

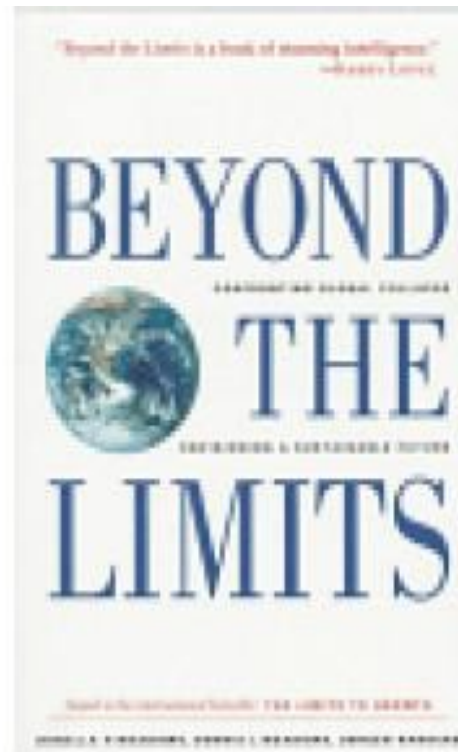
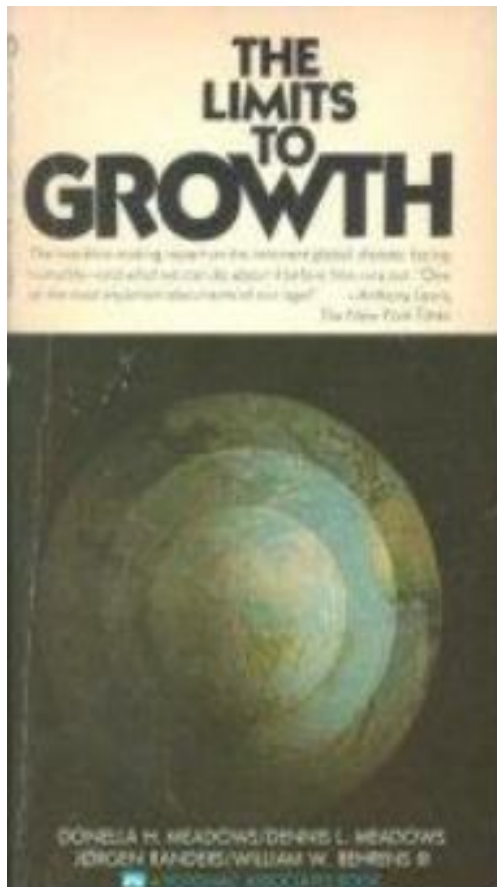
Limites do Crescimento e o Mundo em 2052

Prof. Heitor Gurgulino de Souza
Presidente Capítulo Brasileiro - Clube de Roma

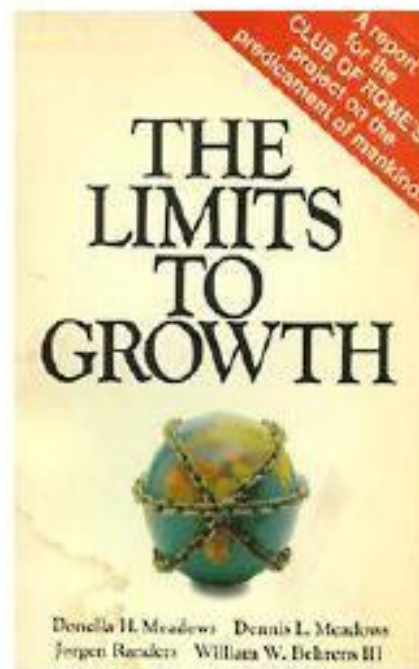
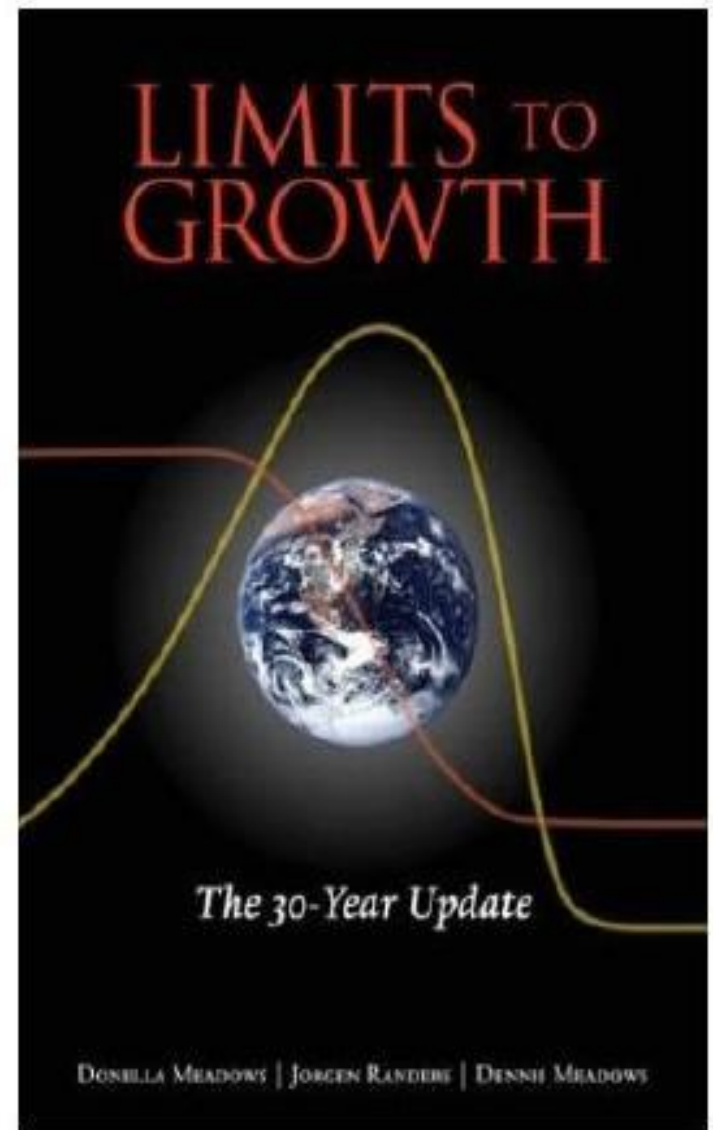
VI EcoSP – ENCONTRO AMBIENTAL DE SÃO PAULO
12-13 Novembro 2012
São Paulo/SP



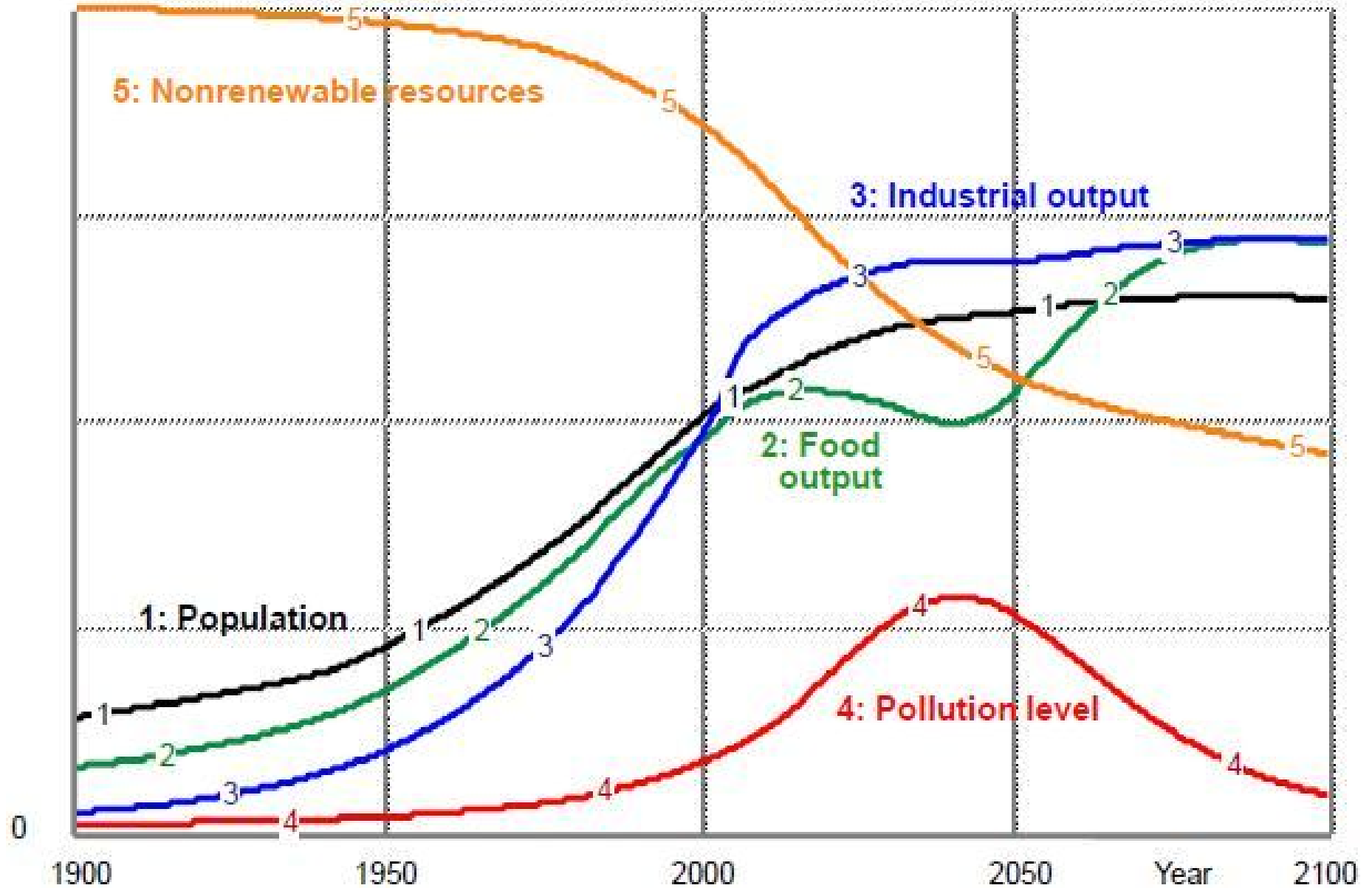




12 scenarios for the 21st century



Limits Scenario 9: Sustainability



A Global Forecast
for the Next Forty Years



Jorgen Randers

A REPORT TO THE CLUB OF ROME
COMMEMORATING THE 40TH ANNIVERSARY OF
The Limits to Growth

My perspective: A small and fragile world



The five regions used in the 2052 forecast

Region	Population 2010 (billion people)	GDP 2010 (trillion \$ pr year)	GDP per person 2010 (1000 \$ pr person-year)
US	0,3	13	41
China	1,3	10	7
OECD-less-US (1)	0,7	22	30
BRISE (2)	2,4	14	6
ROW (3)	2,1	8	4
Sum world	6,9	67	10

(1) Old industrial world, including EU, Japan, Canada, Australia, New Zealand etc

(2) Brazil, Russia, India, South Africa and the ten biggest emerging economies

(3) The remaining ca 140 countries of the world

World population will peak in 2040

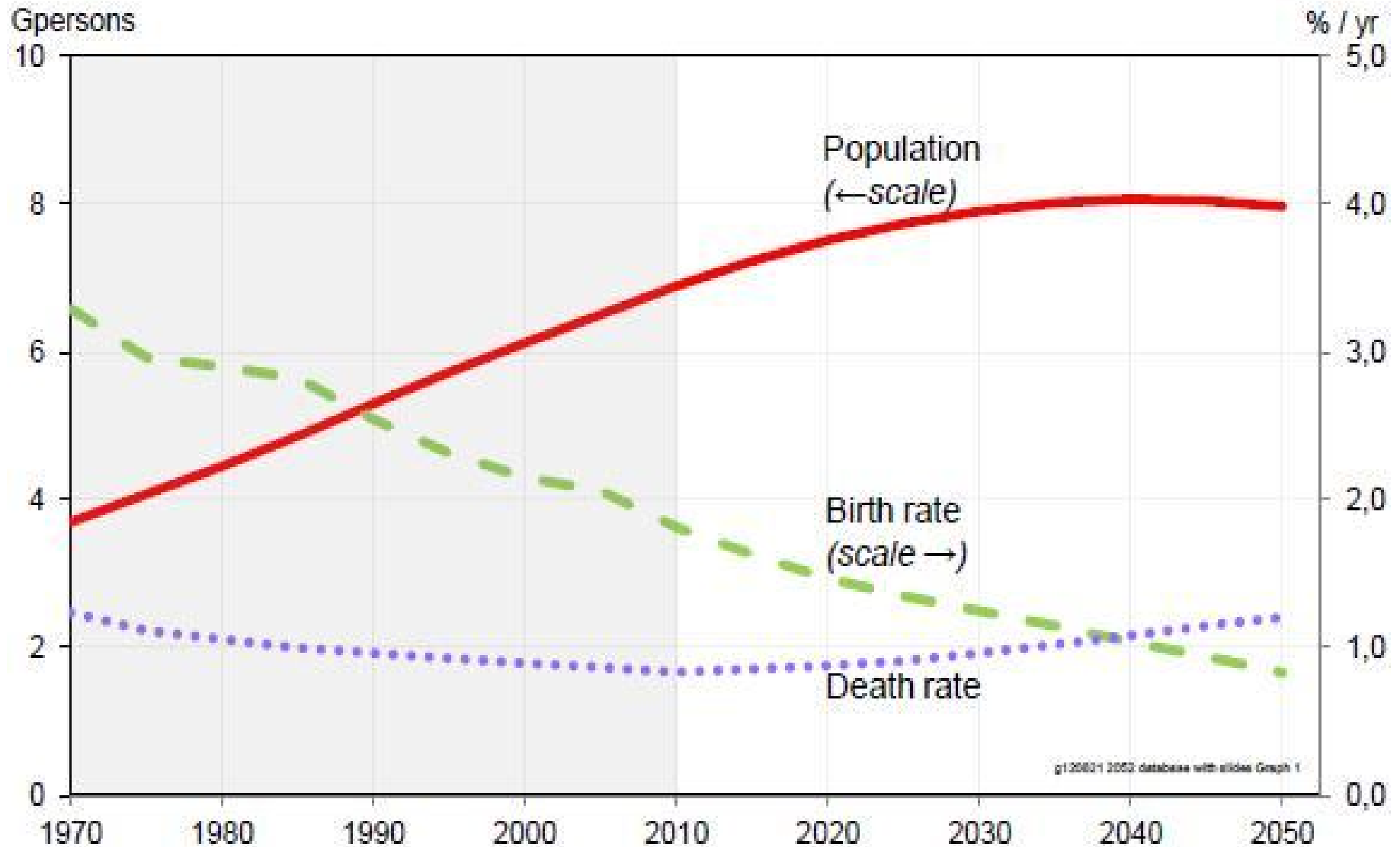


Figure 4-1 Population – World 1970 to 2050

World GDP growth will slow down

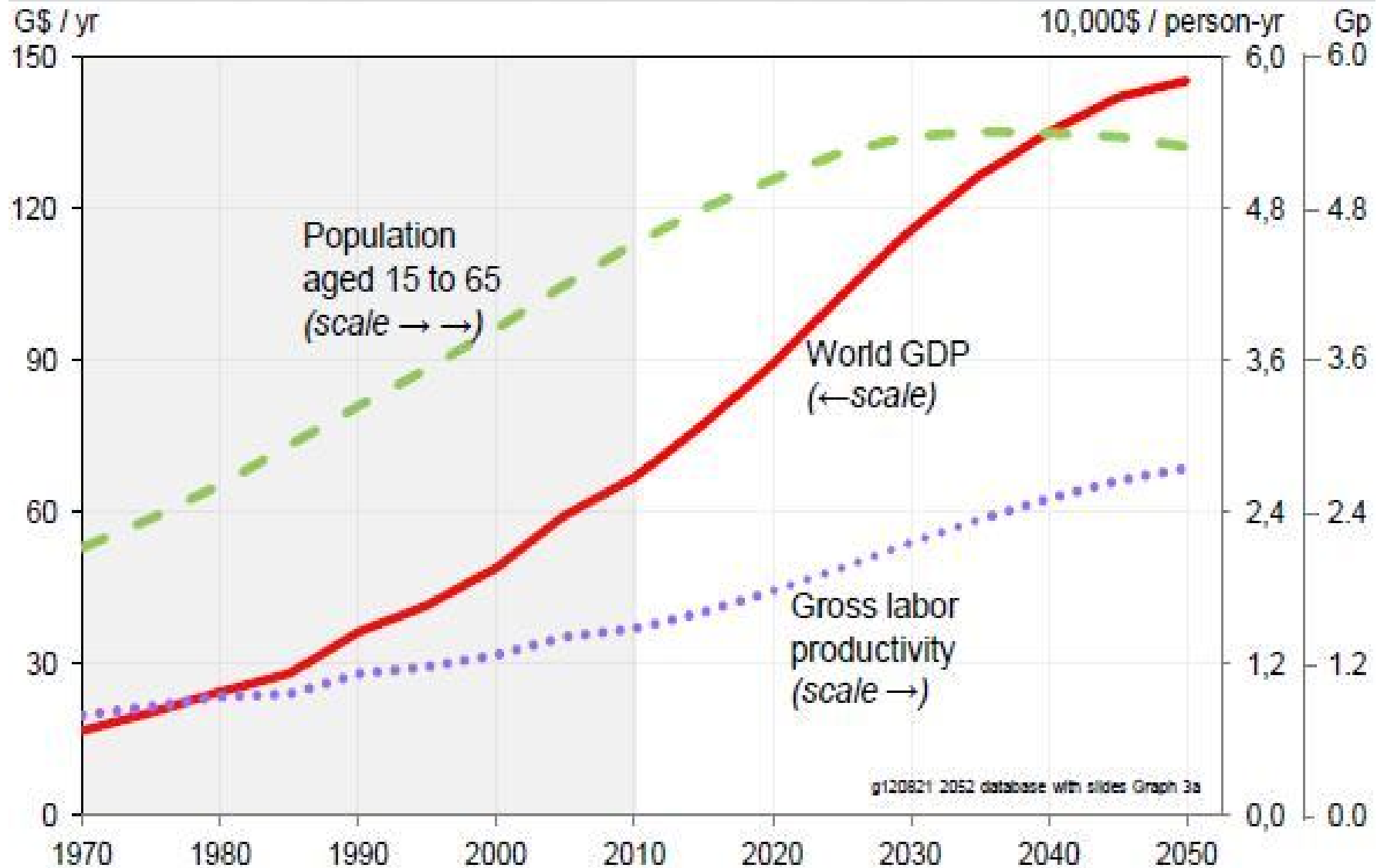


Figure 4-3b: Gross Domestic product – World 1970 to 2050

Definition: GDP = Population aged 15 to 65 years multiplied with Gross labour productivity

Energy use will peak in 2040

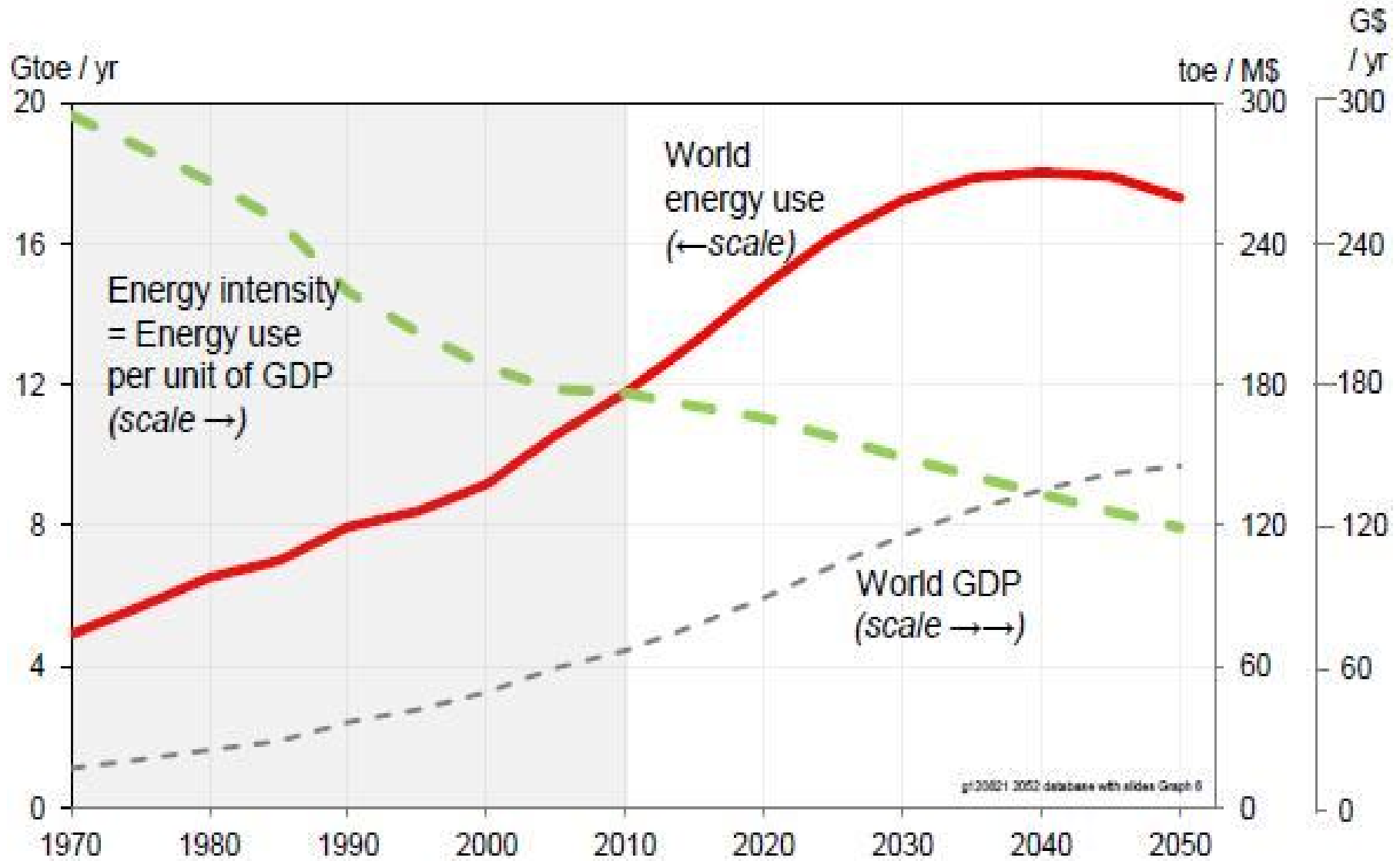


Figure 5-1: Energy Use – World 1970 to 2050

Fossil fuels will prevail

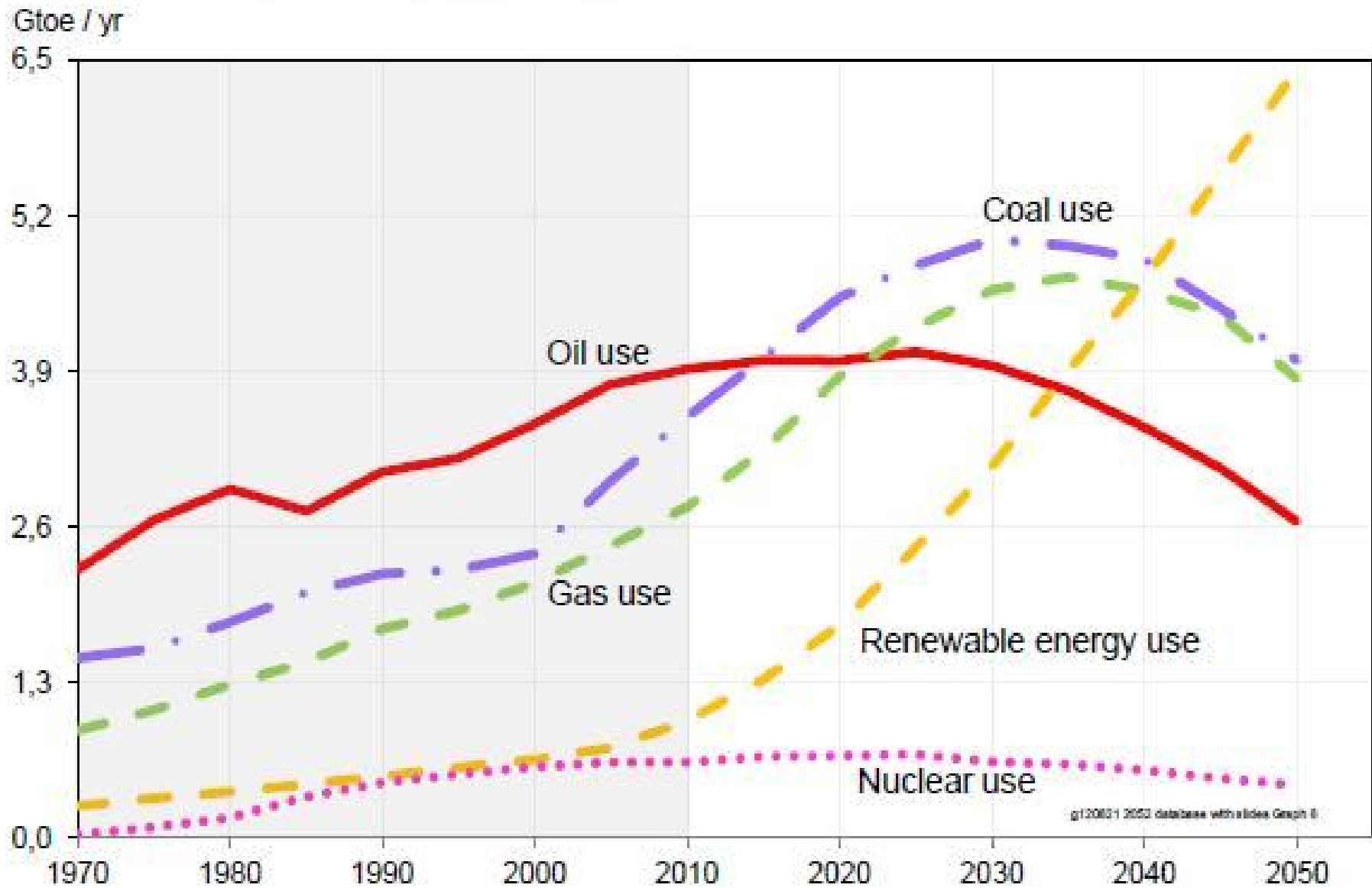


Figure 5-2: Energy Uses – World 1970 to 2052

World CO₂ emissions will peak in 2030

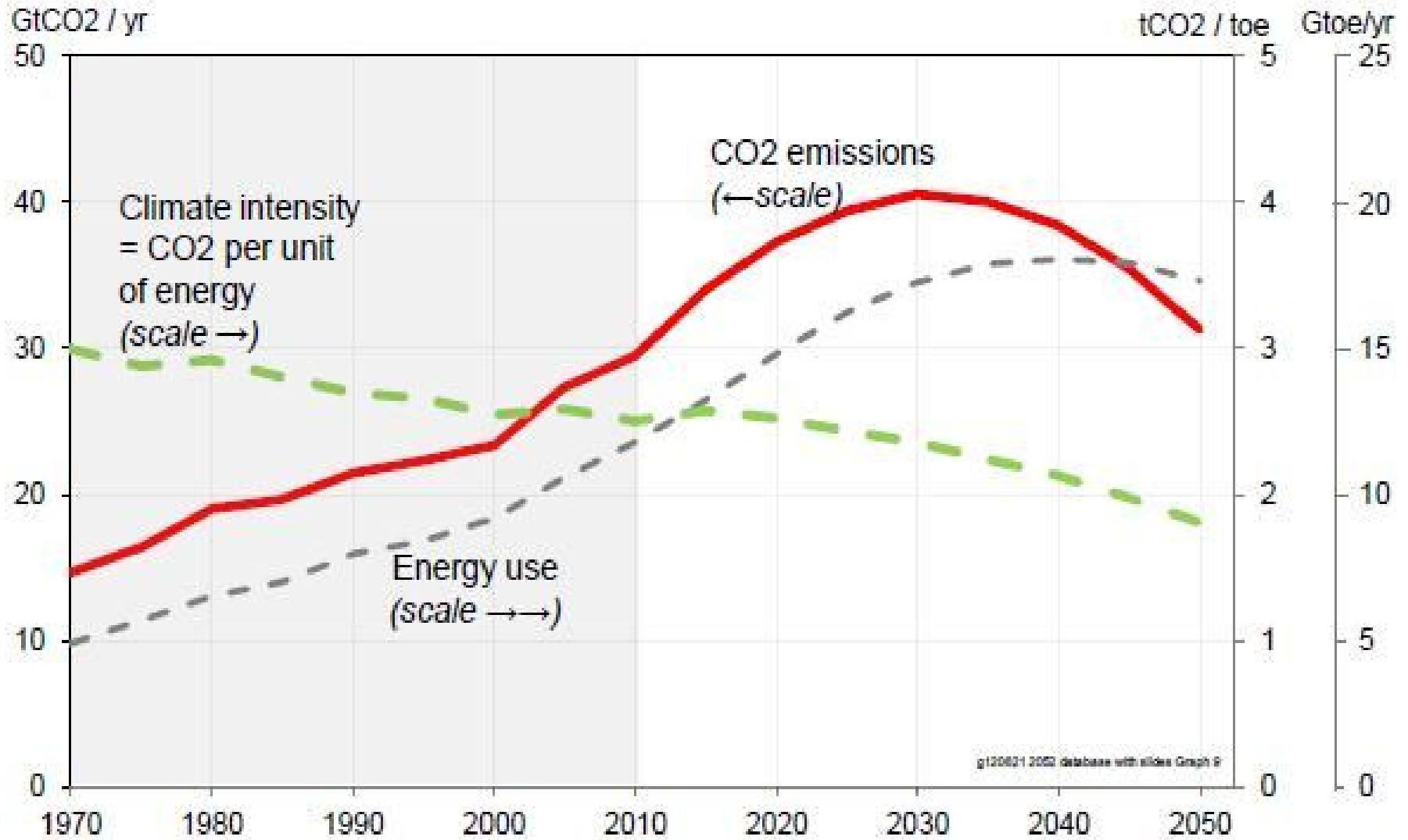


Figure 5-3: CO₂ Emissions from Energy Use – World 1970 to 2050.

Temperature and sea-level will rise

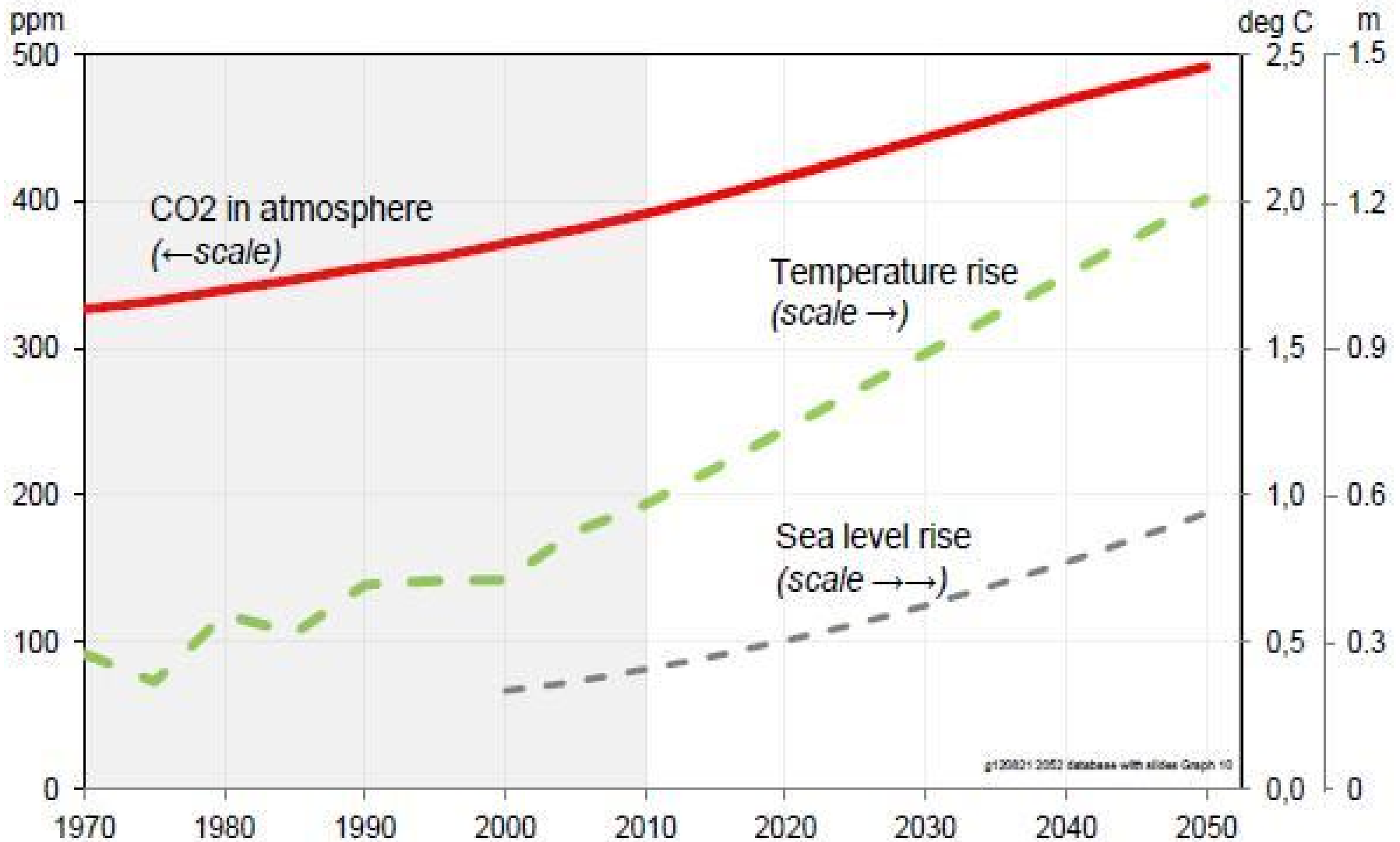


Figure 5-4: Climate Change – World 1970 to 2050

Democratic decision making takes time



What should be done by the new regime?

To create a better world for our grandchildren

- ◆ Ensure fewer children, especially in the rich world
 - ◆ Reduce the use of coal, oil and gas, first in the rich world
 - ◆ Construct a low-carbon energy system in the poor world, paid for by the rich
 - ◆ Create new supranational institutions to counter national short-termism
 - ◆ Learn to increase wellbeing in a situation where population and GDP growth stops
-

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Obrigado!

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