

-- Report Launch --

Profitable Investment in Energy Poverty and Environmental Sustainability

A Summary of Key Findings

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The Energy Poverty Challenge

Background

Definition:

“Energy poverty is the lack of affordable and reliable energy.”

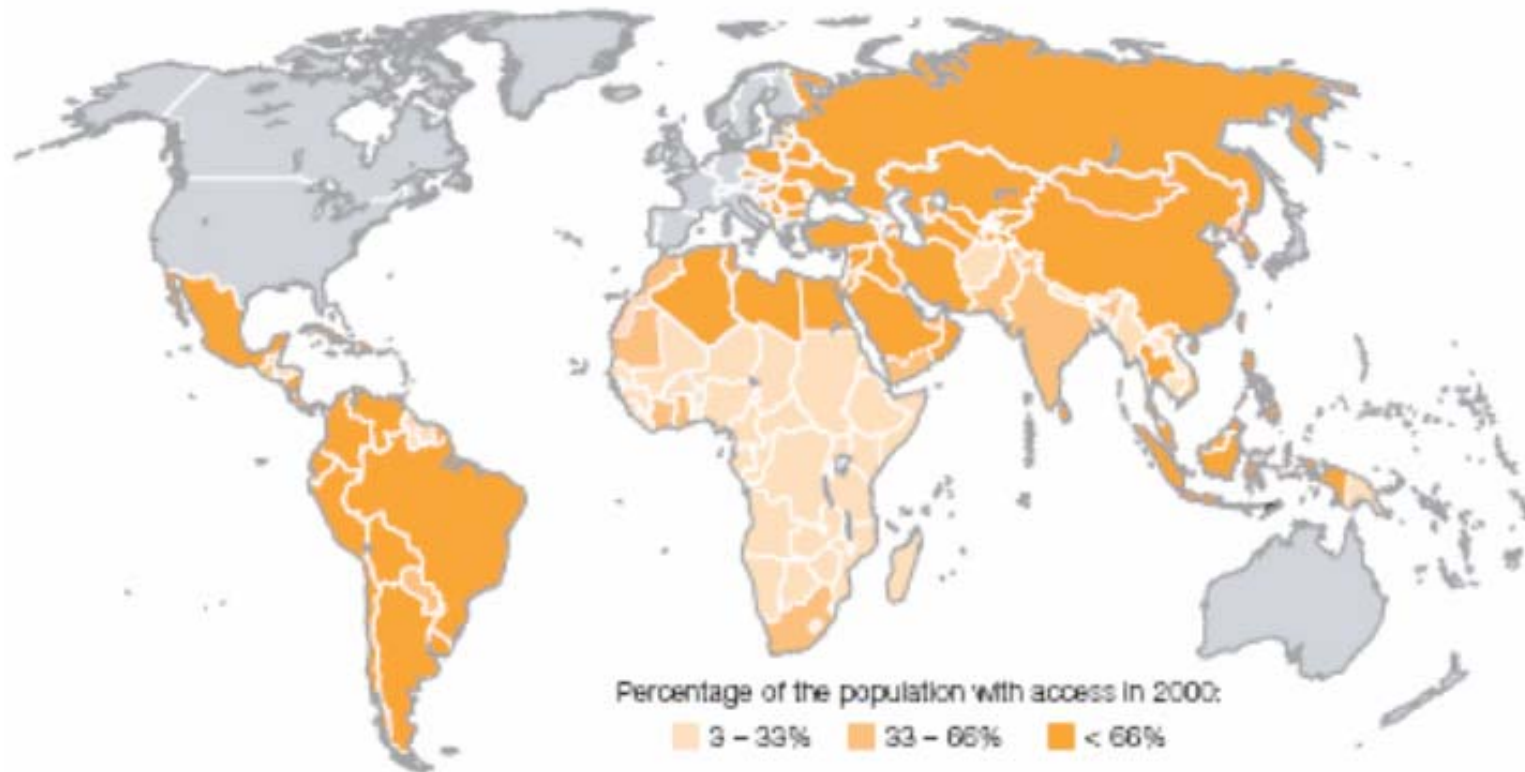
Social dimension – energy poverty is a significant cause of persistent poverty and a source of health risks.

Economic dimension – energy poverty is a result of depressed incomes, and undermines economic productivity

Environmental dimension – energy poverty leads to unsustainable resource use.

The Energy Poverty Challenge

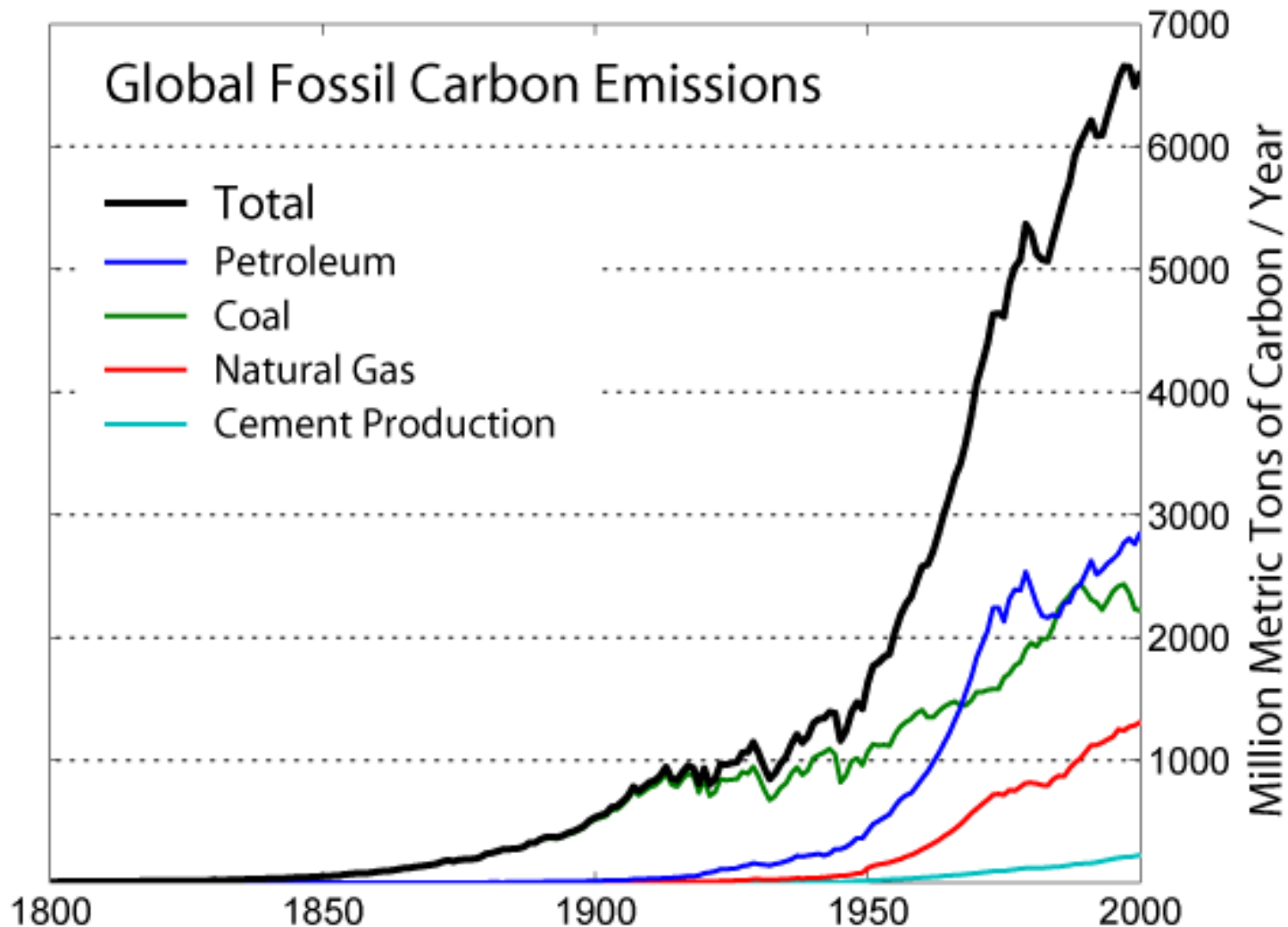
Percentage of Population with Access to Electricity



Source: United Nations, 2005. *The Energy Challenge for Achieving the Millennium Development Goals*

Energy Poverty

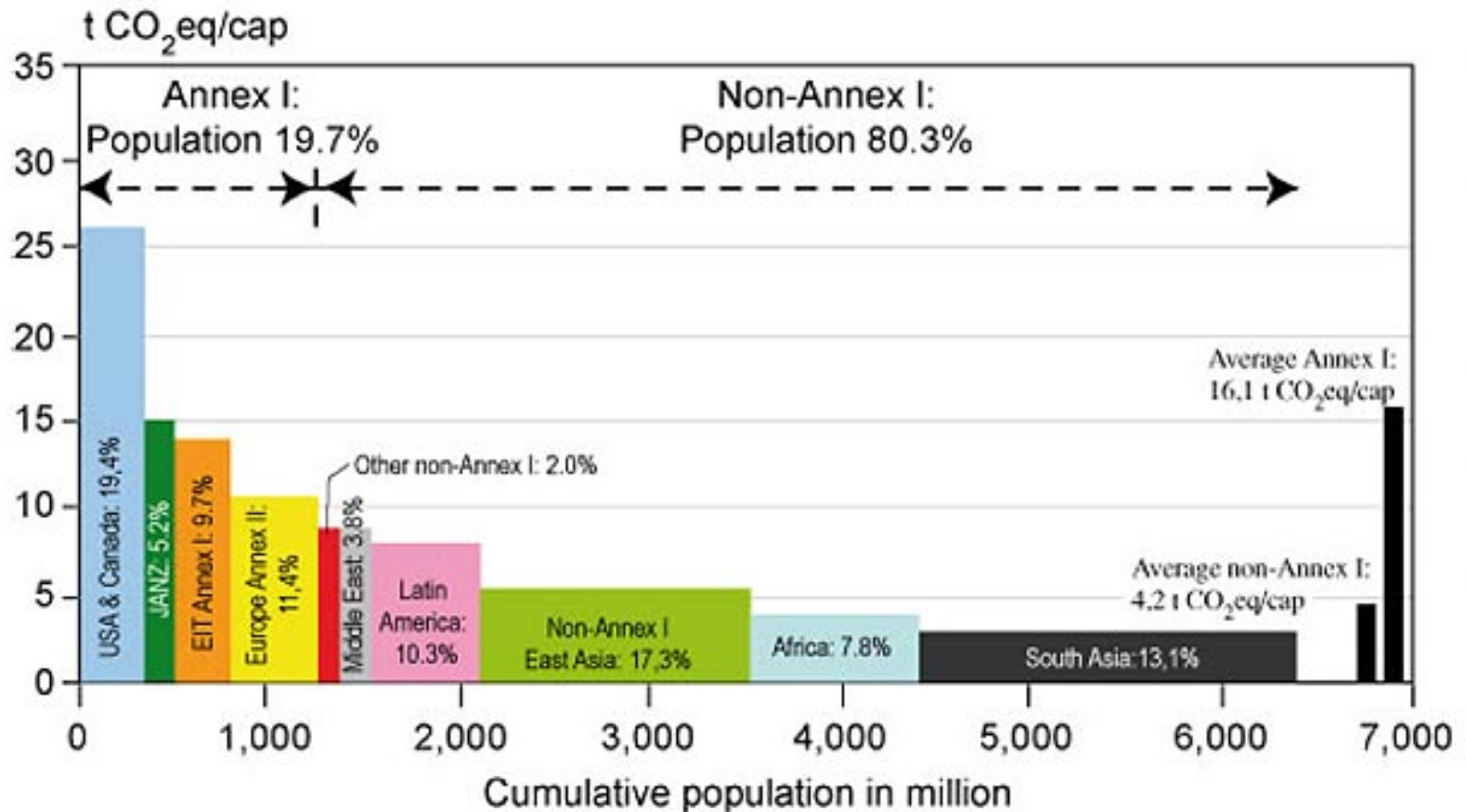
The Challenge



Source: UNIDO

The Energy Poverty Challenge

Per Capita Emission by Countries and Regions



1. Energy and Poverty Reduction

Key Messages

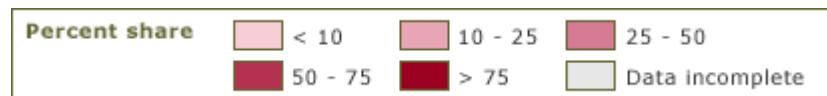
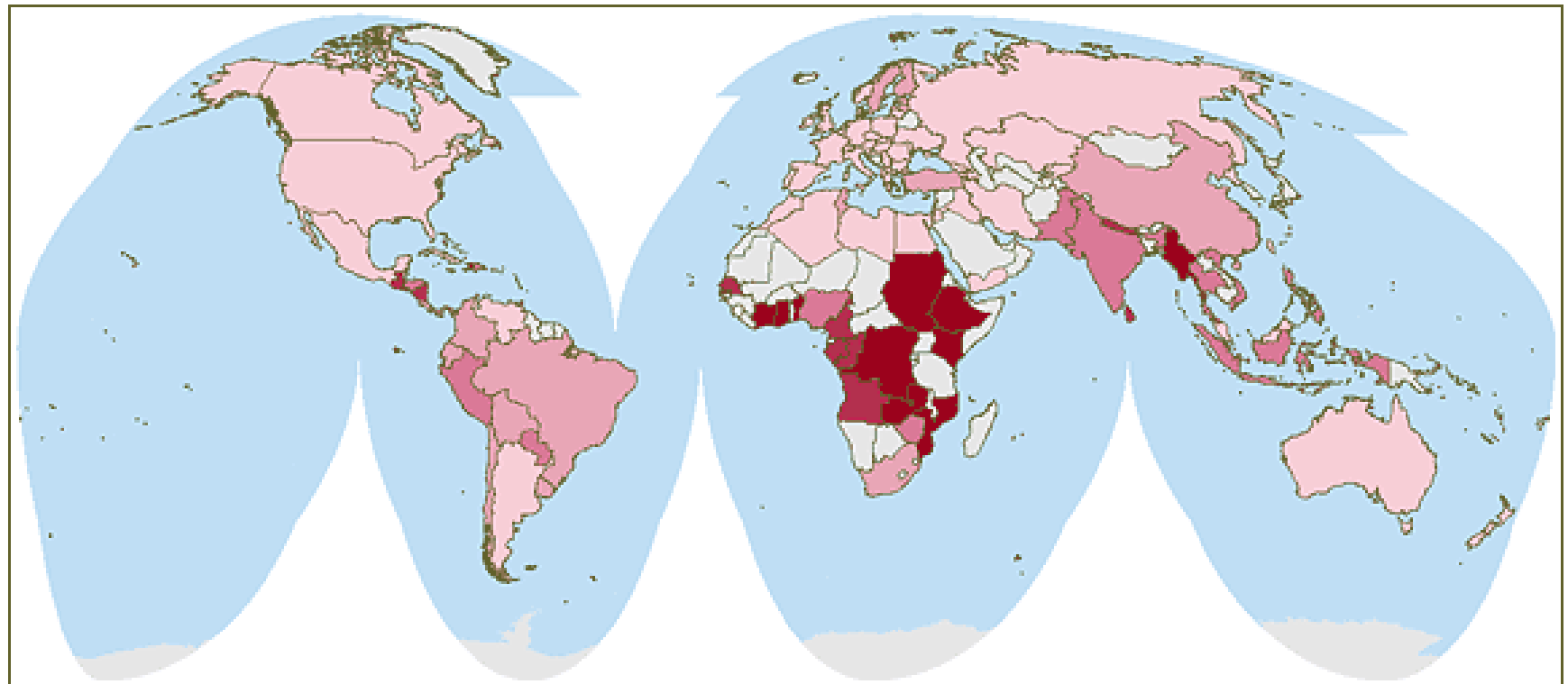
“Economic studies have shown that the poor (are often forced to) pay disproportionately more for each unit of energy than the rich, while often not getting the same quality of service.”

“Expanding electrification can free up time and resources that can be used for more productive purposes. “

“Micro-finance can reach the ‘bottom billion’ and expand access to electrification through the support of small-scale, off-grid energy sources.”

1. Energy and Poverty Reduction

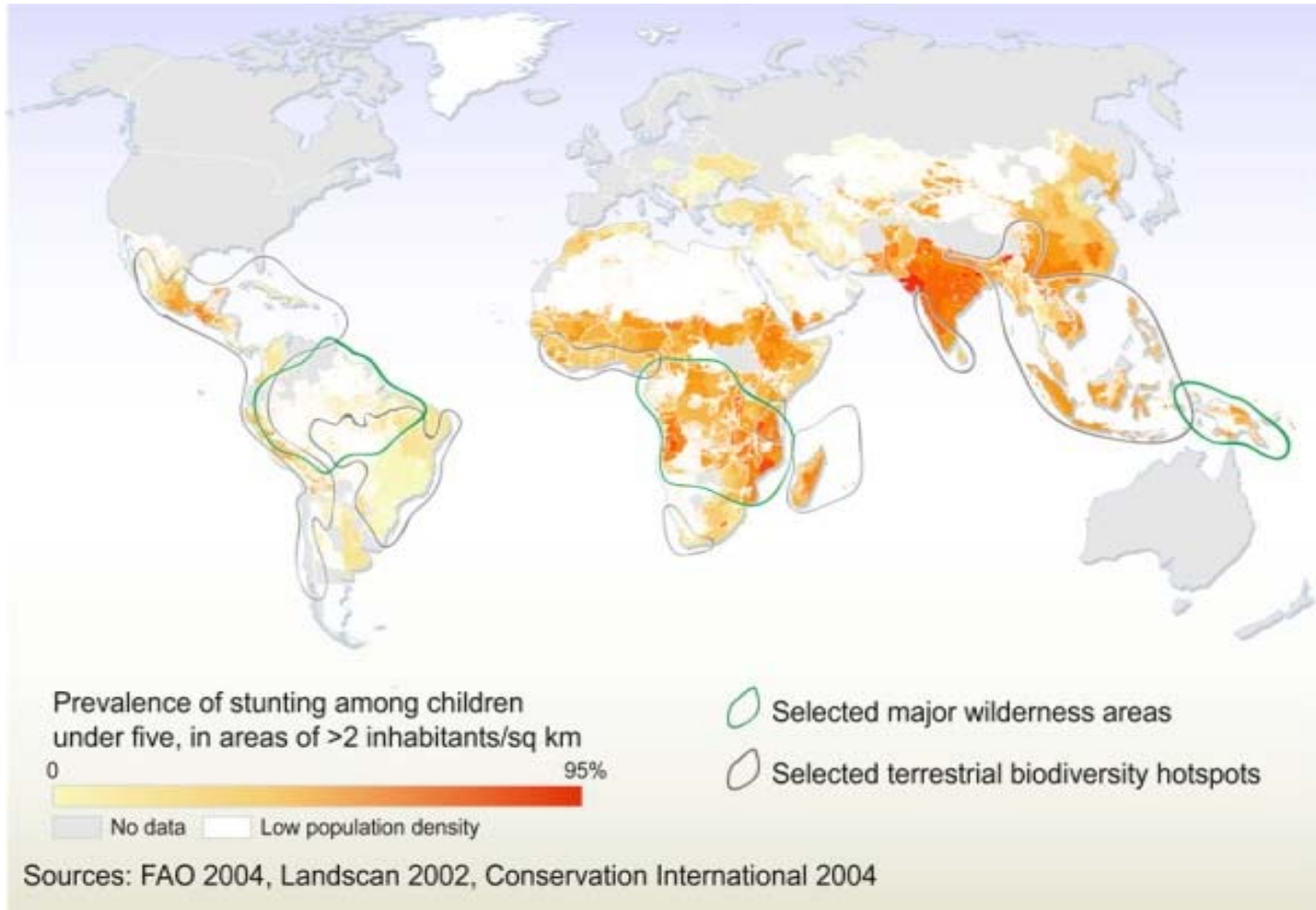
Key Data: Share of Wood in Energy Consumption



Source: in *Earthtrends*, World Resources Institute (WRI).

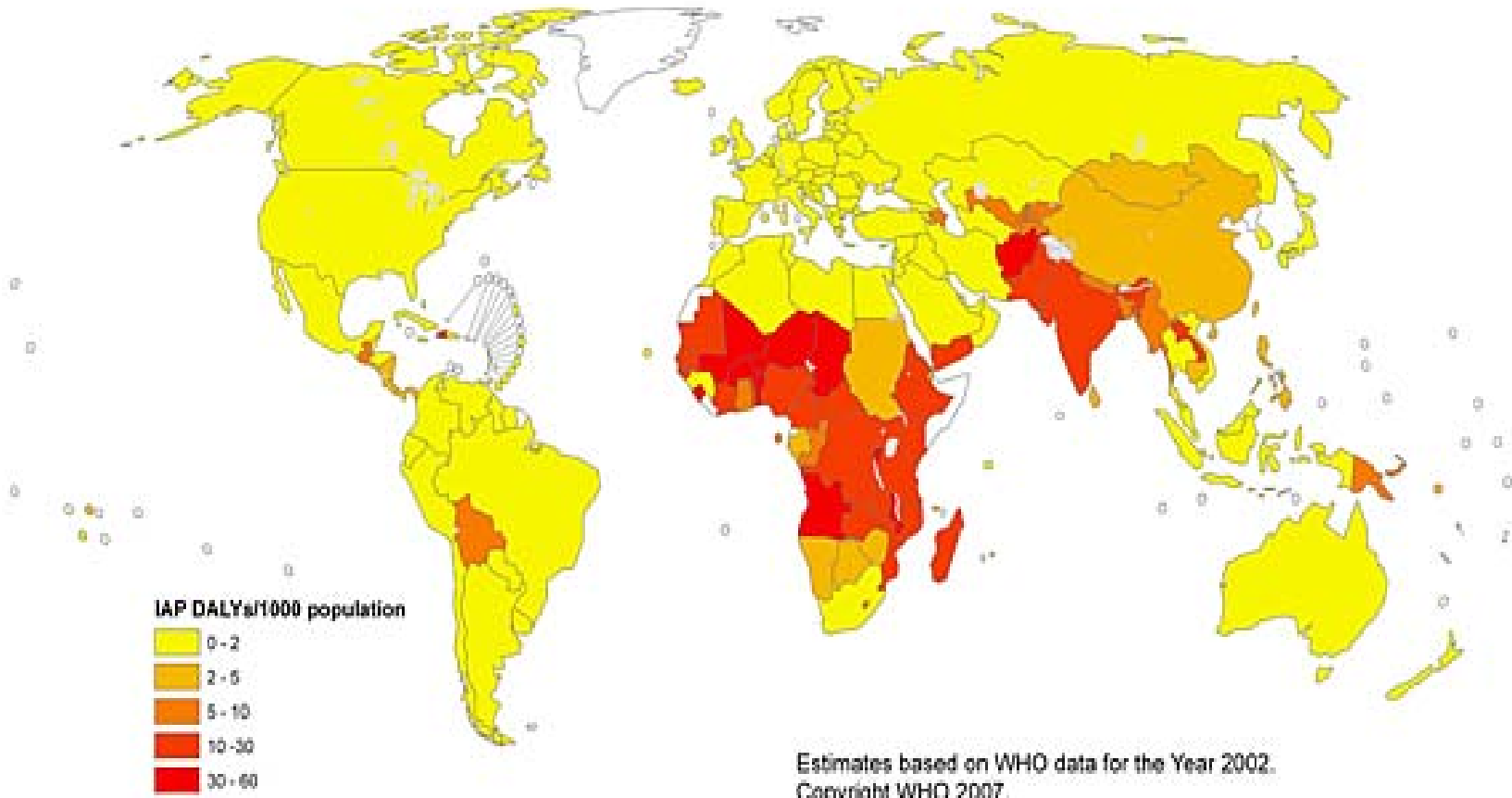
1. Energy and Poverty Reduction

Key Data: Poverty Threatens Biodiversity



1. Energy and Poverty Reduction

Key Data: Deaths from Indoor Air Pollution



1. Energy and Poverty Reduction

Investment Trends and Opportunities

Microfinancing:

- Increasingly commercialized.
- Public-private business models.
- Returns on investment vary greatly, but are high among established players.

“In a sample of around 704 micro-finance institutions published by The MIX, the leading 176 micro-finance funds exhibited returns on equity of 17.2 percent, which in some countries exceeds that of conventional banks.”

2. Energy and Economic Productivity

Key Messages

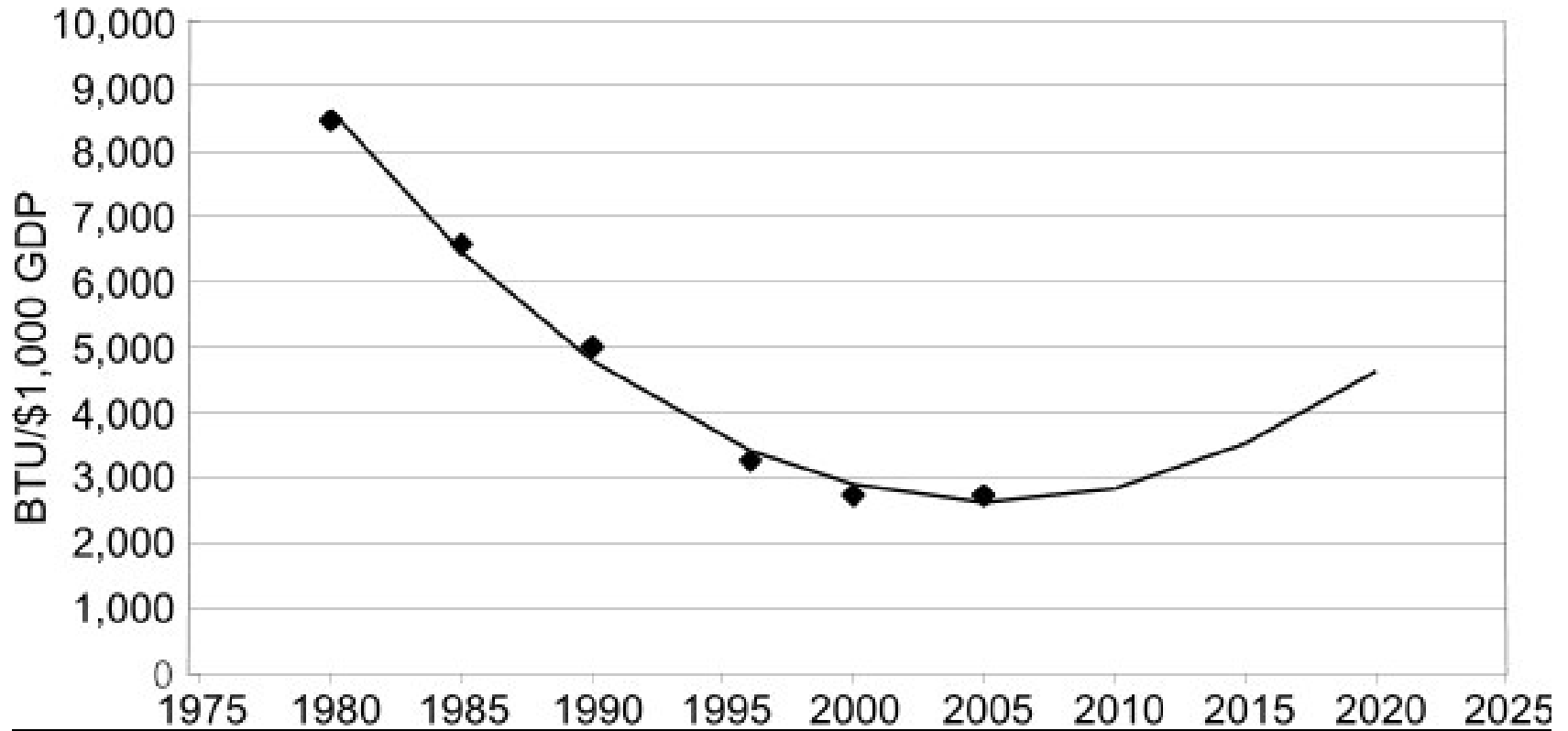
“The cheapest source of new energy supplies is often increasing the efficiency of current use.”

“Every \$1 spent on more efficient electrical equipment, appliances, and buildings avoids more than \$2 invested in electrical supply.” (IEA)

“Increases in global energy productivity can account for half of the growth in global energy demand by 2020.”
(McKinsey)

2. Energy and Economic Productivity

Key Data: Global Energy Use and Efficiency



Source: The Millennium Project based on the US DOE EIA

2. Energy and Economic Productivity

Investment Trends and Opportunities

Energy Efficiency Investments:

- Public-private business models.
- Driven by public standards and regulations.
- The problem of structuring incentives for end-users.

“Annual global investment of \$170 billion in energy productivity between now and 2020 would cut greenhouse gas emissions in half, while producing an internal rate of return on investment of about 17 percent.”

3. Energy and Environmental Sustainability

Key Messages

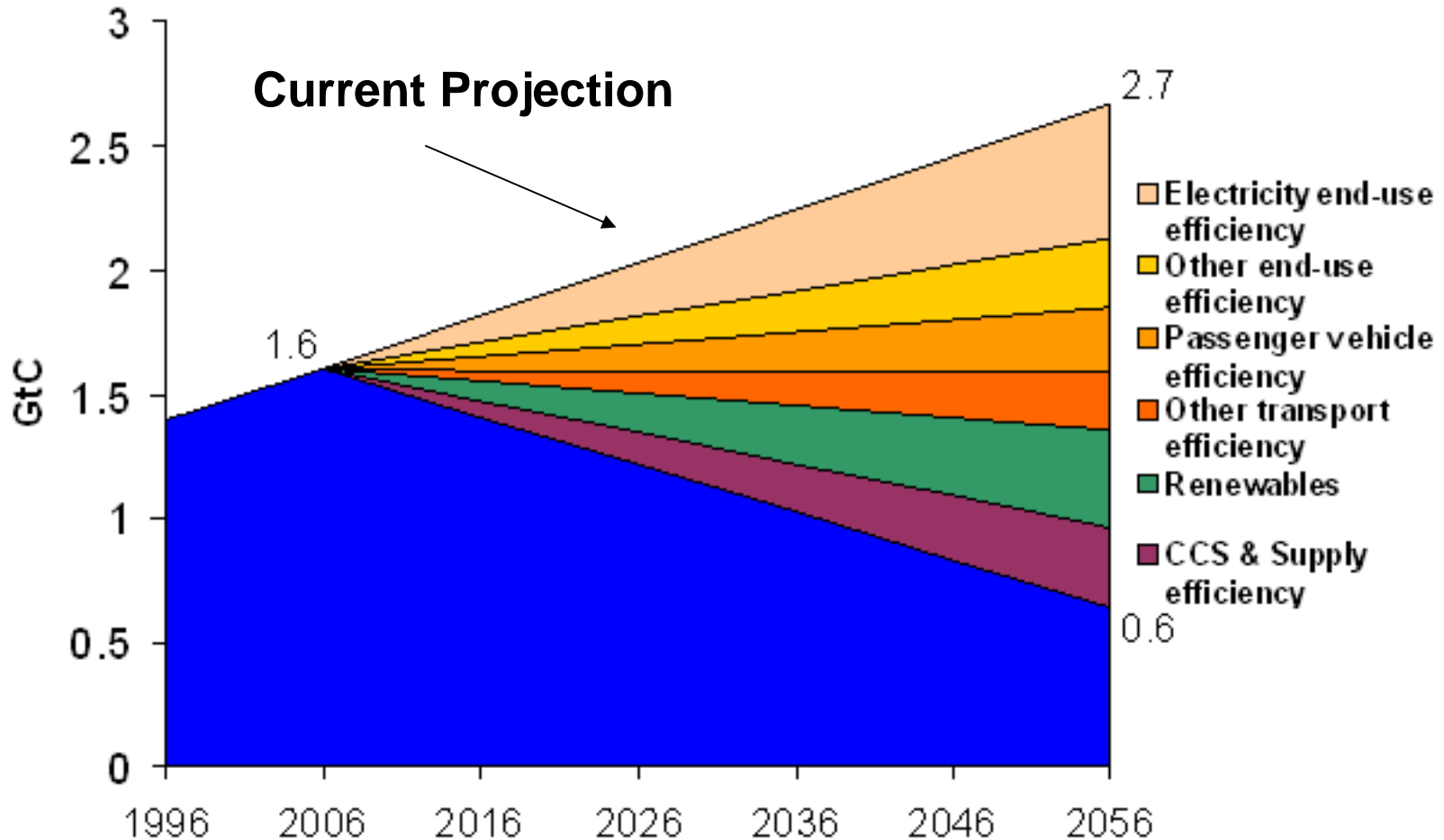
“Global electricity usage is projected to increase by 160 percent by 2050.”

“Unsustainable patterns of energy production and consumption are a significant cause of dangerous climate change.”

“Correcting this market failure offers significant opportunities for investors in emission-intensive sectors, notably energy.”

3. Energy and Environmental Sustainability

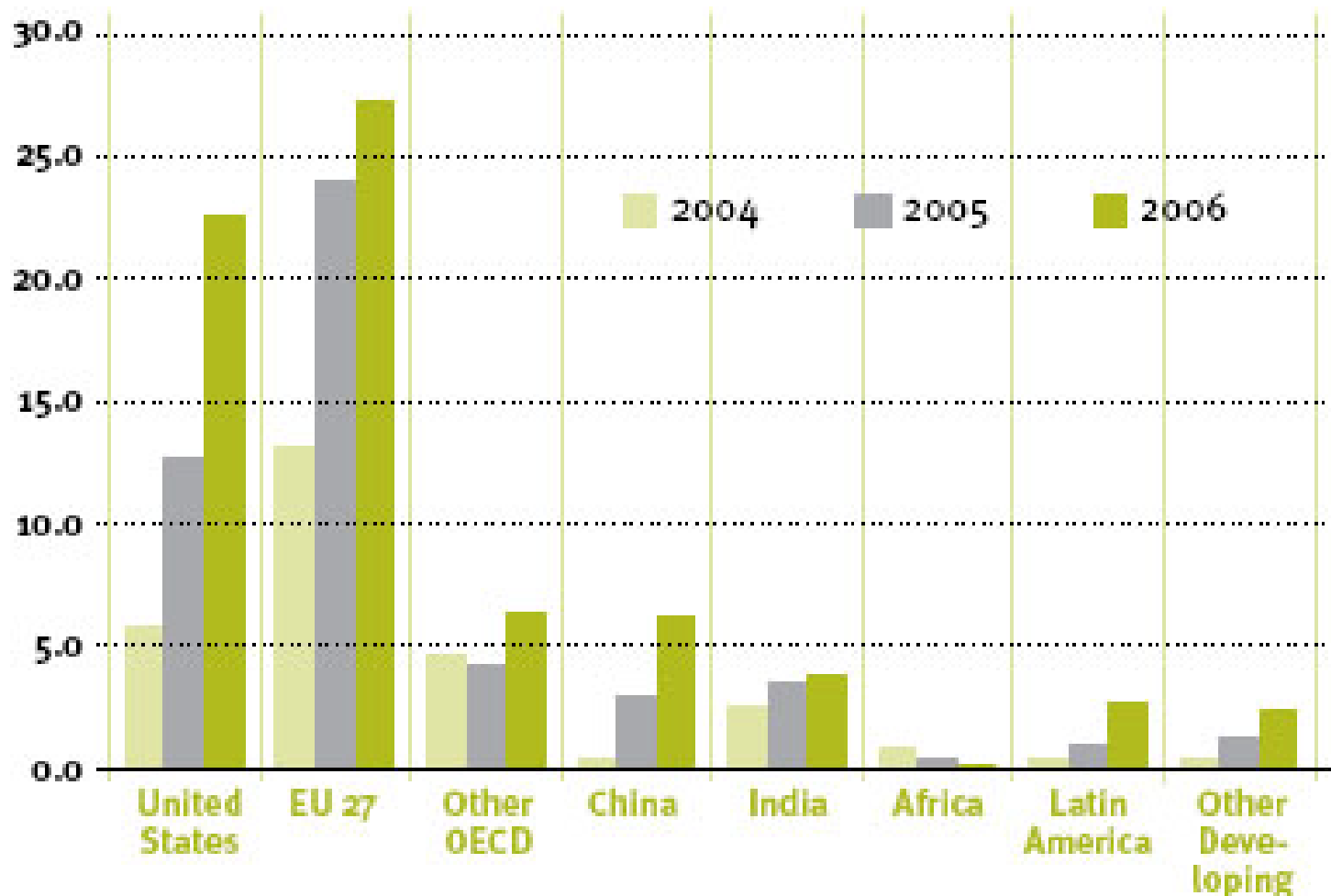
Key Data: Global Climate Stabilization Wedges



Source: "Stabilization Wedges: Solving the Climate Problem for the next 50 Years with Current Technologies" S. Pacala and R. Socolow, Science, August 13, 2004

3. Energy and Environmental Sustainability

Key Data: Clean Energy Investments



Source: in *Earthtrends*, World Resources Institute (WRI). Originally produced in Corporate Governance and Climate Change: The Banking Sector. (Ceres 2008)

3. Energy and Environmental Sustainability

Investment Trends and Opportunities

Global investment in renewable power-generation rose from \$28 billion in 2004 to \$71 billion in 2006. (New Energy Finance)

Public investments in R&D, subsidy schemes that favour renewables, and the probability of a future global carbon market, are all fueling the cleantech boom.

The closing of several large cleantech funds, and the growth of cleantech IPOs are attracting mainstream investors to the sector.

Looking Ahead

Economic studies have shown that the poor (are often forced to) pay disproportionately more for each unit of energy than the rich, while often not getting the same quality of service.

Public and private investors need to continue to develop innovative financing models to support sustainable energy and energy-efficiency technology, and to mitigate energy poverty.

While driven by supportive public financing and regulation, the challenge of mitigating energy poverty can offer significant commercial opportunities for investors.