

Working Group 3

Technological Challenges and Options for Future Energy Supply

- How to optimize existing technologies
- Potential of different technologies
- Near term options & long term trends
- How to improve technology transfers

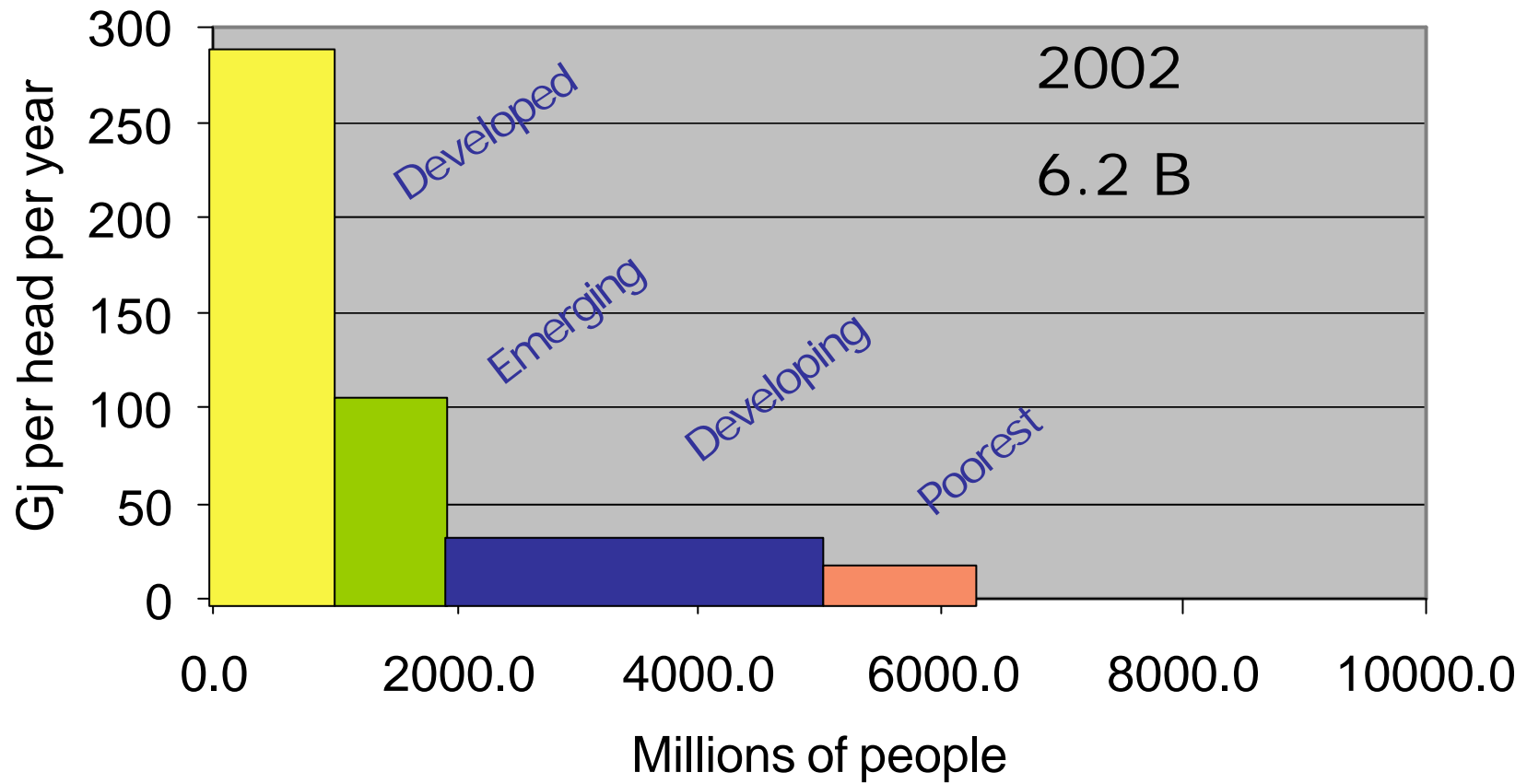
Thanks to Working Group 3 Members!

- Prof. Lord Ronald Oxbourgh
 - Dr. Wolfgang Eichhammer
 - Gary V. Litman
 - Dr. V. Sumantran
 - Dr. Hans Jürgen Wernicke
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- and 30 participants contributing to a fruitfull discussion.

Technological Challenges and Options for Future Energy Supply in the light of the Berlin declaration of the 1. German Congress on Climate Change September 20./21 2006 :

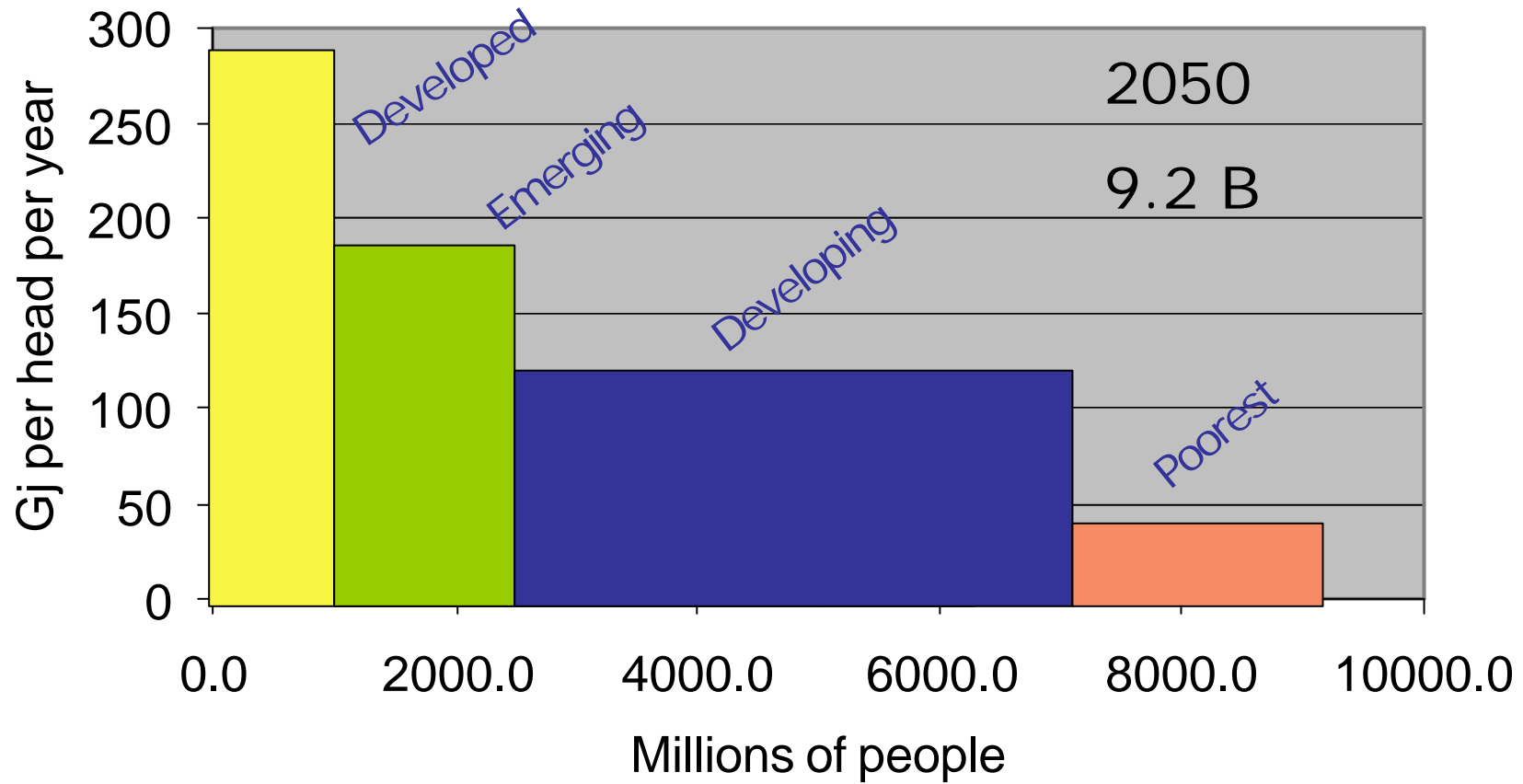
„It is already accepted by the vast majority of climate scientists that human activities, through greenhouse gas emissions from burning fossil fuels and land use changes, are the main driver of the climate change that is now taking place. In this regard it can no longer be prevented. What is now important, however, is to reduce as far as we can the risk of „dangerous climate change“, i.e. an increase in temperature that causes serious threats to ecosystems and human society. We must do all we can to keep the global average temperature rise from pre-industrial times below 2°C. We recognise the challenge this represents. To maintain this 2°C limit, the concentration of CO₂ and other greenhouse gases in the atmosphere would need to be stabilised at a maximum of 450 ppm CO₂ equivalent, and probably below this value.“

People and Emissions



XVI Malente Symposium, Lübeck,
Oktober 8-10, 2006

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For the industrial nations
the challenge will be
to reduce carbon emissions
by an amount of
70 – 80% by 2050.

The only way to achieve this goal
is the realization
of a conglomerate of measures
which are based on
short and medium term
technical opportunities.
(7 wedges approach)

7 Wedges

- Energy efficiency gains on the production and demand side beyond efficiency gains which are already built in
- Ambitious implementation of renewables and new storage technologies
- Maintenance of the nuclear option
- Decarbonisation of the transport sector
- Ambitious programme for the implementation of combined heat and power
- Smart grids on a micro generation level specially in the context of urban growth and planning
- Clean coal technologies including carbon capture and storage

- The key for a successful implementation of these measures on a global level is to find a way to make them part of the economic growth process in developed and developing countries.
- Research and Development, technology transfer, and an energy policy that systematically allocates economic value to environmental resources are able to become the key drivers in climate change mitigation.

Developing world has different priorities

It will be a major challenge to address this issue particularly on the side of the industrial countries which in fact are recognized being responsible for the present level of CO₂ concentration in the atmosphere.