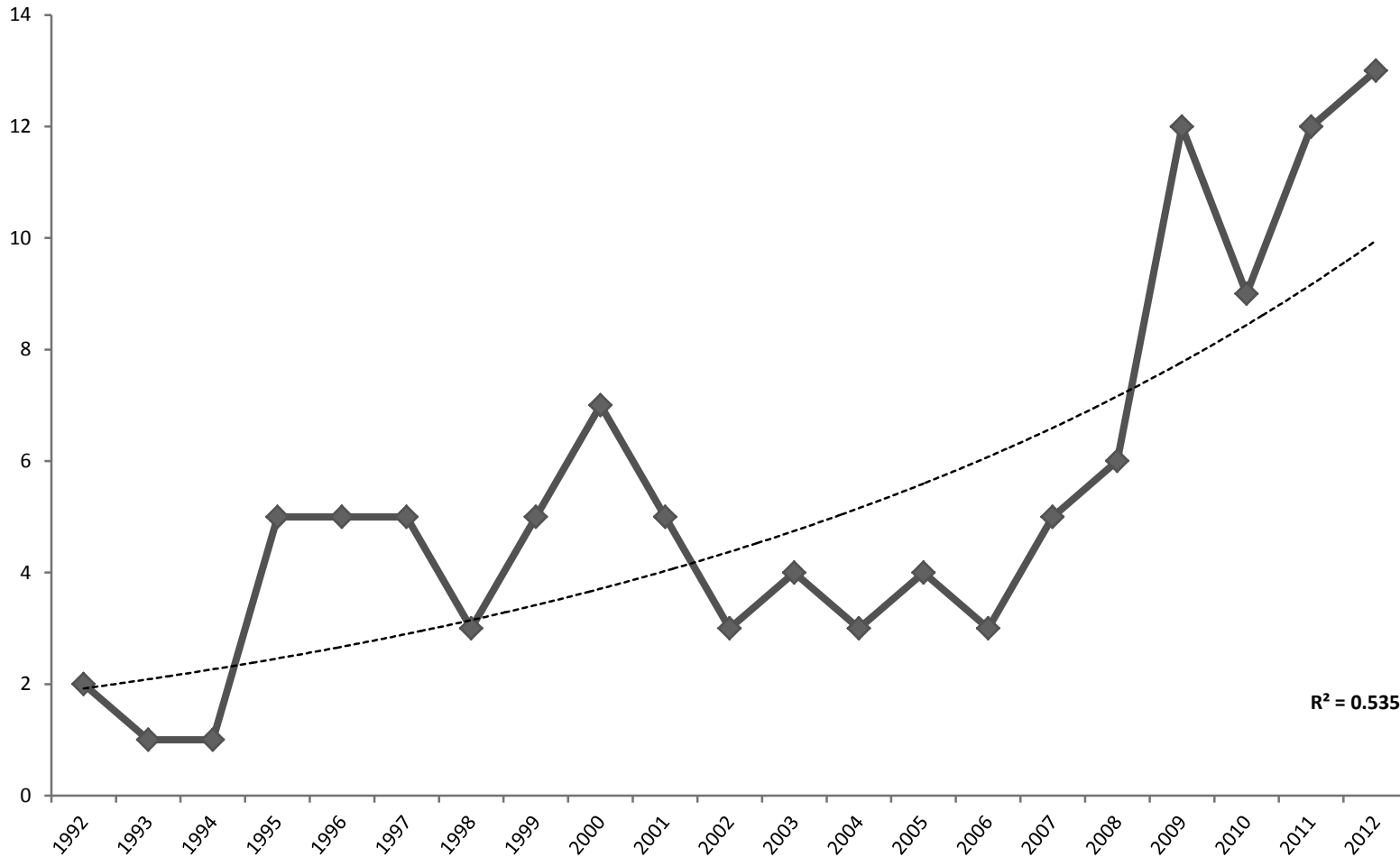
WHAT A 4 DEGREE WORLD WOULD LOOK LIKE AND WHY IT NEEDS TO BE AVOIDED

- Unprecedented heat waves, severe drought, major floods, sea level warming and rise; serious impacts on ecosystems and associated services
- **Impacts will be unequal-** tilted towards world's poorest regions, which have the least economic, institutional, scientific, and technical capacity to adapt
- **With current mitigation commitments and pledges ~20% likelihood we will exceed 4°C by 2100. If pledges not met, this could happen by 2060**

RISK TO HUMAN SUPPORT SYSTEMS: FOOD, WATER, ECOSYSTEMS, HEALTH

- Water- most adverse impacts on water will likely be in association with growing water as world population increases
- Ecosystems- Ecosystem shifts, wildfires, ecosystem transformation, forest dieback
 - Amazonia- forest fires could double by 2050
 - In 4°C world, climate change likely to be dominant driver of ecosystem shifts, surpassing habitat destruction as biggest threat to biodiversity
- Food- large-scale extreme events (eg, floods) that interfere with food production could induce nutritional deficits and increase epidemic diseases
 - Flooding can bring contaminants into water supply, increasing diarrheal and respiratory diseases

WHAT WILL DRIVE US TO ACTION?



Number of Major International Meetings on Climate Change from 1992 to 2012

What, Me Worry?



WHAT IS THE ROLE OF OFFICIAL DEVELOPMENT ASSISTANCE (ODA) TODAY

- Impact of “climate finance” on multilateral and bilateral development finance is not yet clear, but likely to be substantial
- Donor community is rapidly changing (eg, China and new sources of financing)
- **Need for improved international financing directed to address global public goods (GPGs) is increasing as the impacts of climate change, fuel crisis, food crisis, conflict over resource scarcity, and financial crisis are recognized as potentially reversing developmental gains**

THE “FINANCING CHALLENGE”

- **Estimated that at least \$40 trillion will be needed to meet urban infrastructure needs in the next 20 years**
- **\$350 billion/yr for climate action probably a gross underestimate – it is based on a 2 degree world at end of century –**
- **Green Climate Fund to save the day?**
- **Role of ODA- CIFs and GEF experience**
- **Crowding in innovative finance and private sector for low carbon green growth**

CLEAN ENERGY FINANCE STAKEHOLDERS



	Early R&D, Proof of Concept	Demonstration and Scale-up	Commercial Roll-out	Diffusion & Maturity
Policy	Heads of state / Legislators / Ministries (eg, energy, environment, finance)		Heads of regions / Electricity regulators	
Investment managers (public)	Development banks / Grant-giving bodies / National treasuries / Sovereign wealth funds / Export credit agencies			
Sources of finance	Endowments / Pension funds / Life insurance companies / High net worth individuals and family offices			
Investment managers (private)	Venture capital / Incubators / Private equity (companies)		Private equity (projects) / Infrastructure funds	
			Debt funds / Carbon funds	
			Microfinance providers	
			Hedge funds / Mutual funds	
Enablers and service providers	Investment banks / Consultants / Law firms		Insurance providers / Letter of credit providers	
			Hedging providers	
			Rating agencies	
Industry	Corporations (eg, start-ups, oil and gas, utilities, technology providers)			

SOME GENERAL CONCLUSIONS

Developing country need for ODA will be substantially different in 2025.

ODA (in terms of its purpose and share of international development finance) will also be different in 2025.

Development assistance agencies do not necessarily face a choice between providing country-based assistance and providing, or helping provide GPGs



CONCLUSIONS CONT'D

The most effective role for the World Bank and other country-oriented development assistance agencies is likely to consist in supporting the provision of what might be termed “cumulative” GPGs.

Future ODA and ODA-like development assistance needs to create incentives for the private sector provision of public goods.



FINANCING LOW CARBON VS CLIMATE RESILIENT NOT AN EITHER/OR PROPOSITION

Agriculture and forestry unique- increase resilience
and sequester carbon

Think long-term and outside the box

“Climate smart agriculture” > needs to be smarter!

- perennial polyculture agriculture

Strengthening the provision of GPGs will require a
new kind of global partnership.

New partnerships for long-term, at-scale action:
South-south, south-north, sovereign-nonsovereign

