

Integrated Solutions to Interlinked Challenges: Climate Change, Sustainable Development and the Global Economic Crisis

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March 2009**

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*Policy Dialogue on
Countdown to Copenhagen: The newest climate science for decision-makers
European Policy Centre, Brussels
18 June 2009*



Munasinghe Institute for Development

Sustainable Consumption Institute
University of Manchester

SCI

Multiple Global Issues – Handled Piecemeal

Poverty, inequity and human well-being

billions living on <1 per day without basic needs, unequal income distribution

Scarce resources, conflict and competition

energy, water, land, food, etc.

Environmental damage

climate change, degradation of air, land and water, ecosystems damage

Globalisation

high risks (e.g., financial crises), but benefits if well-managed

Governance

mis-management, corruption, govt. business and civil society partnership crucial

Private-public balance

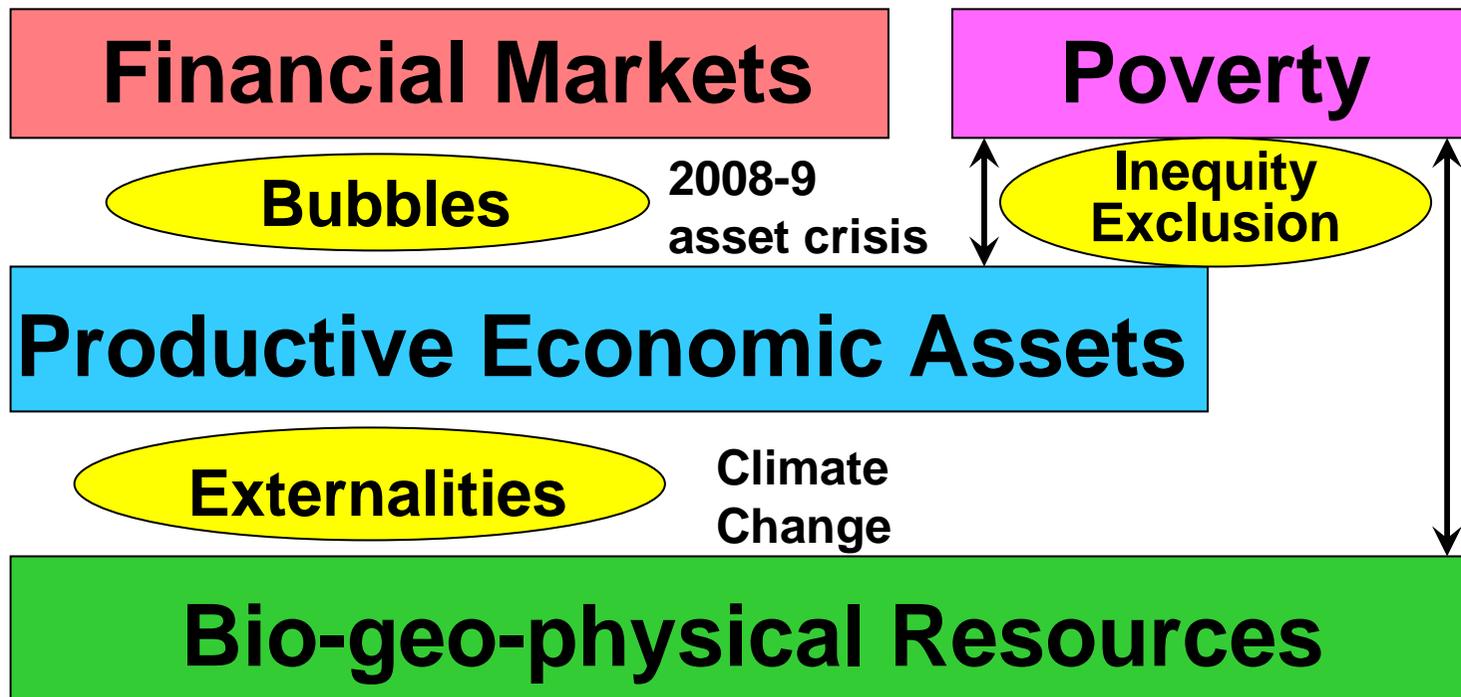
unrestrained markets and excessive government control are both risky extremes



HOW WELL (BADLY) DO WE
ESTABLISH PRIORITIES ?

Dealing with Bubbles

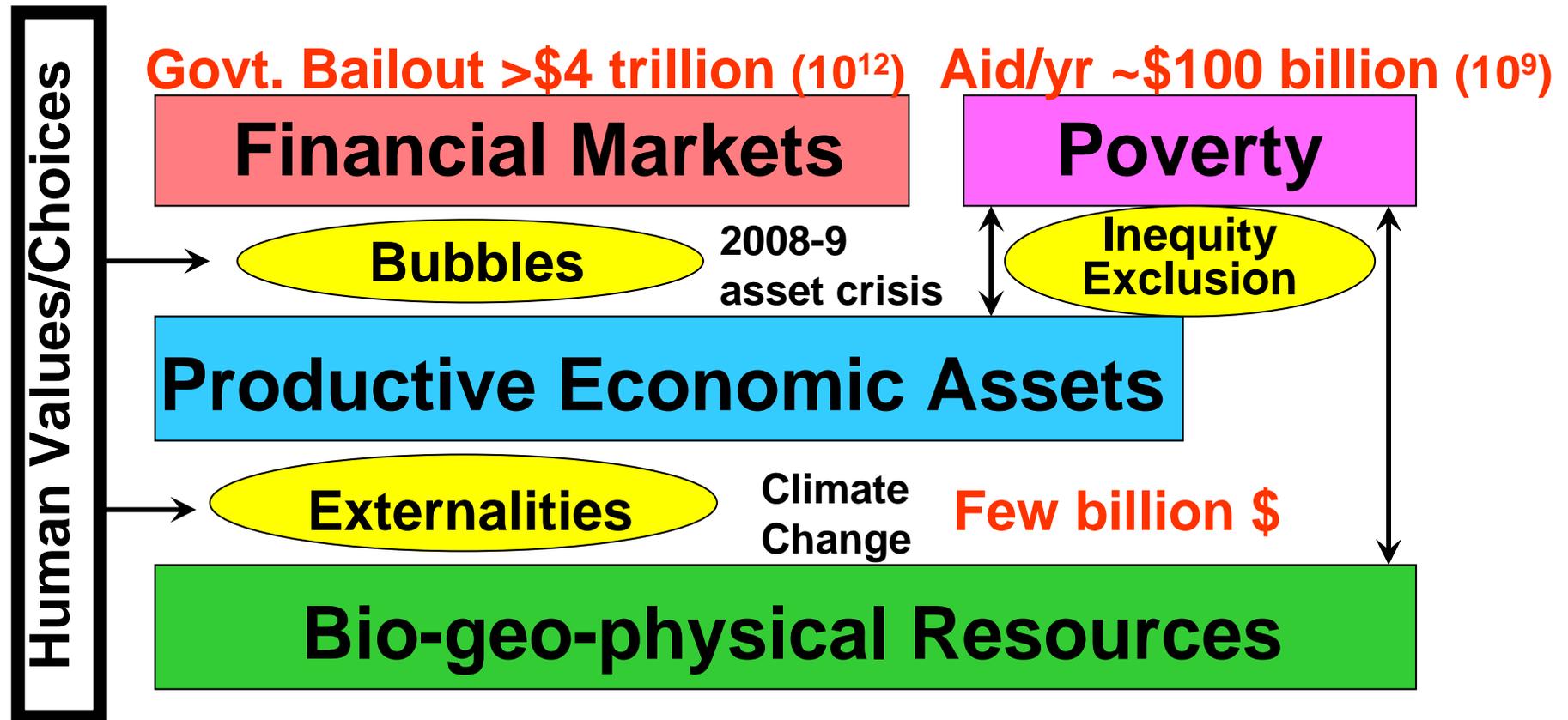
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Triple Danger Interaction - Will it yield a Triple Disaster or Triple Dividend: 3

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Asset bubble >\$100 trillion (10^{12}), Global GDP \$55 trillion



Triple Danger Interaction - Will it yield a Triple Disaster or Triple Dividend: 4

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Growing Risks of Global Breakdown due to Repeated Shocks

1. **Financial-economic crisis: Toxic assets a multiple of annual global GDP.**
2. **Resource shortages: energy, water, food.**
3. **Environmental harm, extreme events, mass migrations, pandemics, conflicts**
4. **Climate change: the ultimate threat multiplier**

Multiple threats are inter-related and synergistic

Stakeholder interests are divergent;

Responses uncoordinated - lack political will

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START with better use of Economic Stimulus Packages to also solve longer term issues of Poverty, Resources & Climate Change

- 1. Support productive long term investments (e.g., infrastructure, renewable energy, forestry, agriculture) and social development (e.g., health, education, sustainable livelihoods, safety nets), NOT subsidies & consumption expenses.**
- 2. Boost poverty reduction and job creation efforts (e.g., more access to assets for the poor, promote exports of IT and manufactures).**
- 3. Improve governance, manage markets and reform prices**

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Make Better Use of the Momentum for Change

- 1. Build for long term. Make Development More Sustainable** -- with balanced consideration of sustainable development triangle (economic, social and environmental elements). Transcend conventional boundaries using innovative, holistic, integrative approaches.
- 2. Transform global governance structure.** Reform market regulation. Make UN system more effective & responsive. Make IMF/World Bank more inclusive. Give more weight to G20 (with advice from B20, C20, etc.)

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Focus on
CLIMATE CHANGE:
Threat Multiplier

Motivation: Sustainable Development will be harmed by Climate Change, especially in Developing Countries

The sustainable development challenge is to:

- **alleviate poverty** for ~1.5 billion people who live on less than \$1 per day and ~3 billion people who live on less than \$2 per day
- provide adequate **food**, especially for the 800 million people who are malnourished today—this will require food production to double in the next 35 years without further environmental degradation, e.g., deforestation
- provide **clean water** for the 1.3 billion people who live without clean water and provide sanitation for the 2 billion people who live without sanitation
- provide **energy** for the 2 billion people who live without electricity
- provide a **healthy environment** for the 1.4 billion people who are exposed to dangerous levels of *outdoor pollution* and the even larger number exposed to dangerous levels of *indoor air pollution and vector-borne diseases*
- provide **safe shelter** for those that live in areas susceptible to civil strife due to environmental degradation and those vulnerable to natural disasters



Climate Change will further undermine prospects for future human well being and sustainable development

SOLUTION: CC Policies integrated with sustainable development strategy – harmonising both Adaptation and Mitigation (Win-Win) while also Making Development More Sustainable (MDMS)

Examples: growing forests, energy saving

Many trade-offs also arise and need to be reconciled



Adaptation Burden & Equity: CC → SD

Adaptation is the first priority of developing countries that are most vulnerable to climate change. Help is also crucial.

- **Climate change is likely to impact disproportionately upon the poorest countries and the poorest persons within all countries**, exacerbating inequities in health status and access to adequate food, clean water and other resources.
- **Net economic effects will be negative in most developing countries**
- **Impacts will be worse** - many areas are already flood and drought prone, and economic sectors are climate sensitive
- **Lower capacity to adapt** because of a lack of financial, institutional and technological capacity, and access to knowledge



Global Impacts and Vulnerability

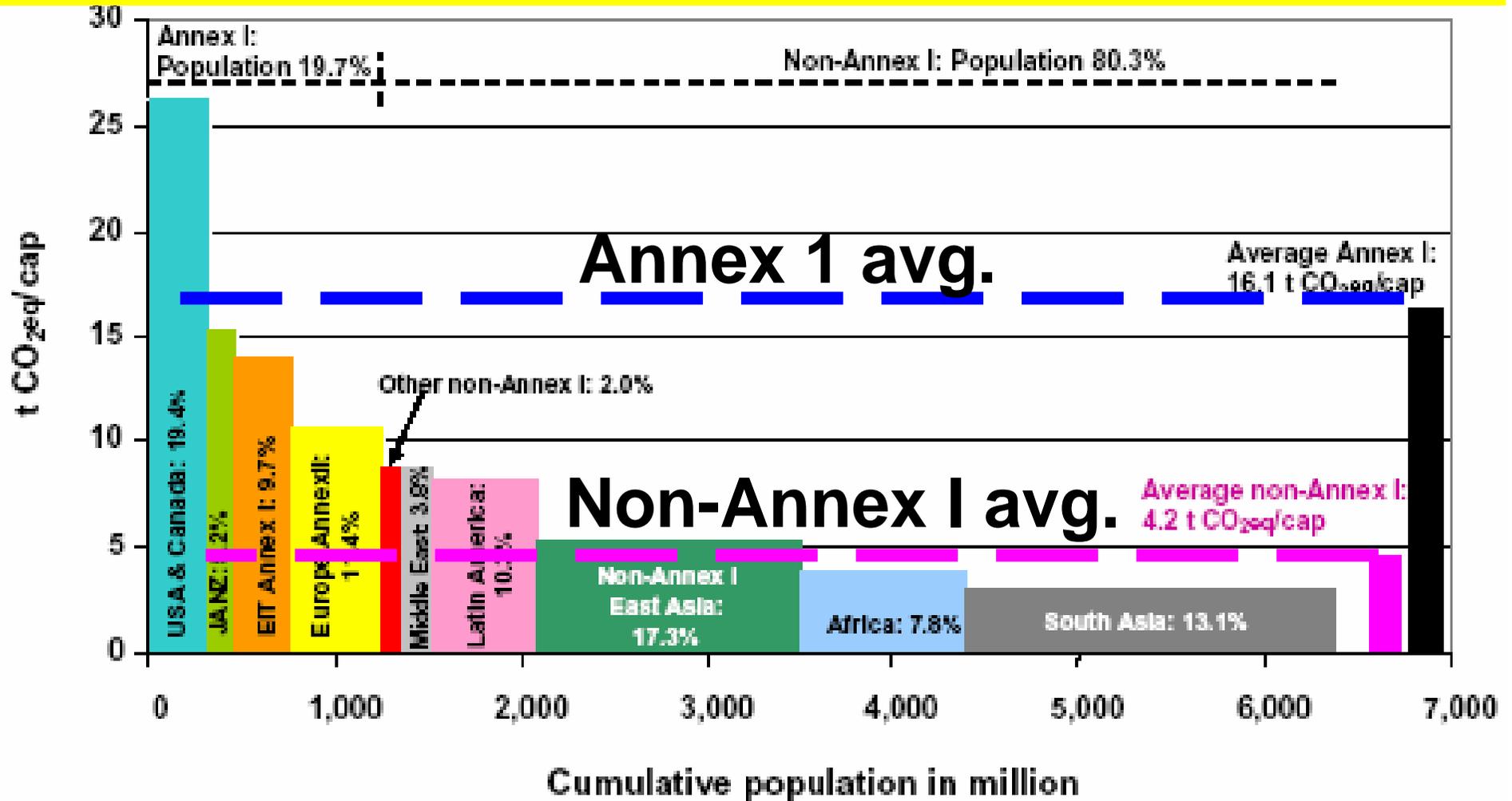
WE CAN PROTECT THE MOST VULNERABLE

- **People: Poor, Children, Elderly.**
- **Regions: Small Islands, Arctic, Asian megadeltas, Sub-saharan Africa.**
- **Sectors & Ecosystems:** Coral reefs, sea-ice regions, tundra, boreal forests, mountain and Mediterranean regions, low-lying coasts, mangroves & salt marshes; Water resources in mid-latitudes & dry tropics; Low-latitude agriculture; Human health where adaptive capacity is low.



Mitigation Responsibility & Equity: SD → CC

Mitigation leadership is the main responsibility of industrial countries with high per capita GHG emissions



Concentrations, mean temp. rise & peak year emissions

EU danger limit of 2° C rise implies a stabilisation level of 400-450 ppmv by 2100 (currently 386 ppmv, safe level 280 ppmv). If so, Annex 1 emissions must be cut back 40% by 2020 (latest), and ~80% by 2050.

CO ₂ stabilization	CO ₂ -Equivalent Stabilization level	Year CO ₂ needs to peak	GDP reduction in 2030	Reduction in 2050 relative to 2000	Global Mean temp. incr. at equilib.	Global average sea level rise from thermal expansion
ppm	ppm	Year	%	Percent	°C	metres
350 – 400	445 – 490	2000–2015	< 3	-85 to -50	2.0 – 2.4	0.4 – 1.4
400 – 440	490 – 535	2000–2020	< 2	-60 to -30	2.4 – 2.8	0.5 – 1.7
440 – 485	535 – 590	2010 – 2030	0.6	-30 to +5	2.8 – 3.2	0.6 – 1.9
485 – 570	590 – 710	2020 – 2060	0.2	+10 to +60	3.2 – 4.0	0.6 – 2.4
570 – 660	710 – 855	2050 – 2080		+25 to +85	4.0 – 4.9	0.8 – 2.9
660 – 790	855 – 1130	2060 – 2090		+90 to +140	4.9 – 6.1	1.0 – 3.7

Updated Reasons for Concern

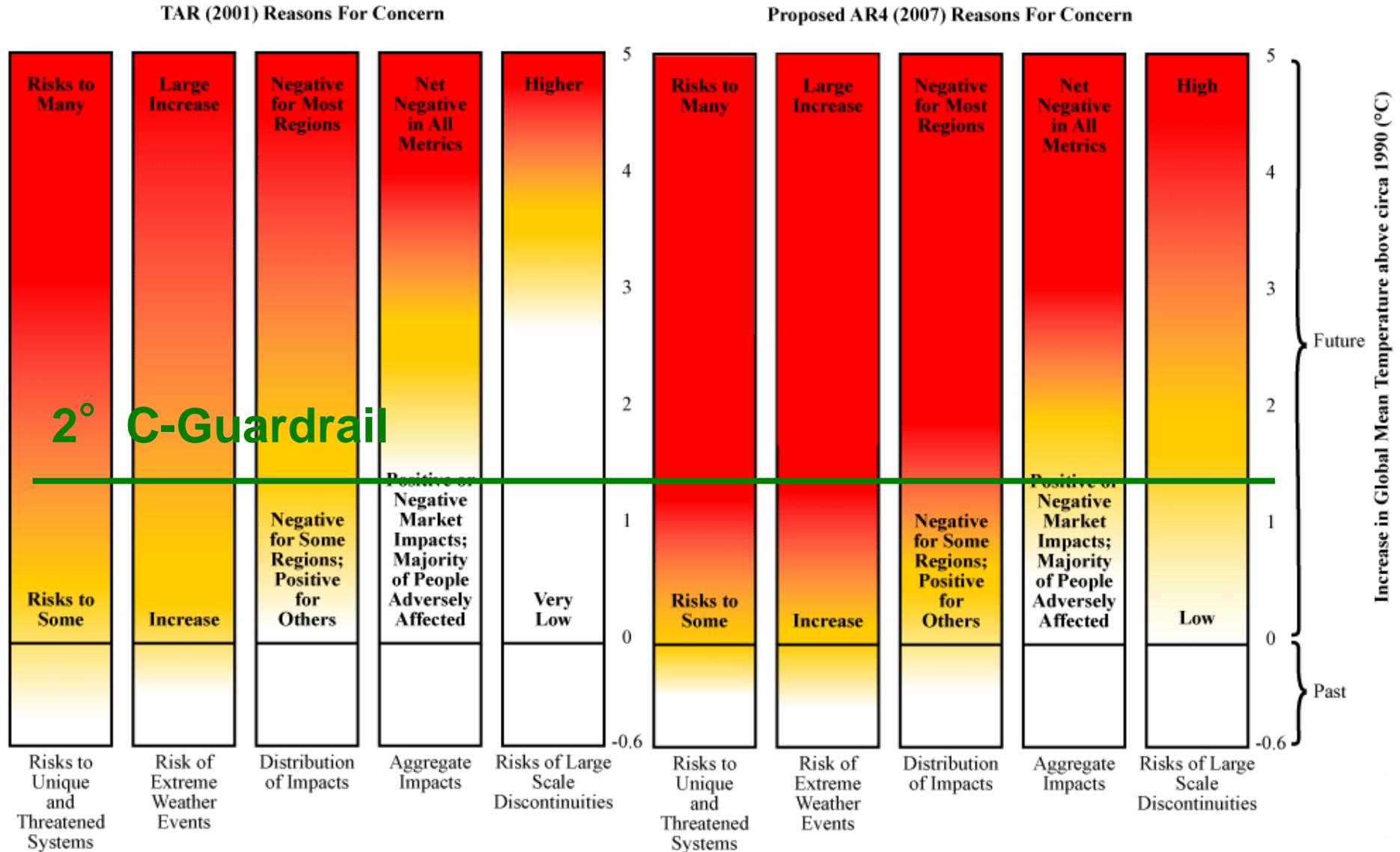
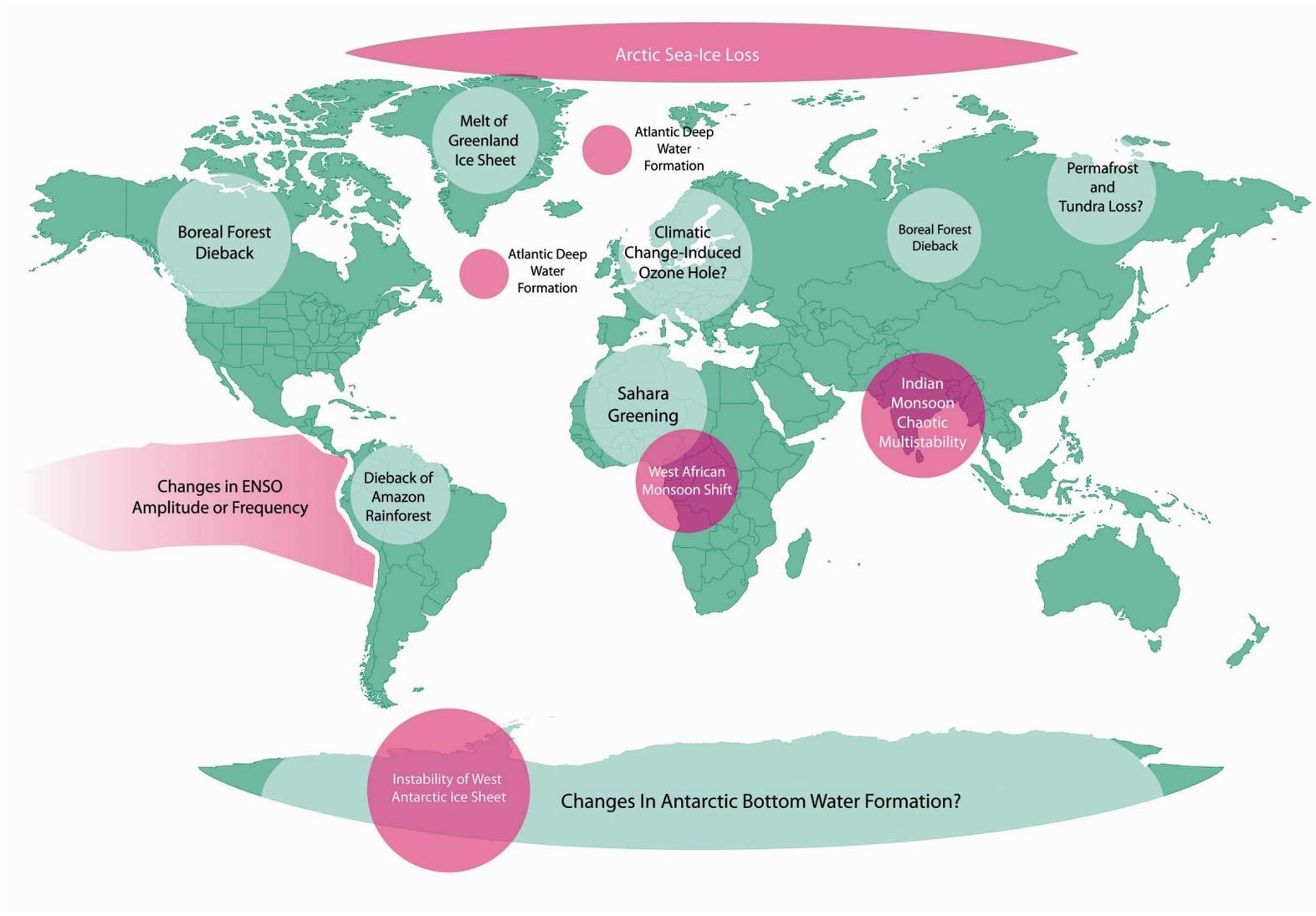


Figure 8: Synthesis Report

Potential Climatic “Tipping Elements”



Copenhagen COP15 (Dec. 2009)

Challenge

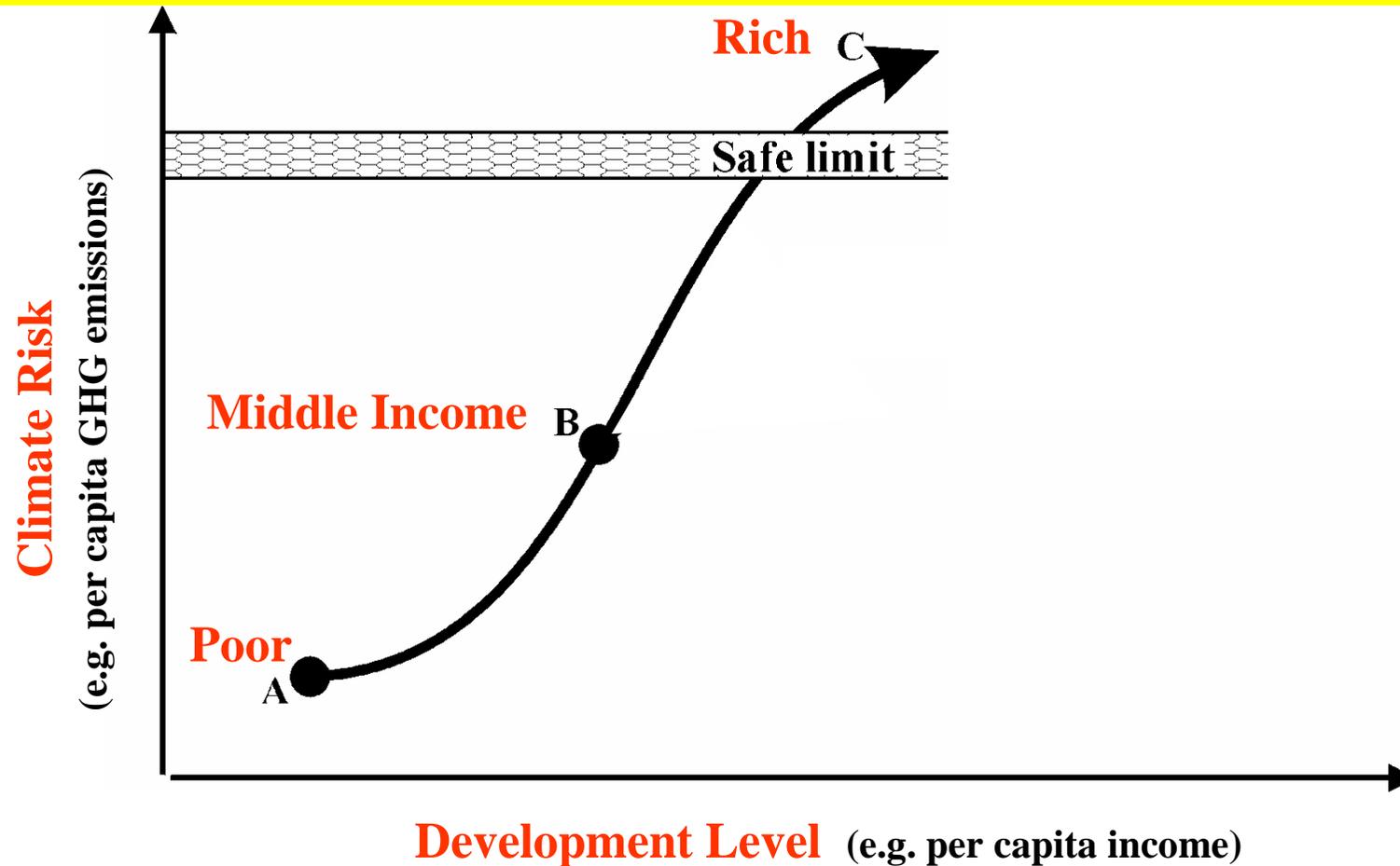
**Post-Kyoto Framework for
Jointly Managing Climate Risk &
Right to Develop**

**Making Development More
Sustainable via “Tunneling”**



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MDMS via “Tunneling”: global cooperation to manage Climate Risk & Right to Develop - 1

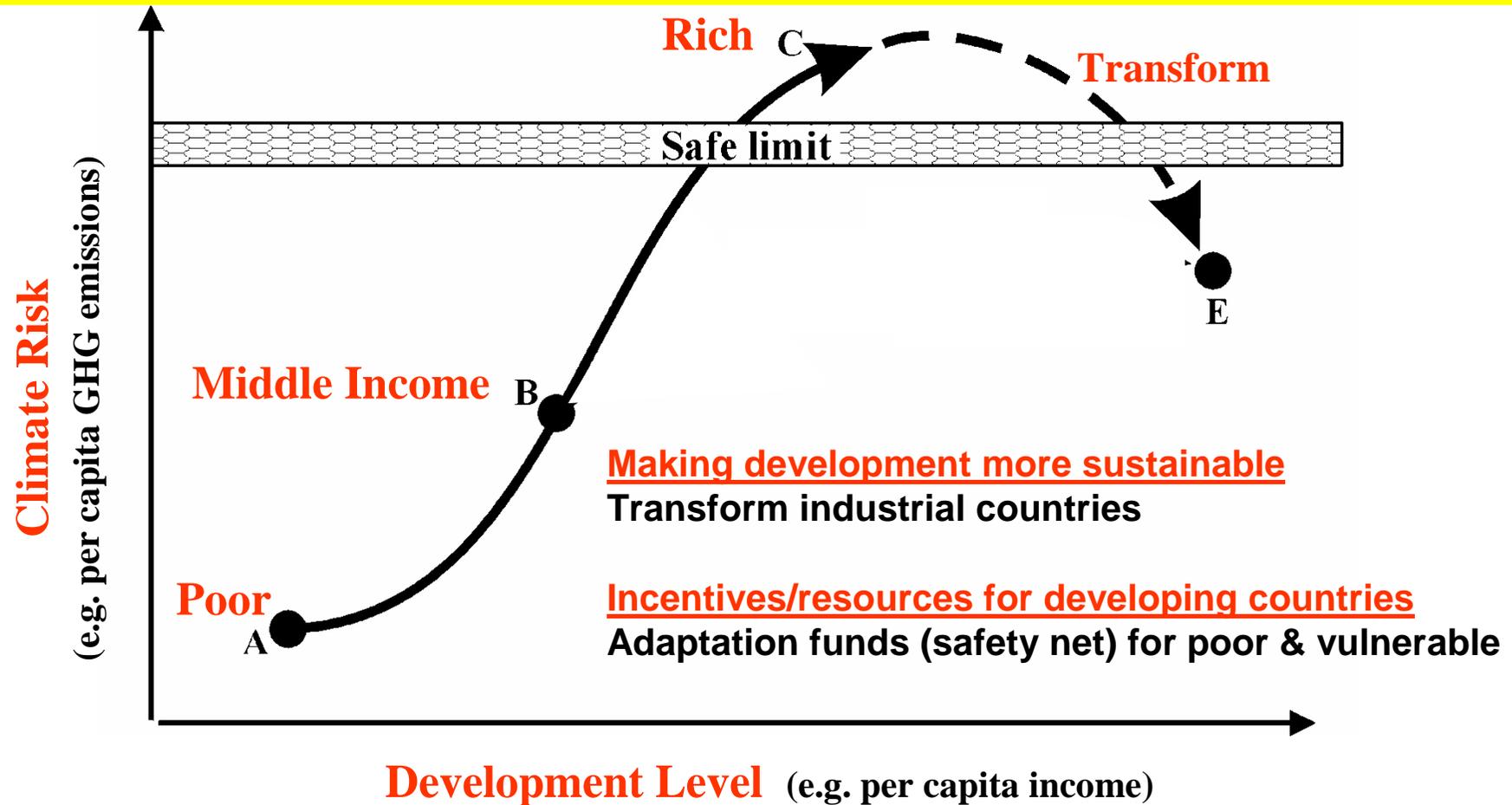


Source: M. Munasinghe (1995) "Making Growth More Sustainable," *Ecological Economics*, 15:121-4.



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MDMS via “Tunneling”: global cooperation to manage Climate Risk & Right to Develop - 2

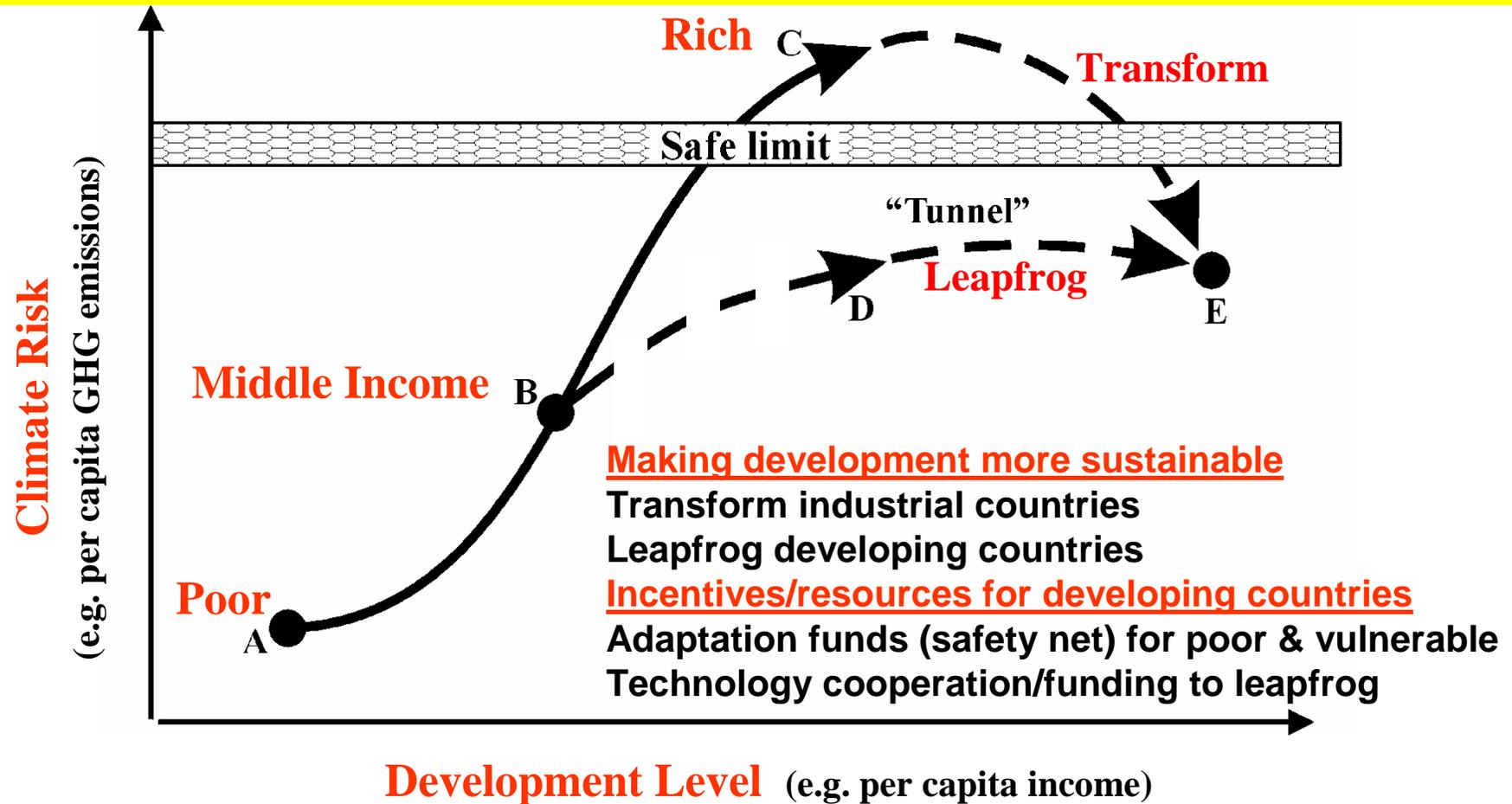


Source: M. Munasinghe (1995) "Making Growth More Sustainable," *Ecological Economics*, 15:121-4.



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MDMS via “Tunneling”: global cooperation to manage Climate Risk & Right to Develop - 3



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Principle-based Approach

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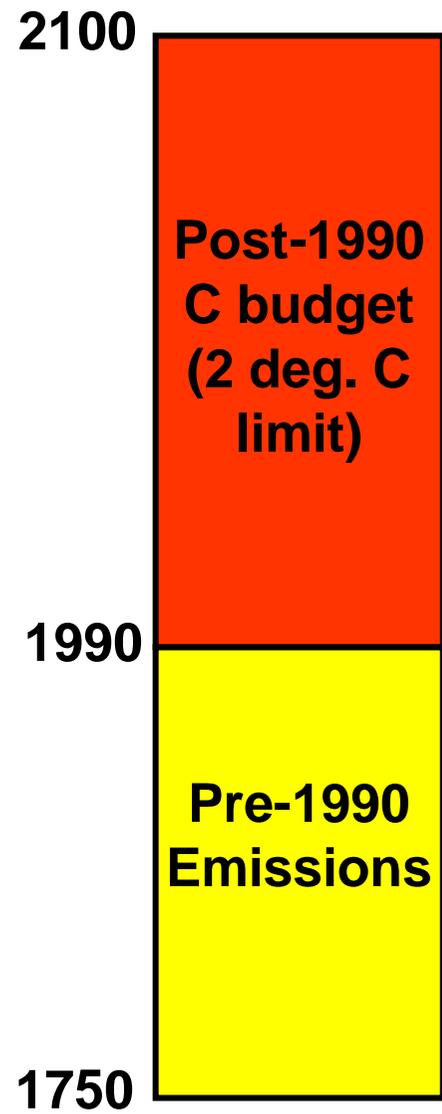
A Viable Agreement Must Seen To Be Fair: Some Guiding Principles and Concepts

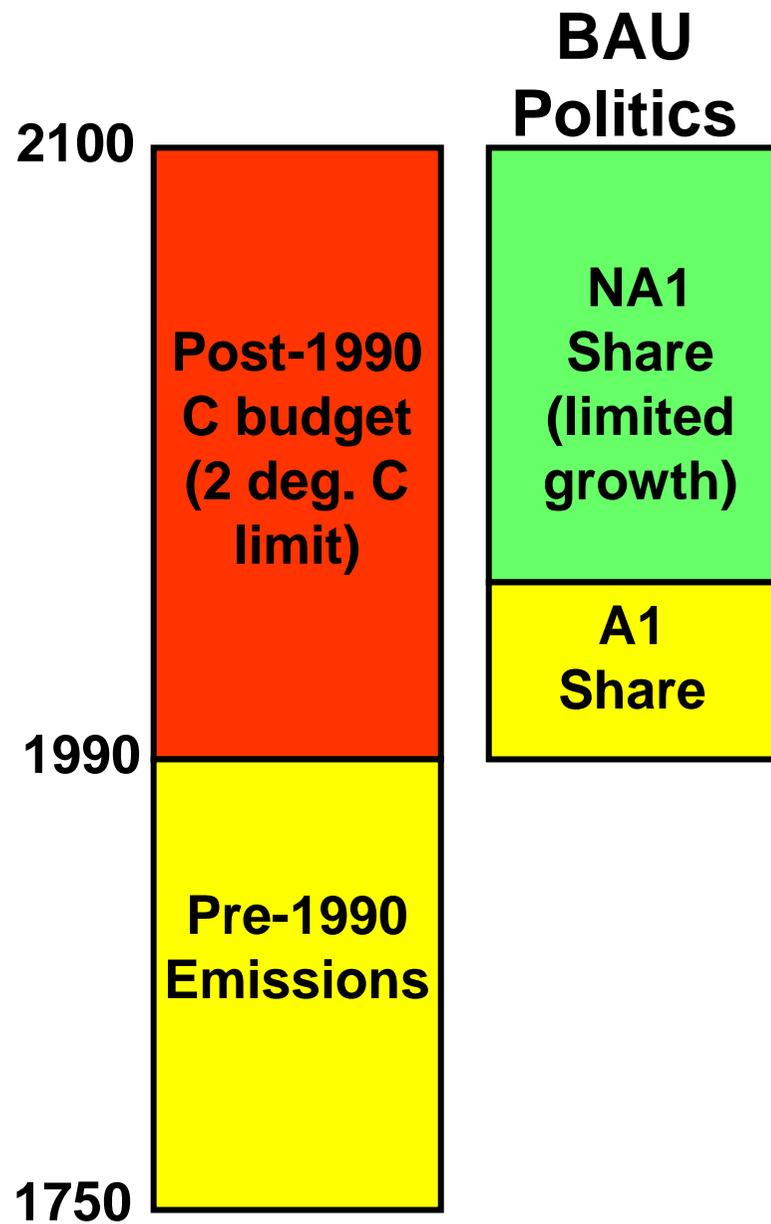
- 1. Precautionary principle**
 - 2. Polluter pays**
 - 3. Victim is compensated**
 - 4. Mini-max (burdens)**
 - 5. Right to develop**
 - 6. Obligation to mitigate**
 - 7. Equity: mitigation burden (responsibility, ability)**
 - 8. Equity: adaptation (vulnerability)**
-

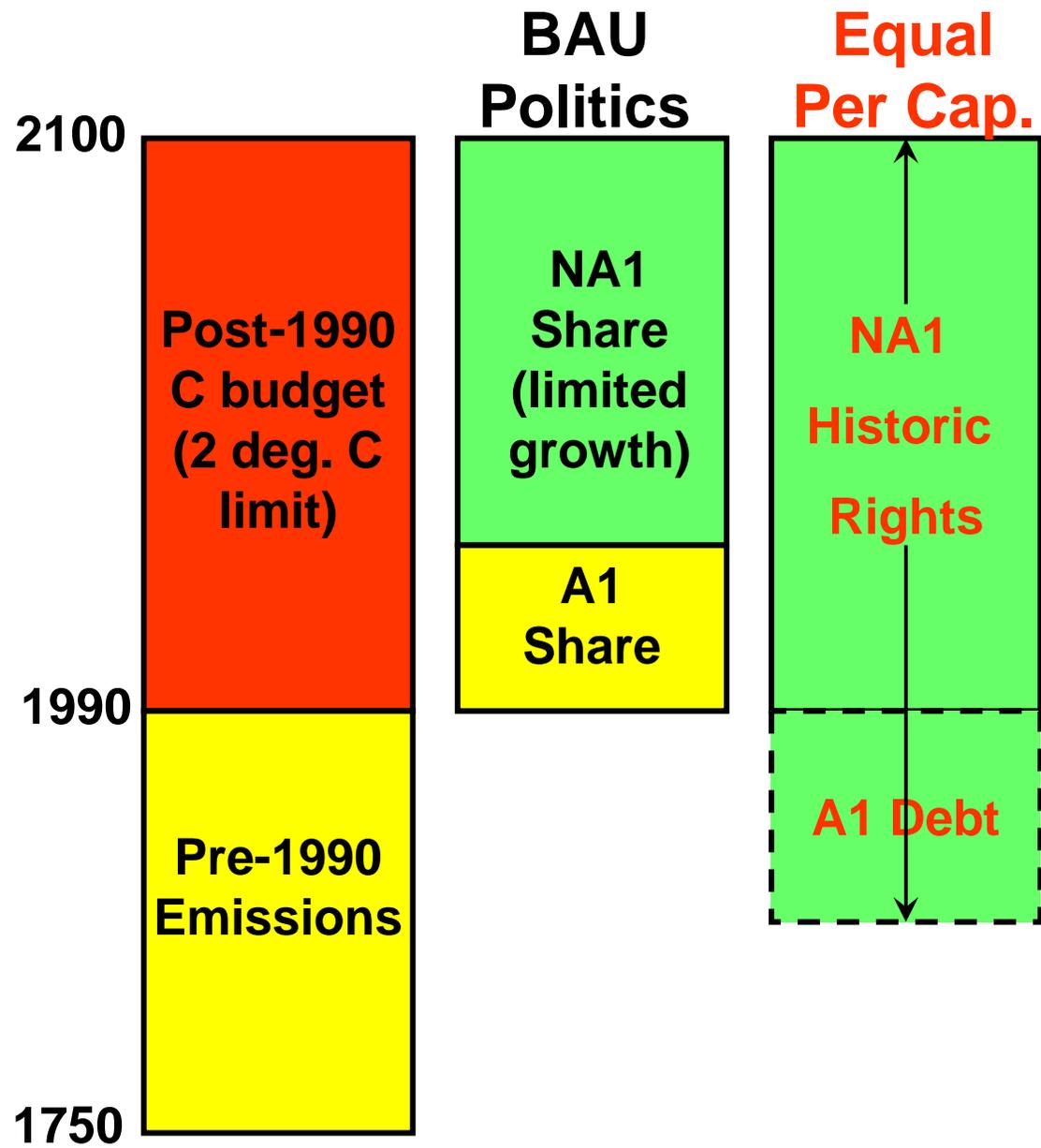
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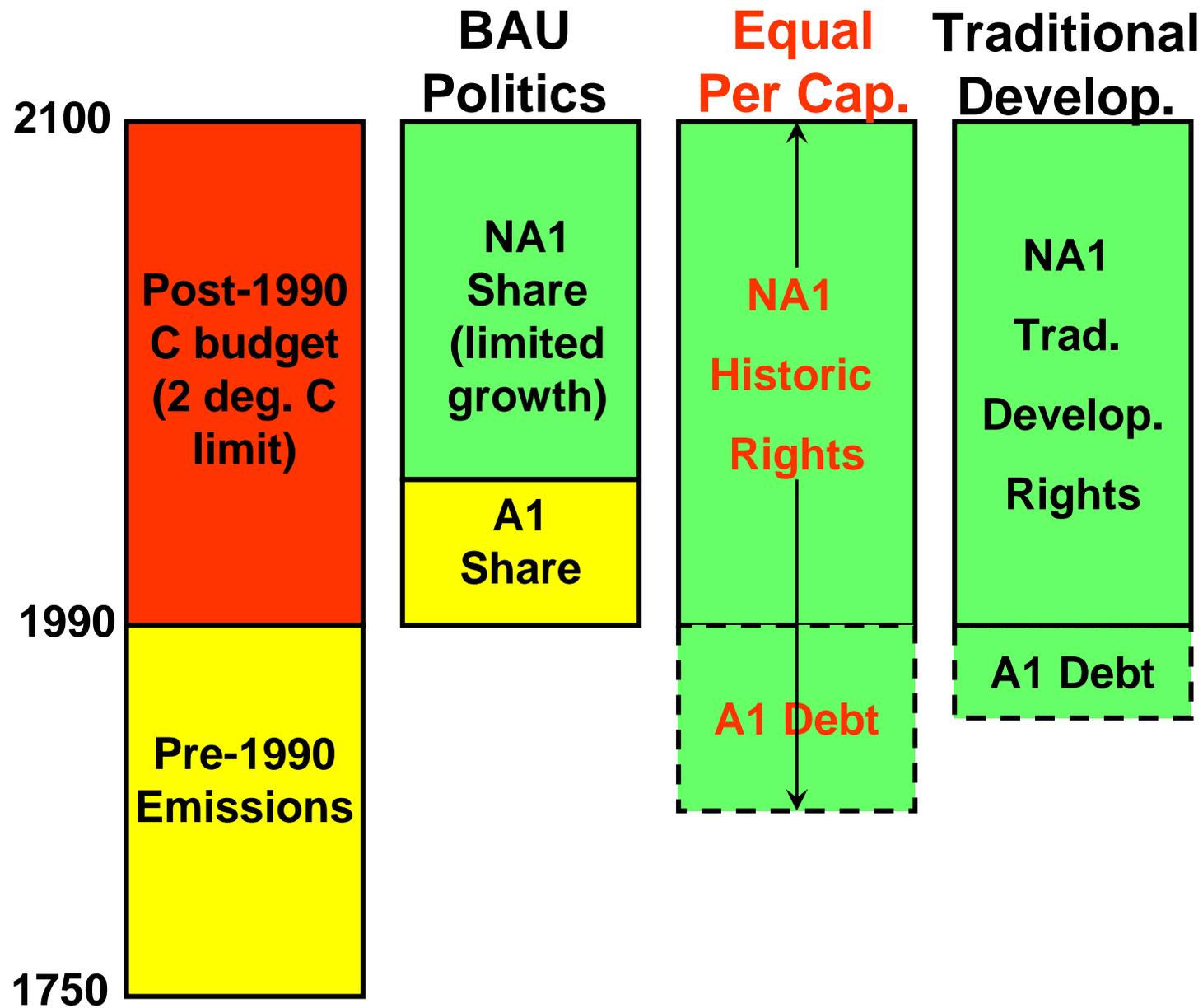
Allocating the Carbon Budget

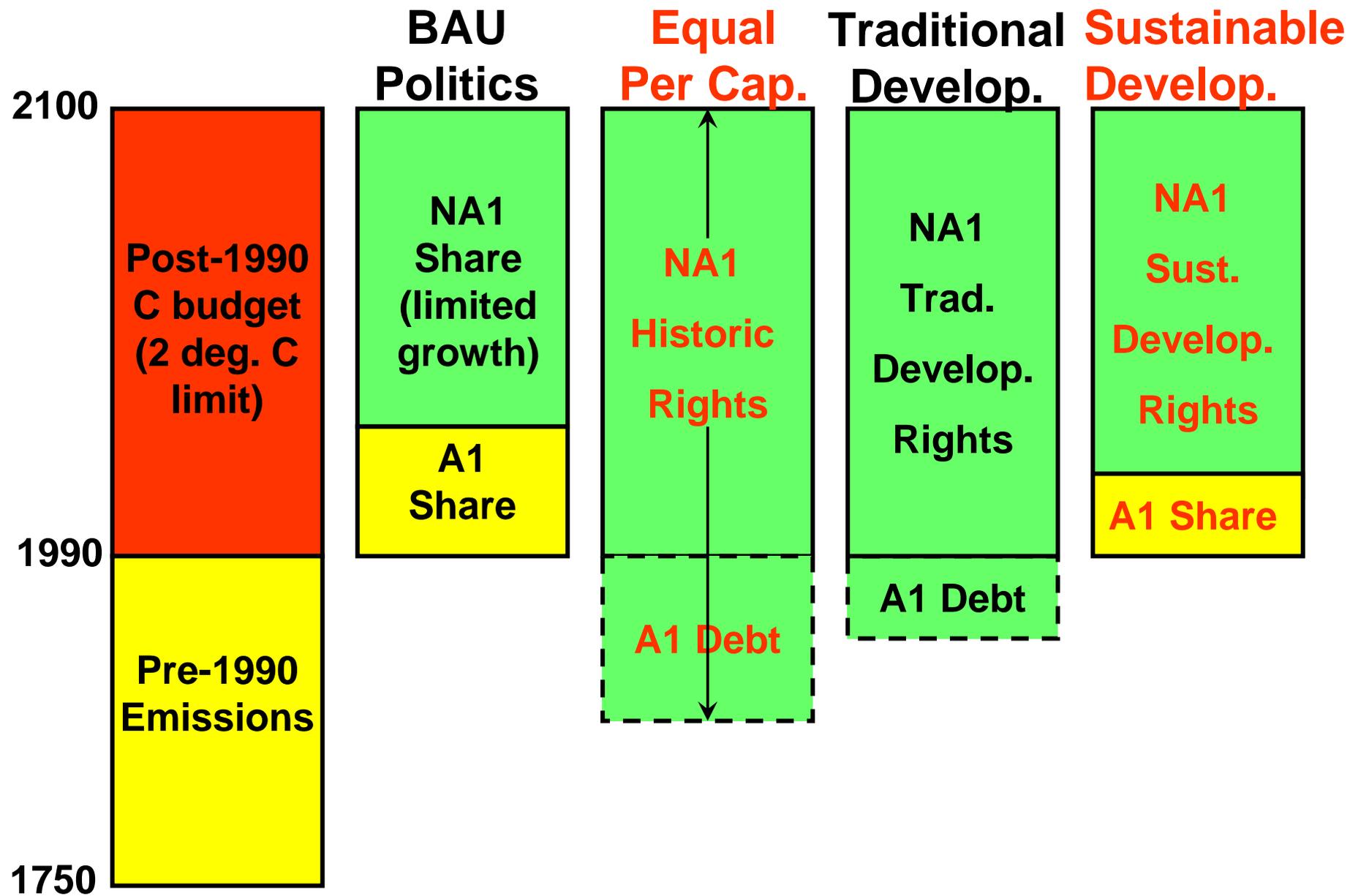
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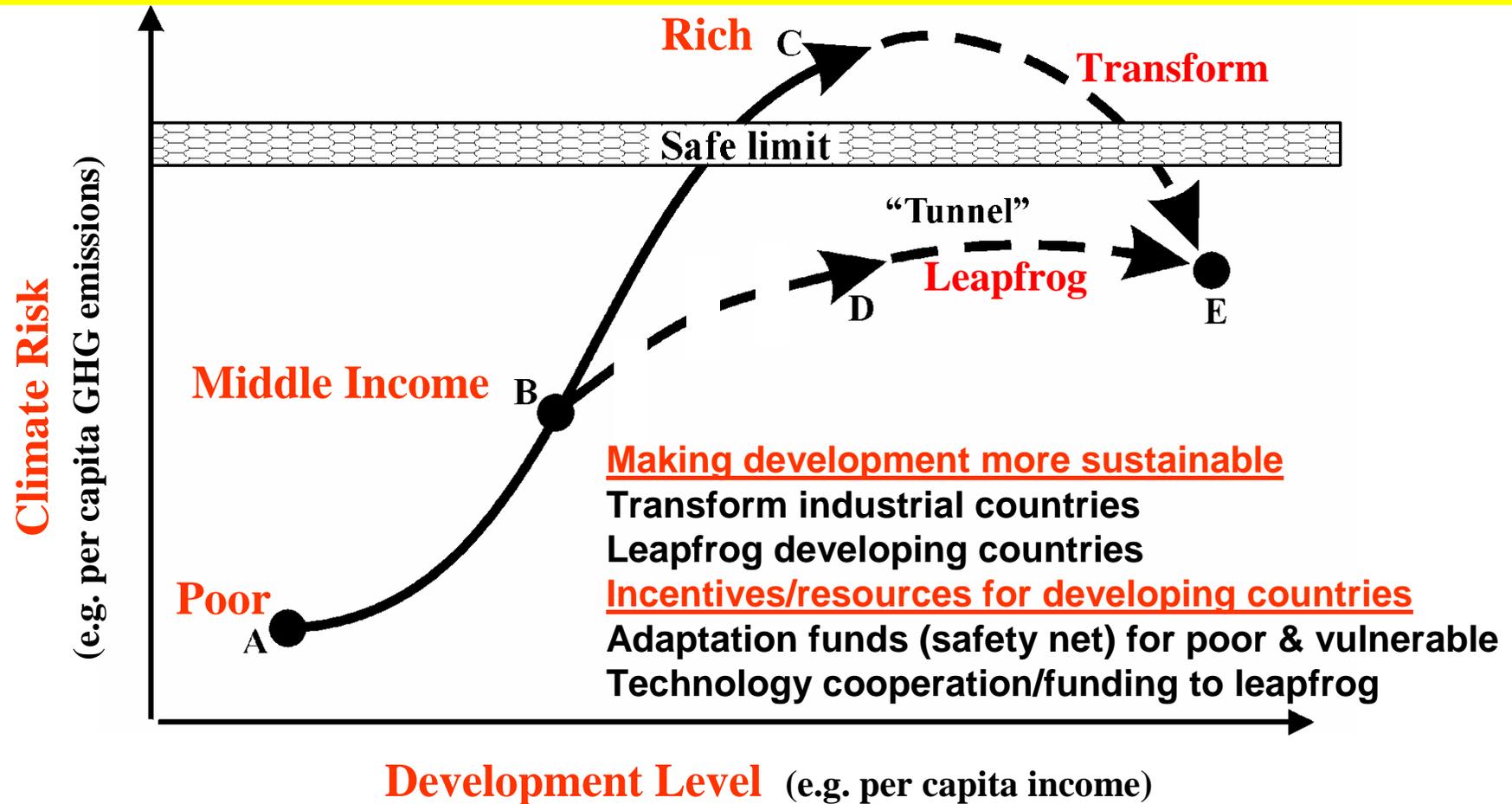








MDMS via “Tunneling”: global cooperation to manage Climate Risk & Right to Develop - 3



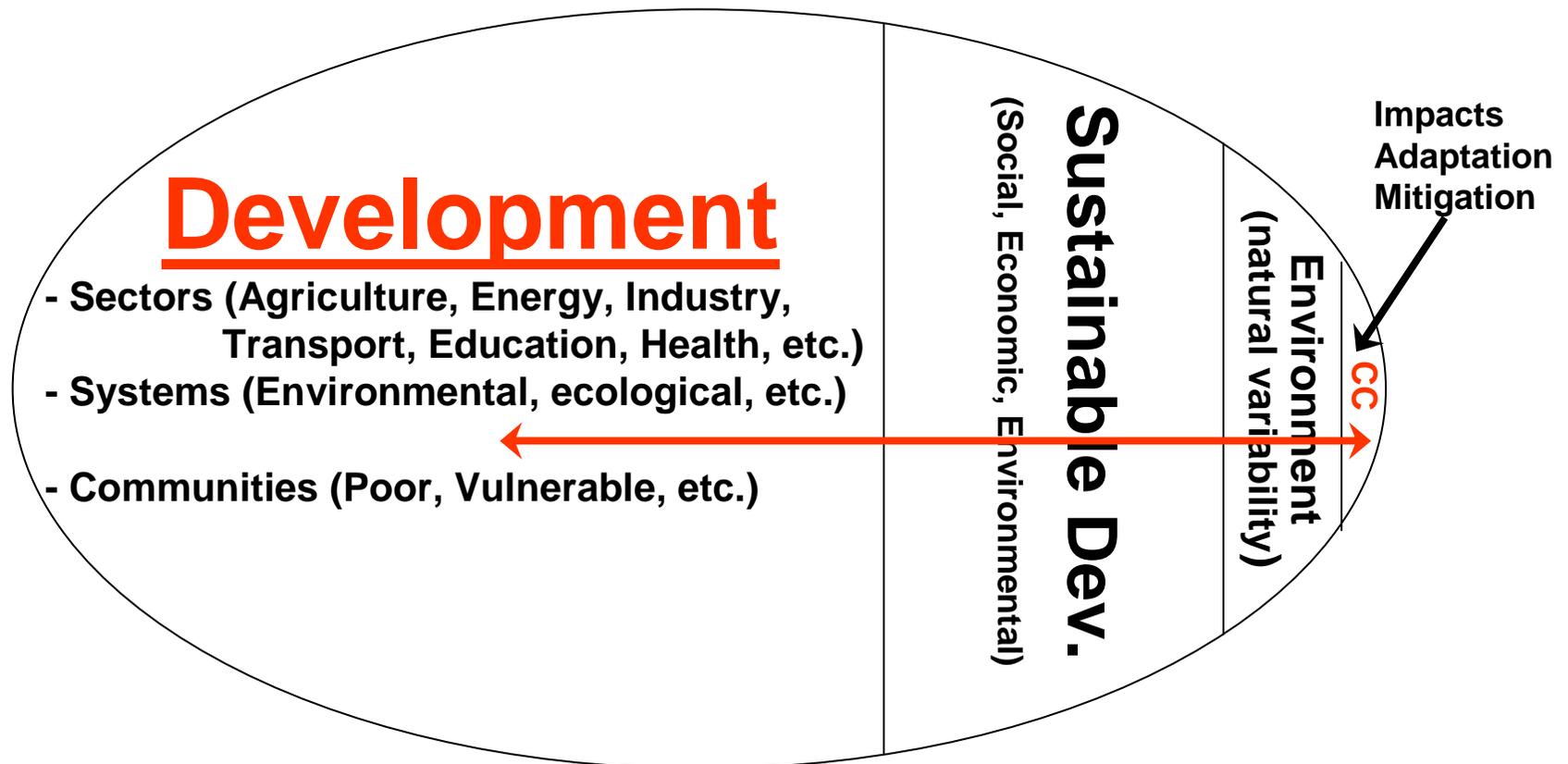
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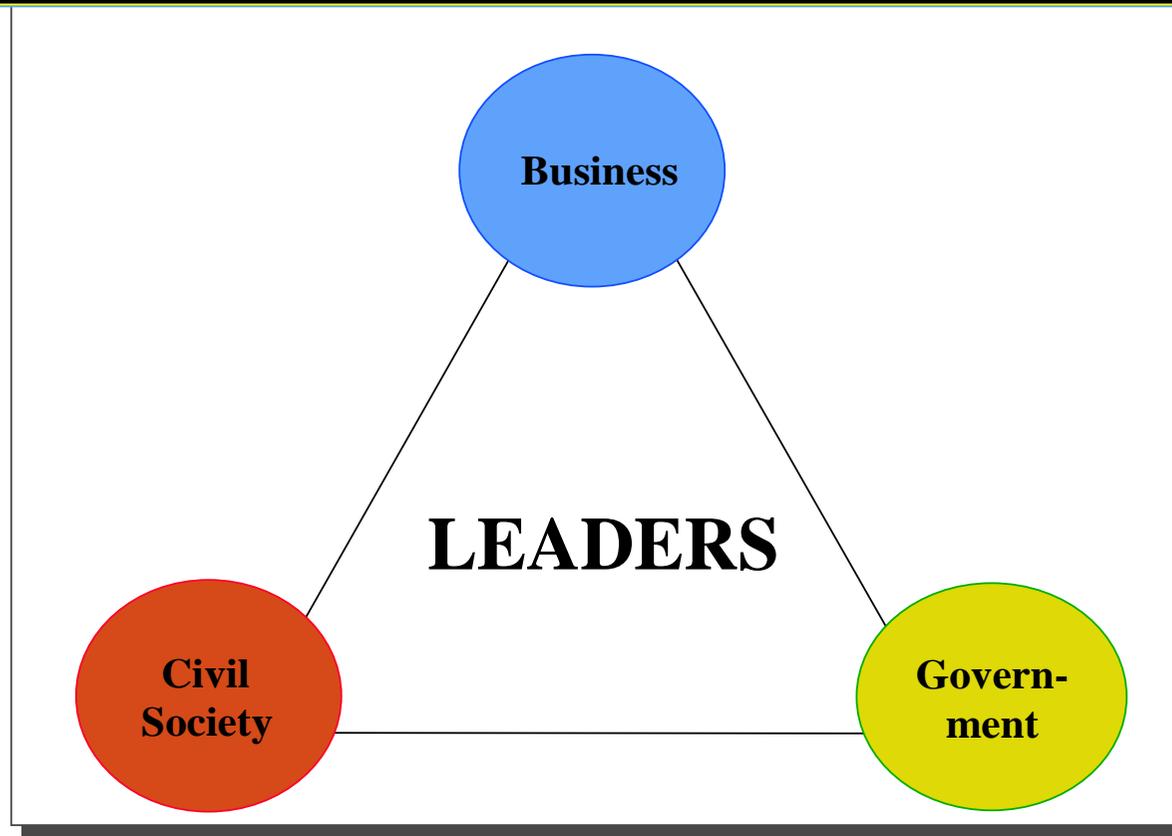
Integrating CC Policies into National SD Strategy

Make decision makers see climate change as a key element of the national sustainable development strategy



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Key Role of Leaders in Making Development More Sustainable



Leaders must play greater role in encouraging **civil society** and **business** to support and work with **government** to move towards a more sustainable development path.

Food for a Week, Darfur: LEAPFROG Unsustainable – must raise consumption



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Source: Menzel, 2005

Food for a Week, Europe: TRANSFORM

Unsustainable – must the poor end up here?



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Source: Menzel, 2005

Building Ethical and Moral Values Are Essential **(especially among youth)**

Greed and selfishness are unsustainable

Selflessness, altruism and enlightened self-interest will make development more sustainable



Optimistic final message for the World

Multiple global problems pose a serious challenge to us all – the economic crisis, poverty, resource scarcities, ecosystem harm, climate change, etc. are interlinked.

Although the issues are complex and serious, these problems can be solved together, provided we begin now.

We know enough already to take the first steps towards making development more sustainable (MDMS), that will transform the risky “business-as-usual” scenario into a safer and more secure future.

Multiple crises must be dealt with in an integrated way by transforming governance systems (at all levels).

Leaders must bring business and civil society in to help government in mobilising resources, identifying issues and implementing solutions.

Principles base on ethics and equity are important to devise new 21st century models of sustainable development

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**Thank You
Very Much**

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