BI CENTER FOR CLIMATE STRATEGY

2052 - A Global Forecast for the Next Forty Years

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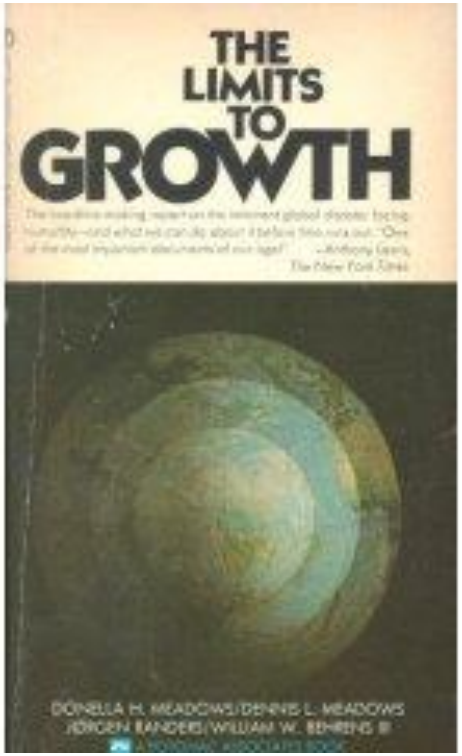
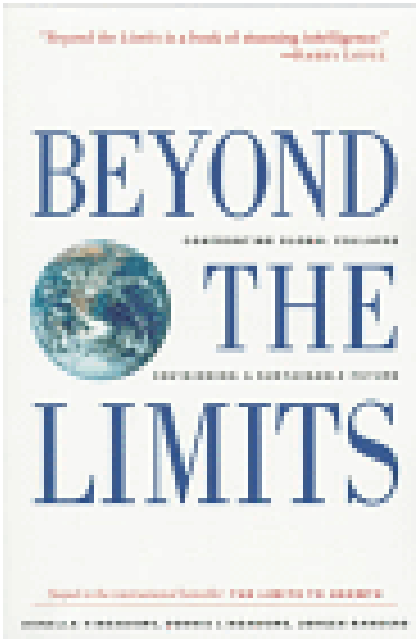
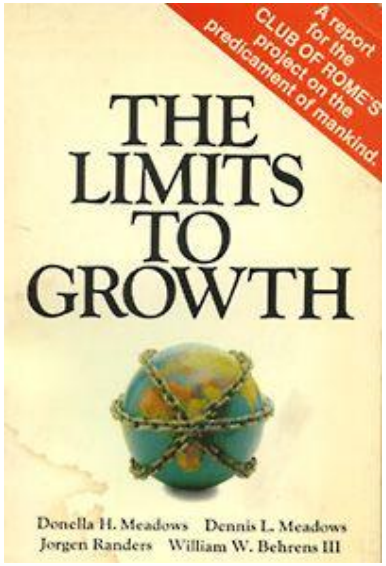
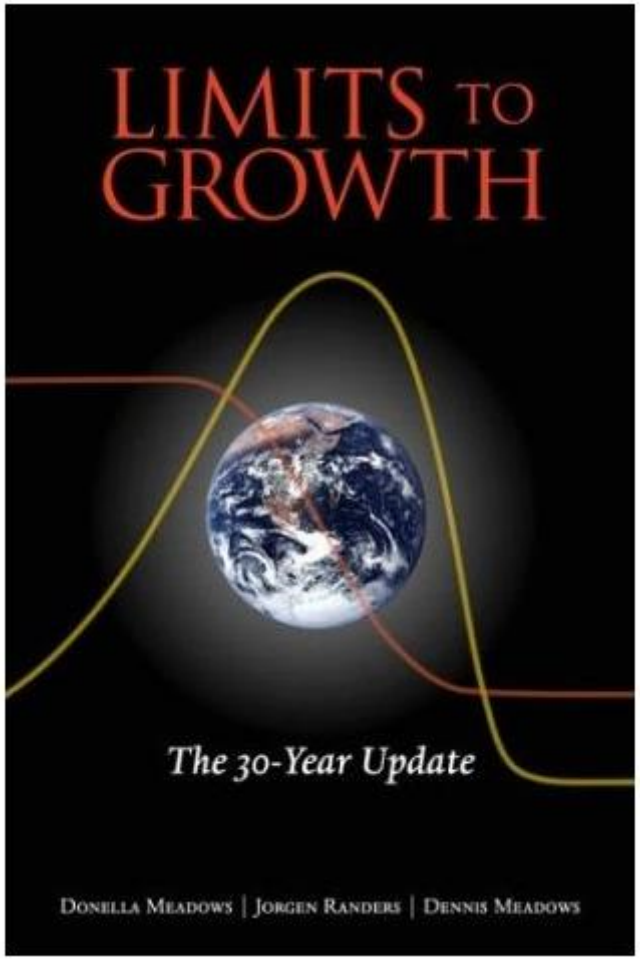
12 scenarios for the 21st century

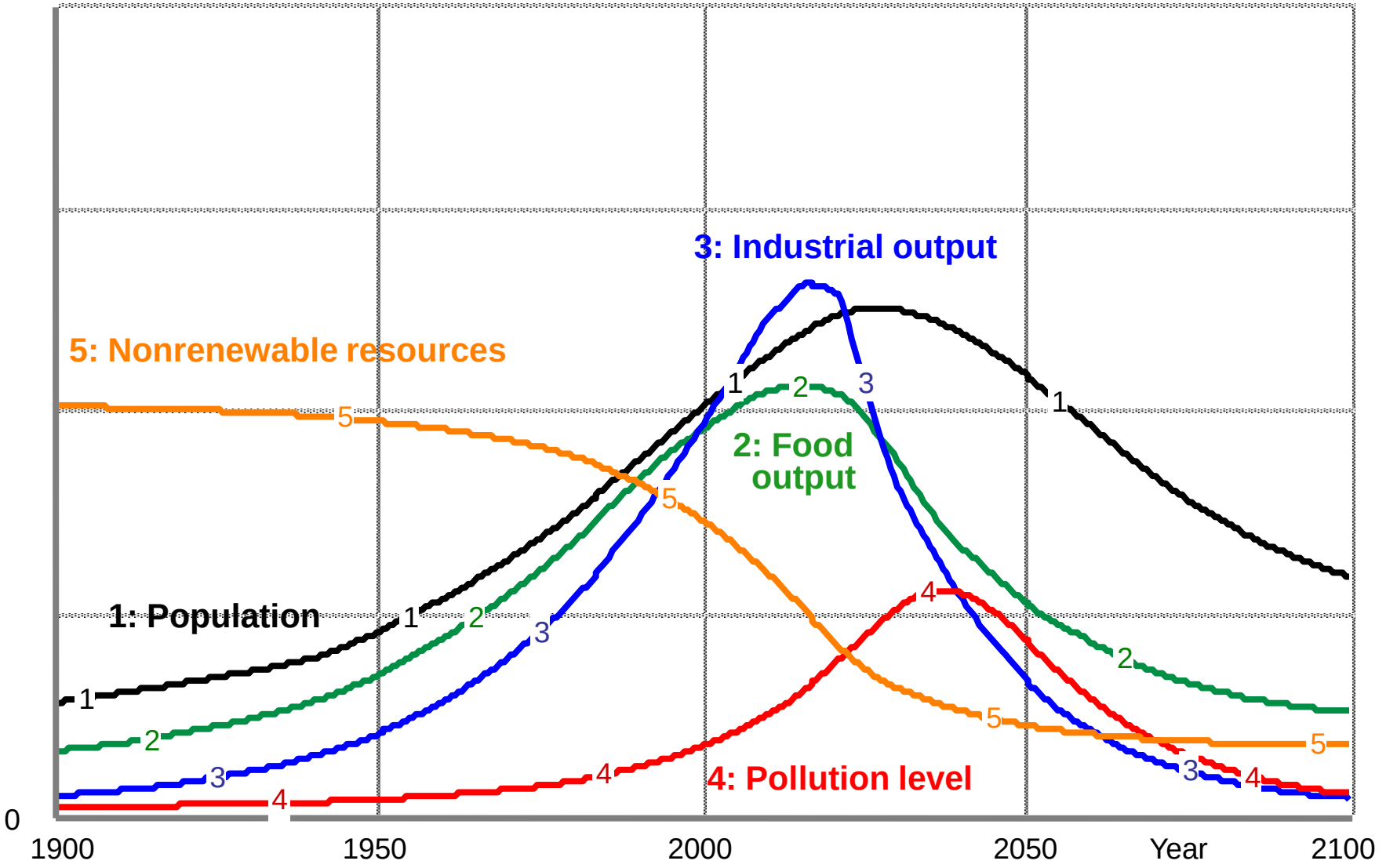






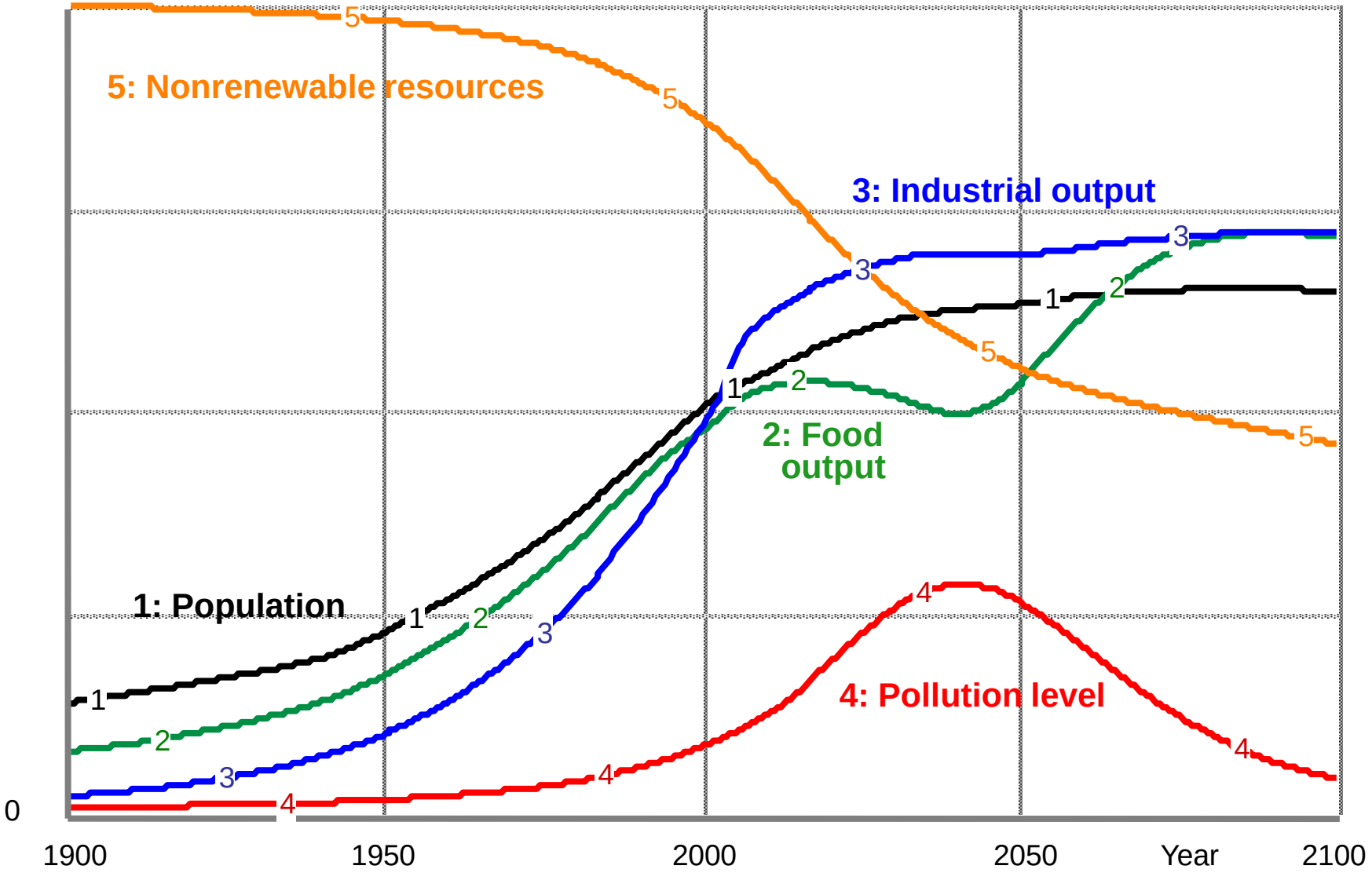


Limits Scenario 1: Resource crisis



Source: Meadows, Randers and Meadows, LTG 30 year update, 2004

Limits Scenario 9: Sustainability

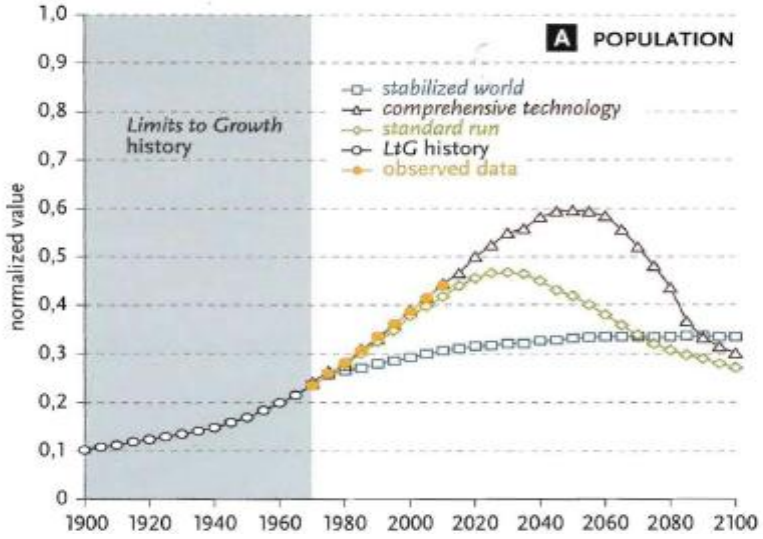


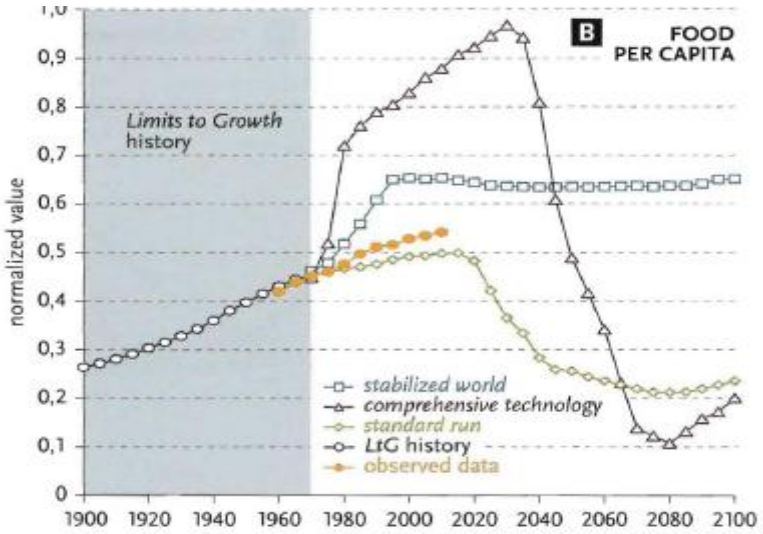
Source: Meadows, Randers and Meadows, LTG 30 year update, 2004

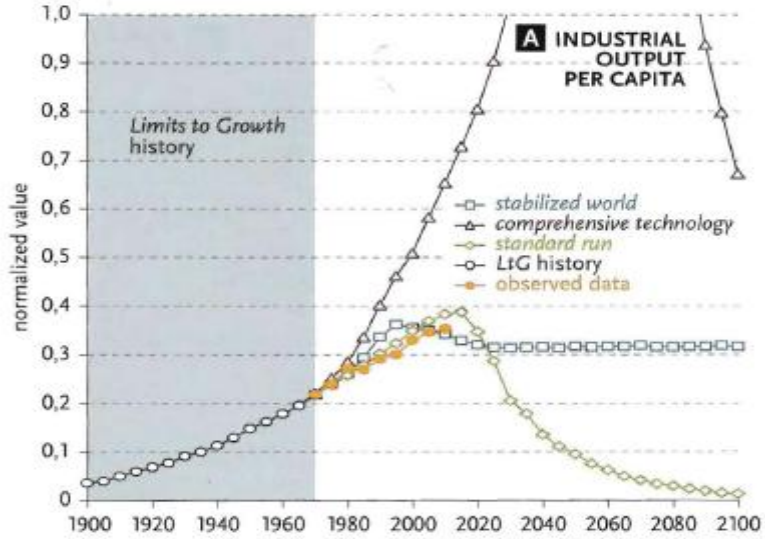
My perspective: A small and fragile world

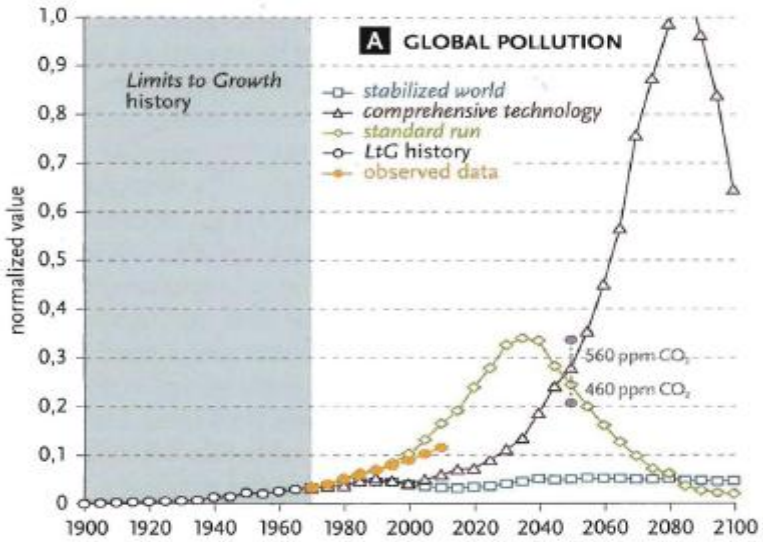
Source: KPMG, 2010

Limits scenarios and history 1972 to 2012

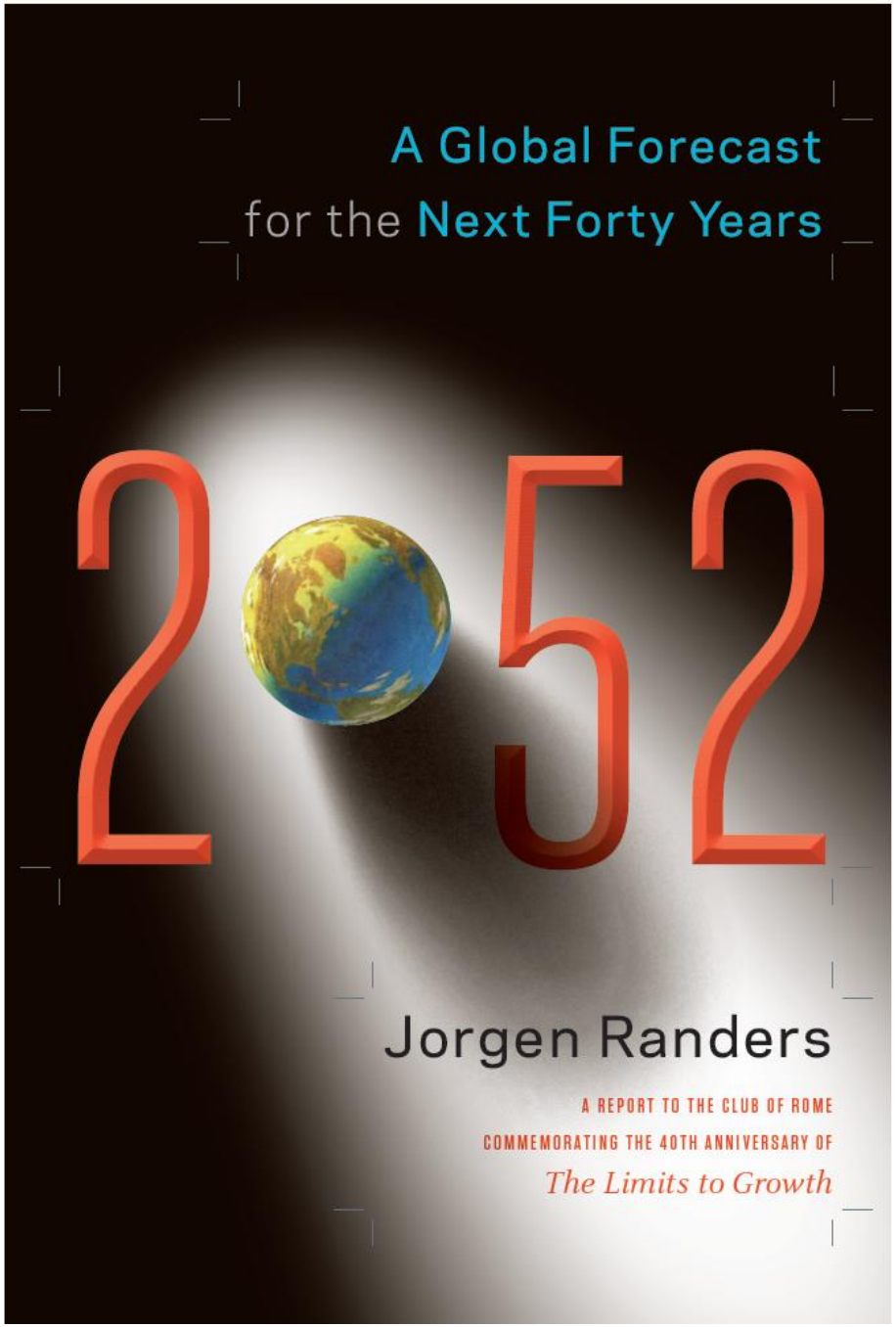








Source: Graham Turner, **GAIA**, no 2, 2012



For all numerical data
and the forecast model,
consult
the book website
www.2052.info

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

Source: Jorgen Randers, *2052*, Chelsea Green, Vermont, May 2012

World population will peak in 2040

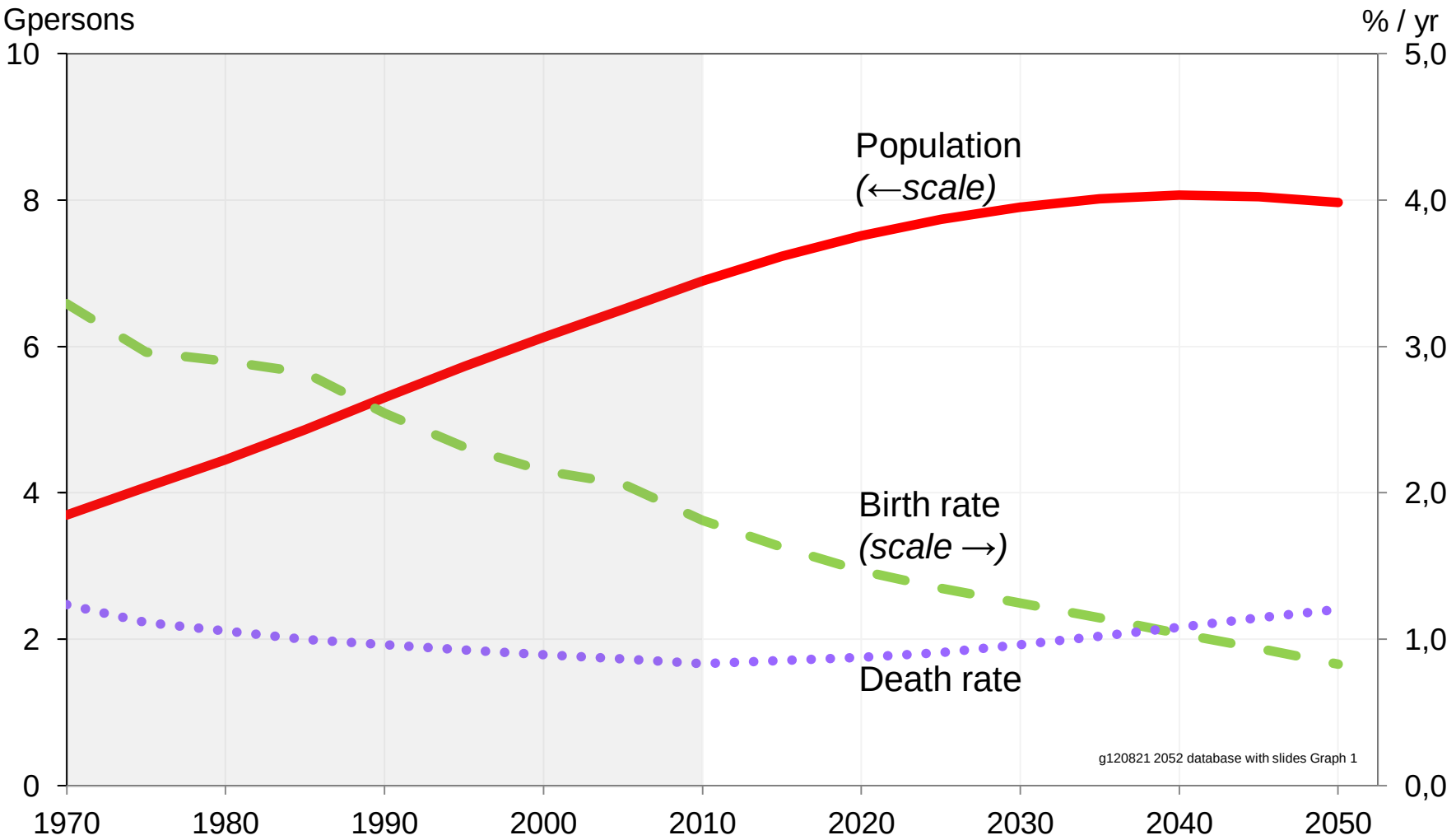


Figure 4-1 Population – World 1970 to 2050

Fertility decline in EU-15 – 1950 to 2010

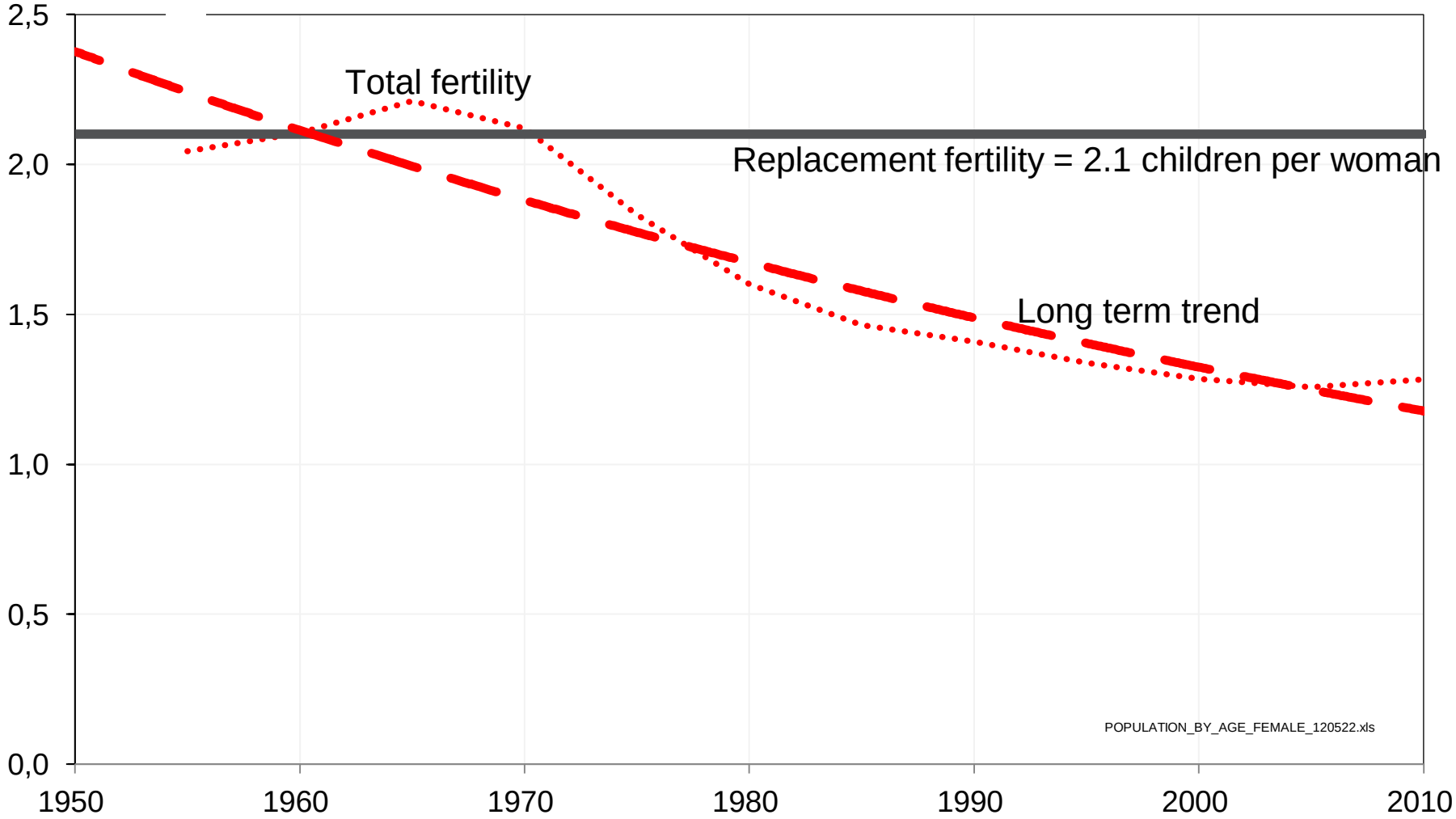


Figure A4-1 Total Fertility – EU15 1950 to 2010
Definition: Total fertility = Number of children per woman during reproductive age

Source: Jorgen Randers, *2052*, Chelsea Green, Vermont, May 2012

World productivity growth will slow down

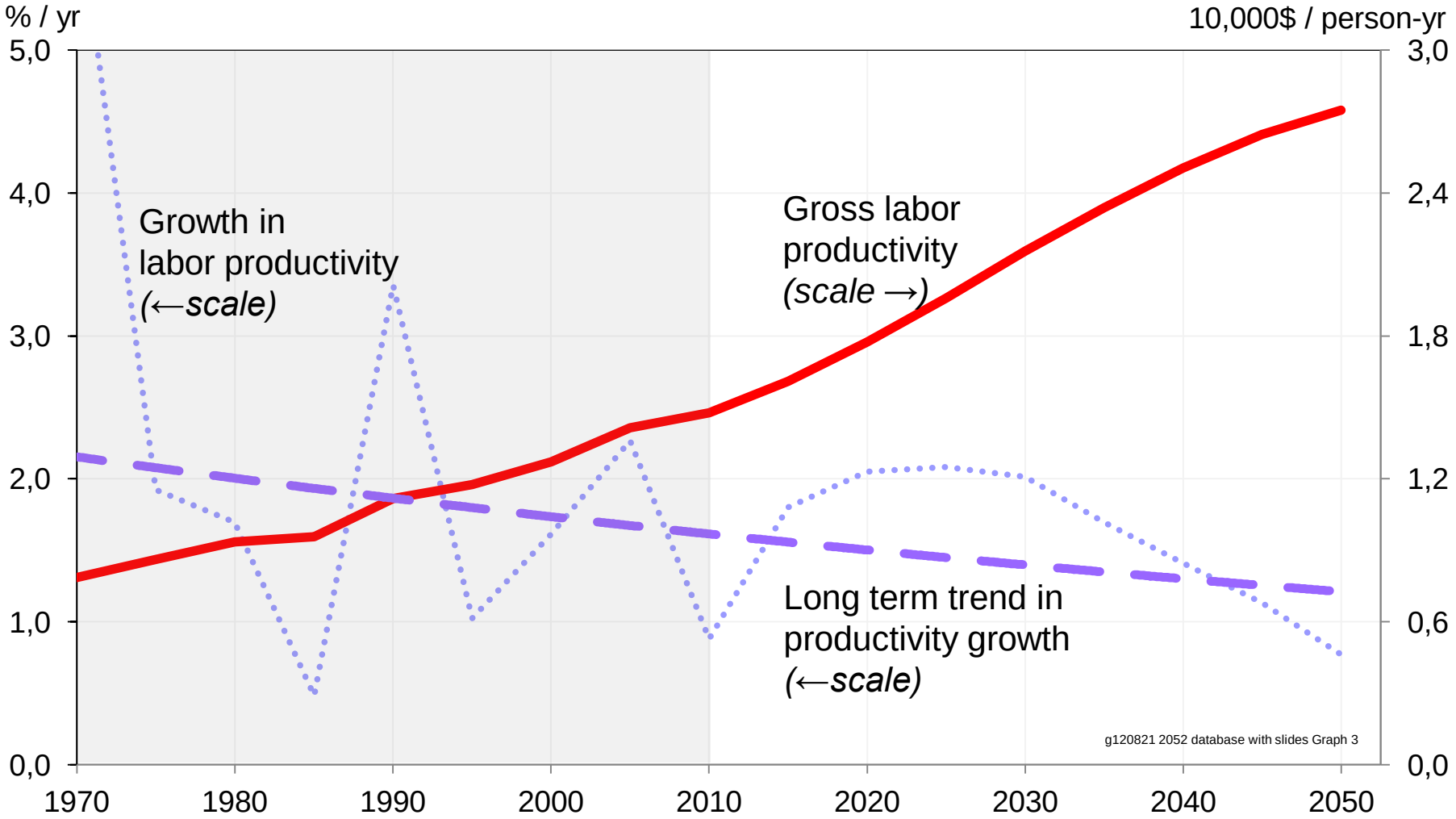


Figure 4-3a: Gross Labour Productivity – World 1970 to 2050
Definition: Gross labour productivity = GDP divided by population aged 15 to 65 years

Source: Jorgen Randers, *2052*, Chelsea Green, Vermont, May 2012

Slowing productivity growth, US 1950-2010

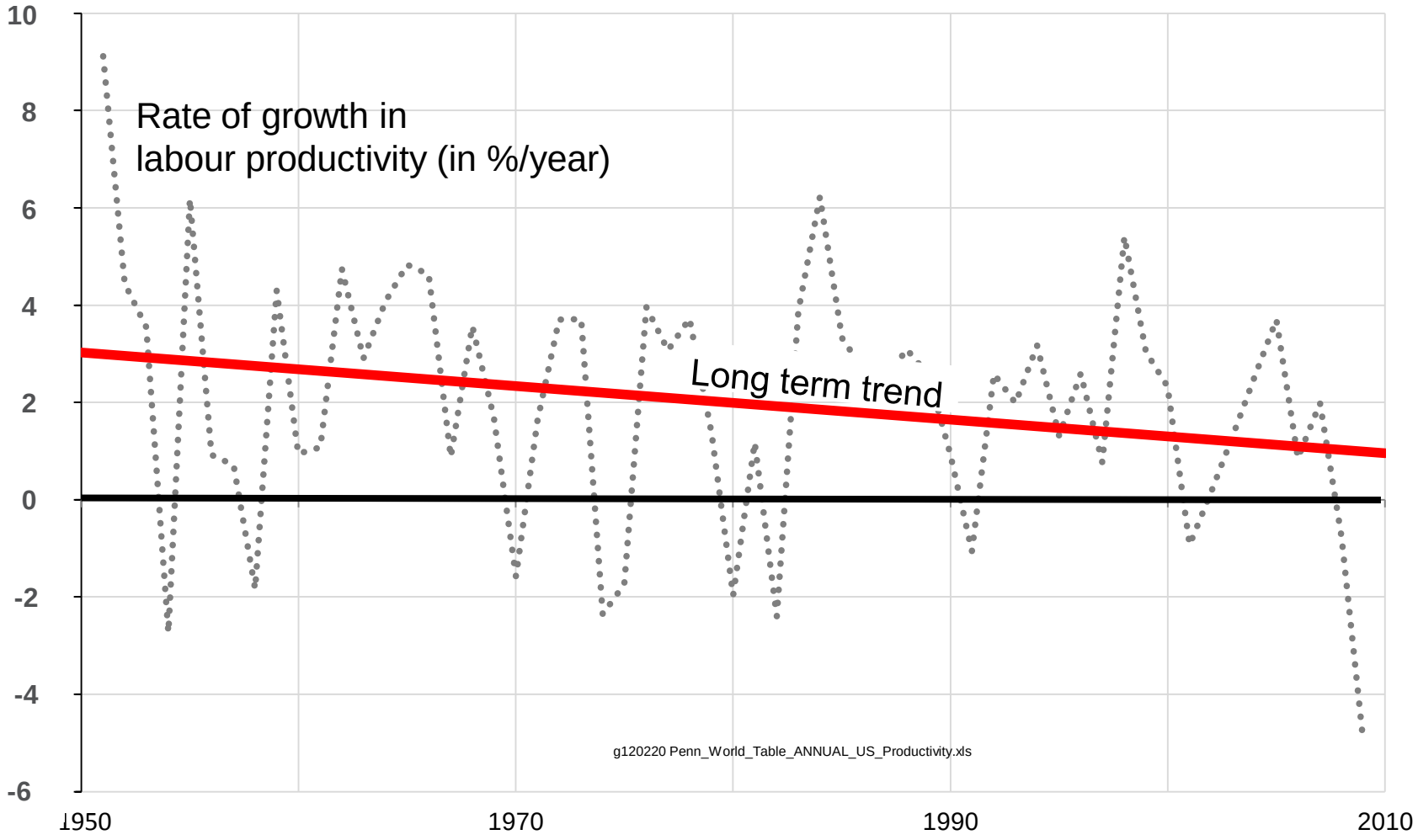


Figure A4-2 Change in gross labour productivity – US 1950 to 2010
Definition: Labour productivity = GDP divided by People aged 15 to 65

World GDP growth will slow down

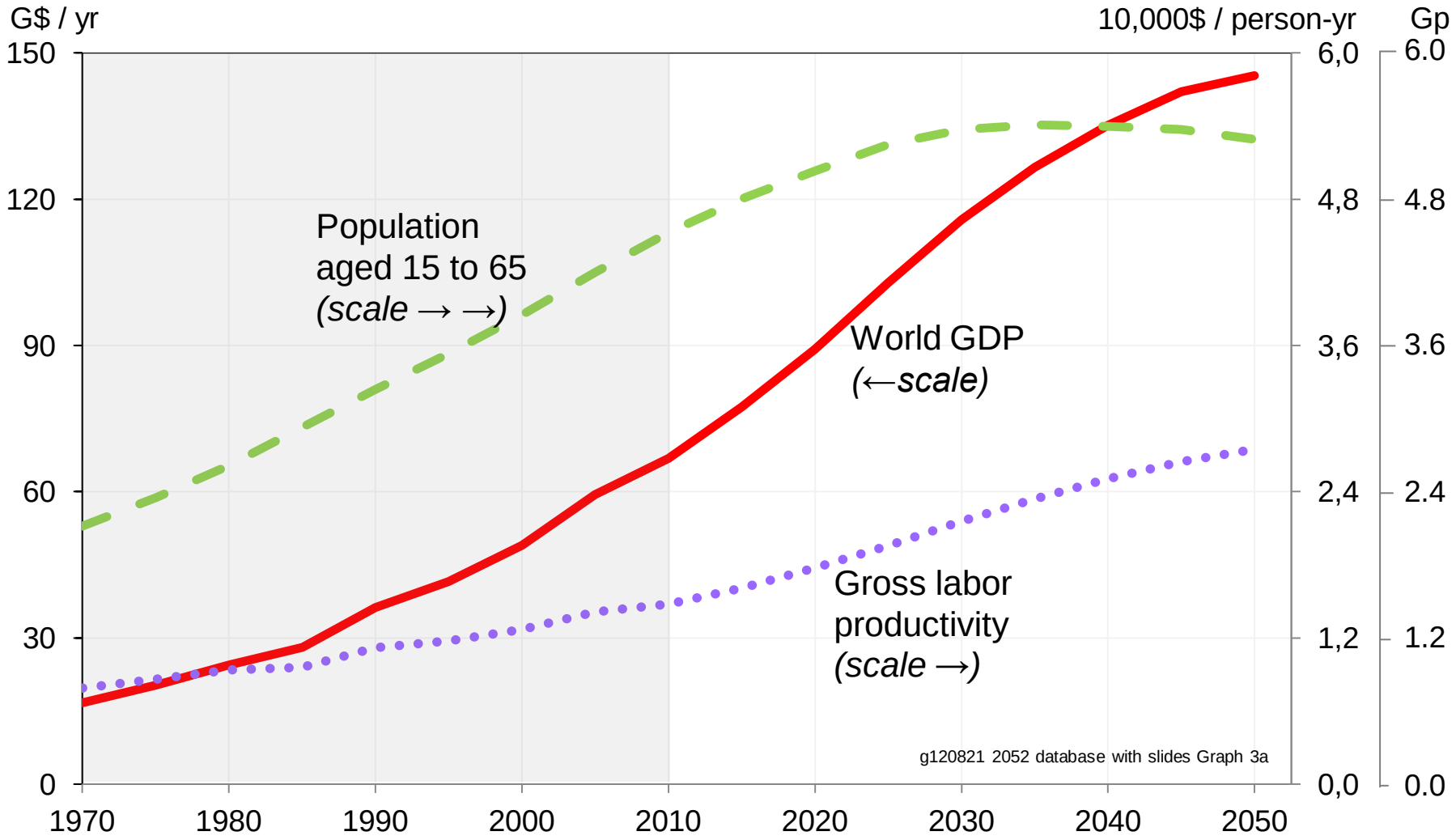


Figure 4-3b: Gross Domestic product – World 1970 to 2050
Definition: GDP = Population aged 15 to 65 years multiplied with Gross labour productivity

Source: Jorgen Randers, *2052*, Chelsea Green, Vermont, May 2012

Share of GDP in investment will grow

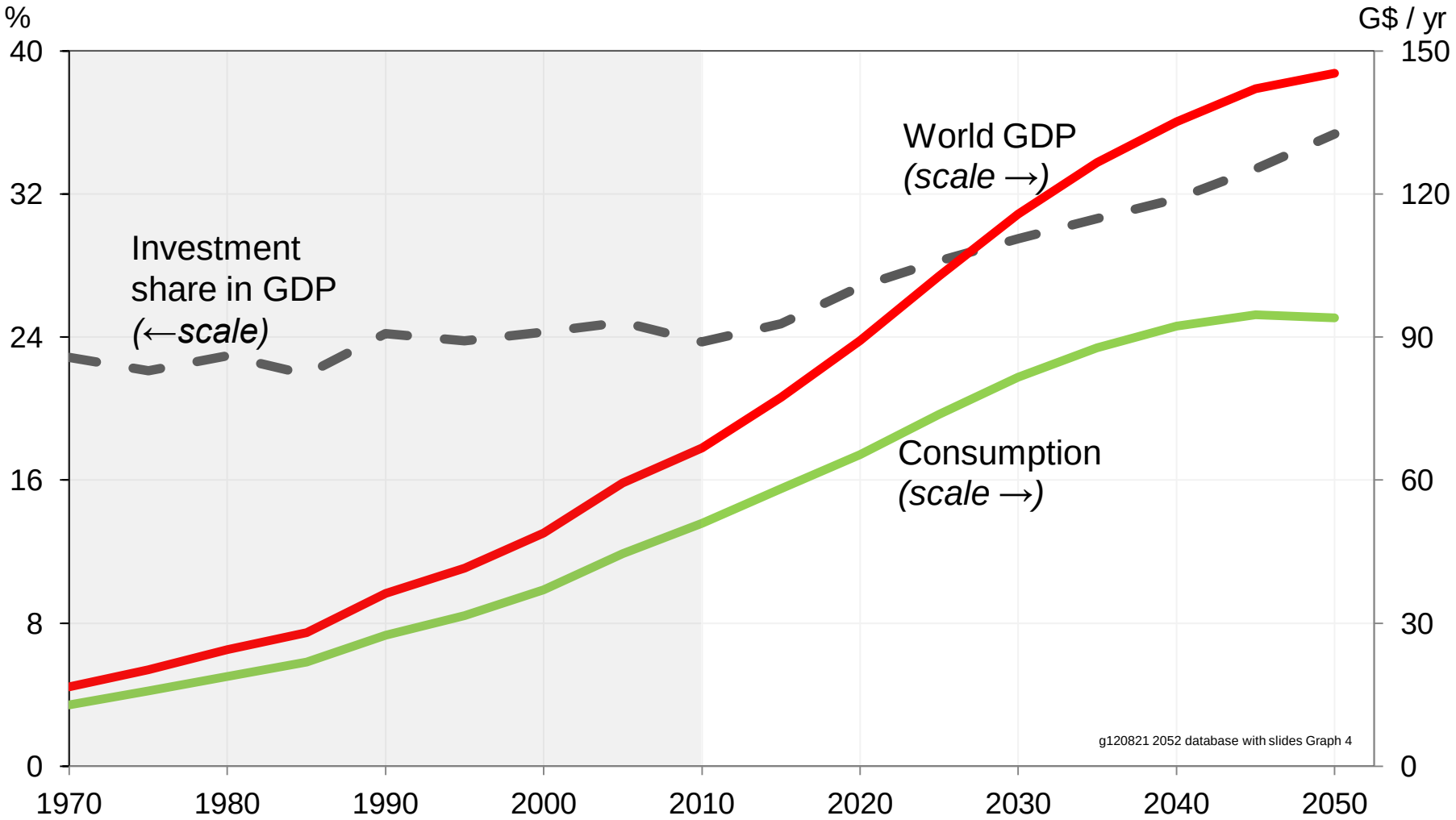


Figure 4-4: Production and Consumption – World 1970 to 2050

Source: Jorgen Randers, *2052*, Chelsea Green, Vermont, May 2012

Energy use will peak in 2040

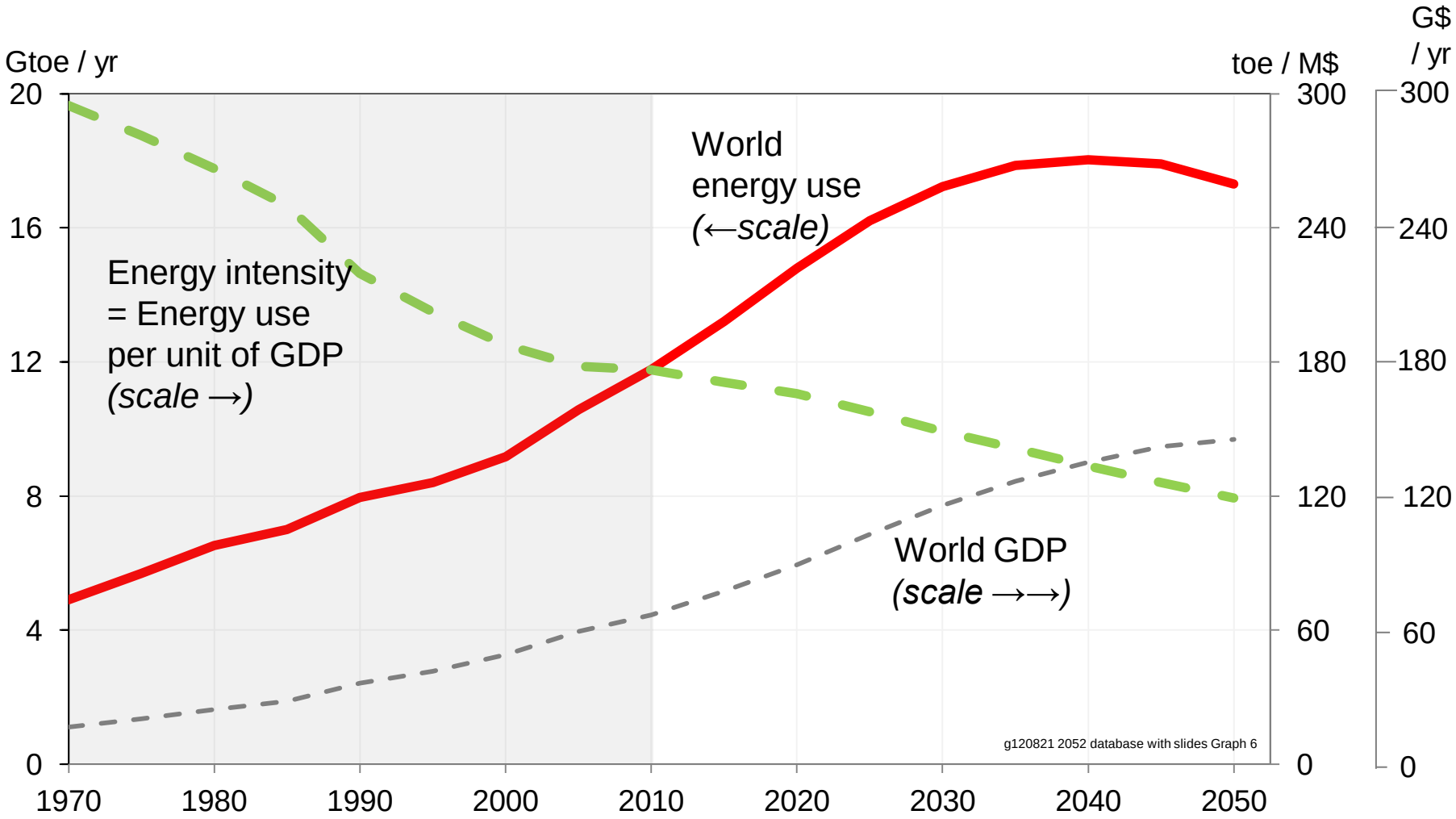


Figure 5-1: Energy Use – World 1970 to 2050

World CO_2 emissions will peak in 2030

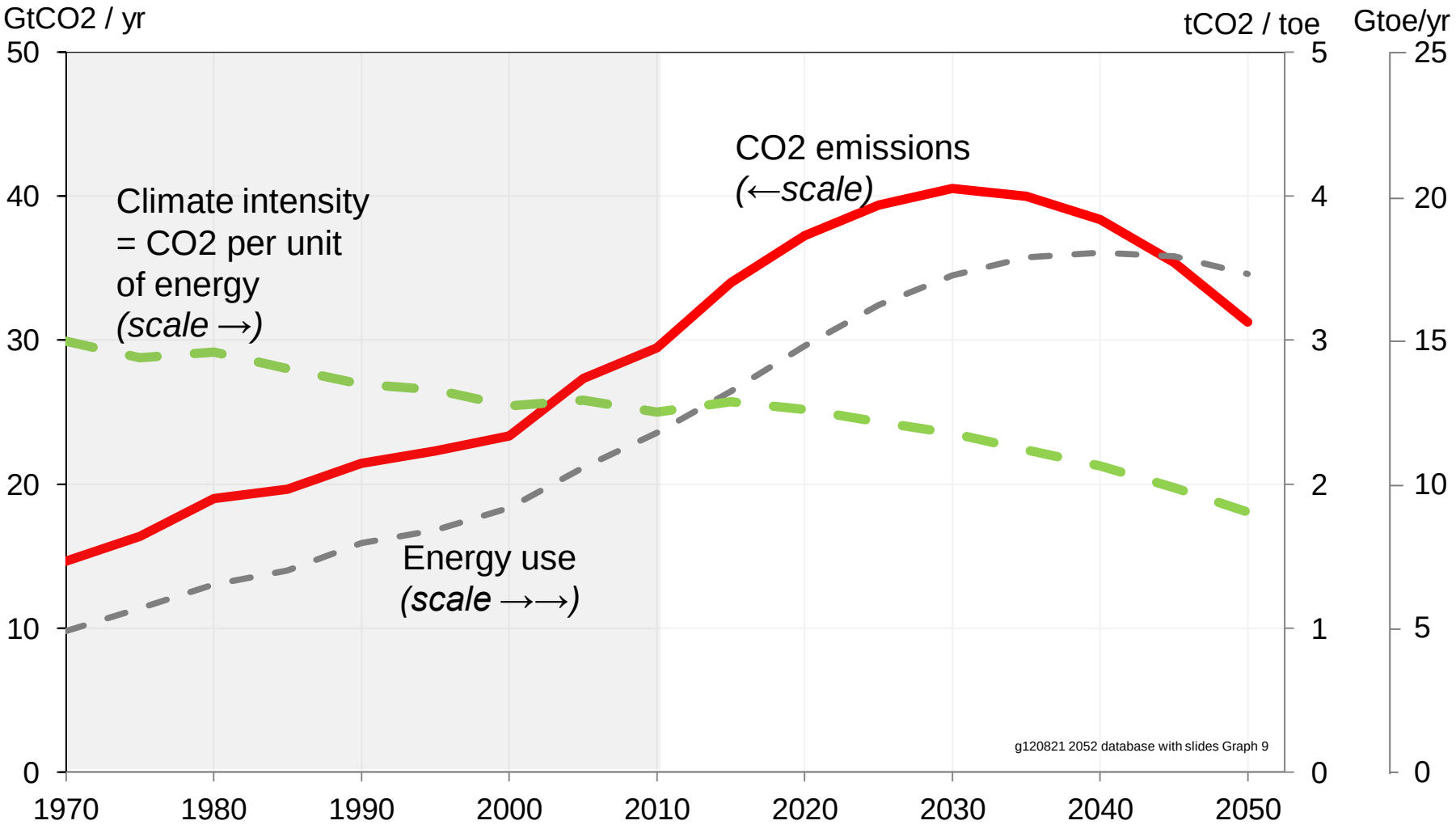


Figure 5-3: CO2 Emissions from Energy Use – World 1970 to 2050.

Temperature and sea-level will rise

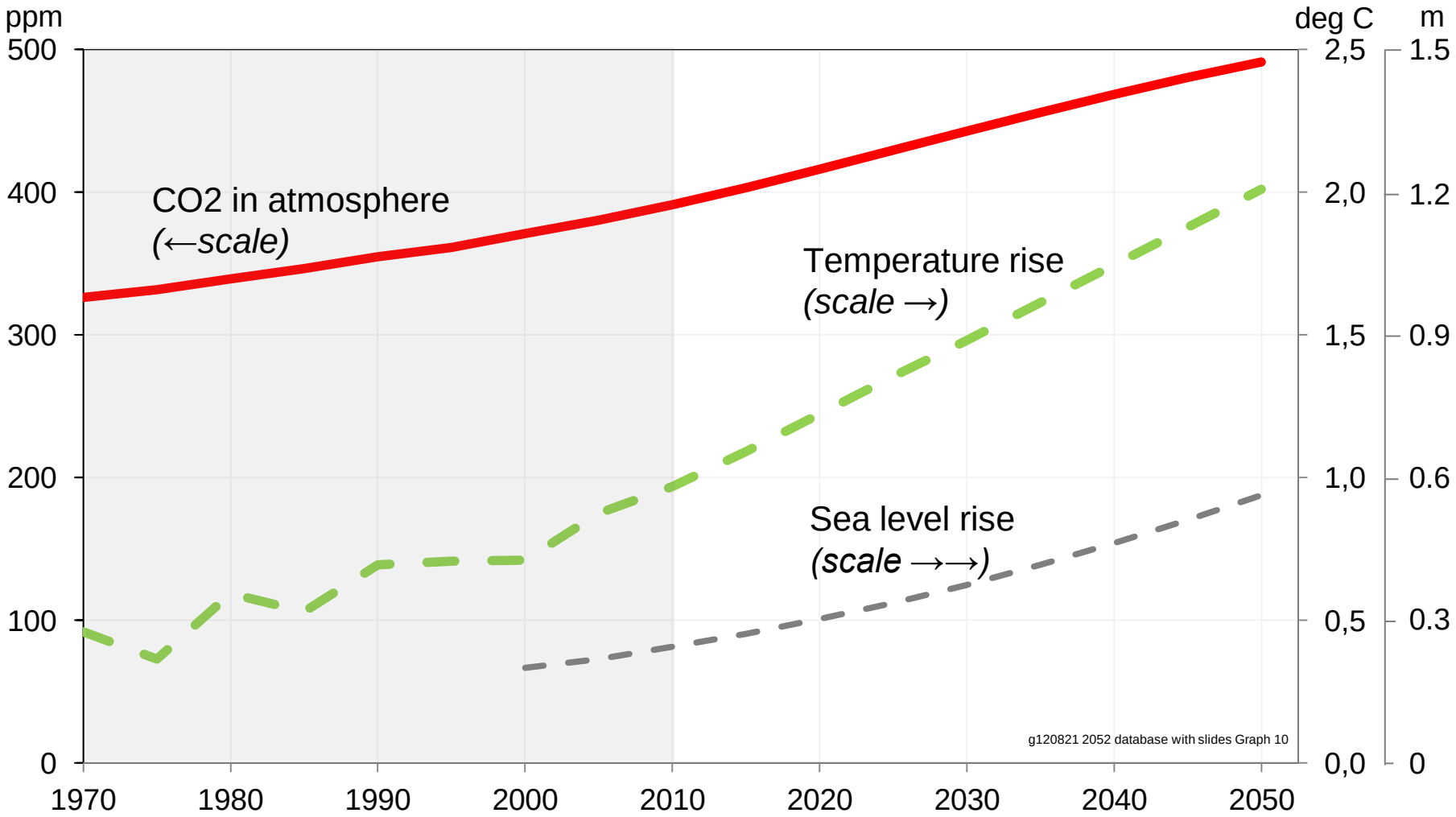


Figure 5-4: Climate Change – World 1970 to 2050

Food will satisfy demand – but not need

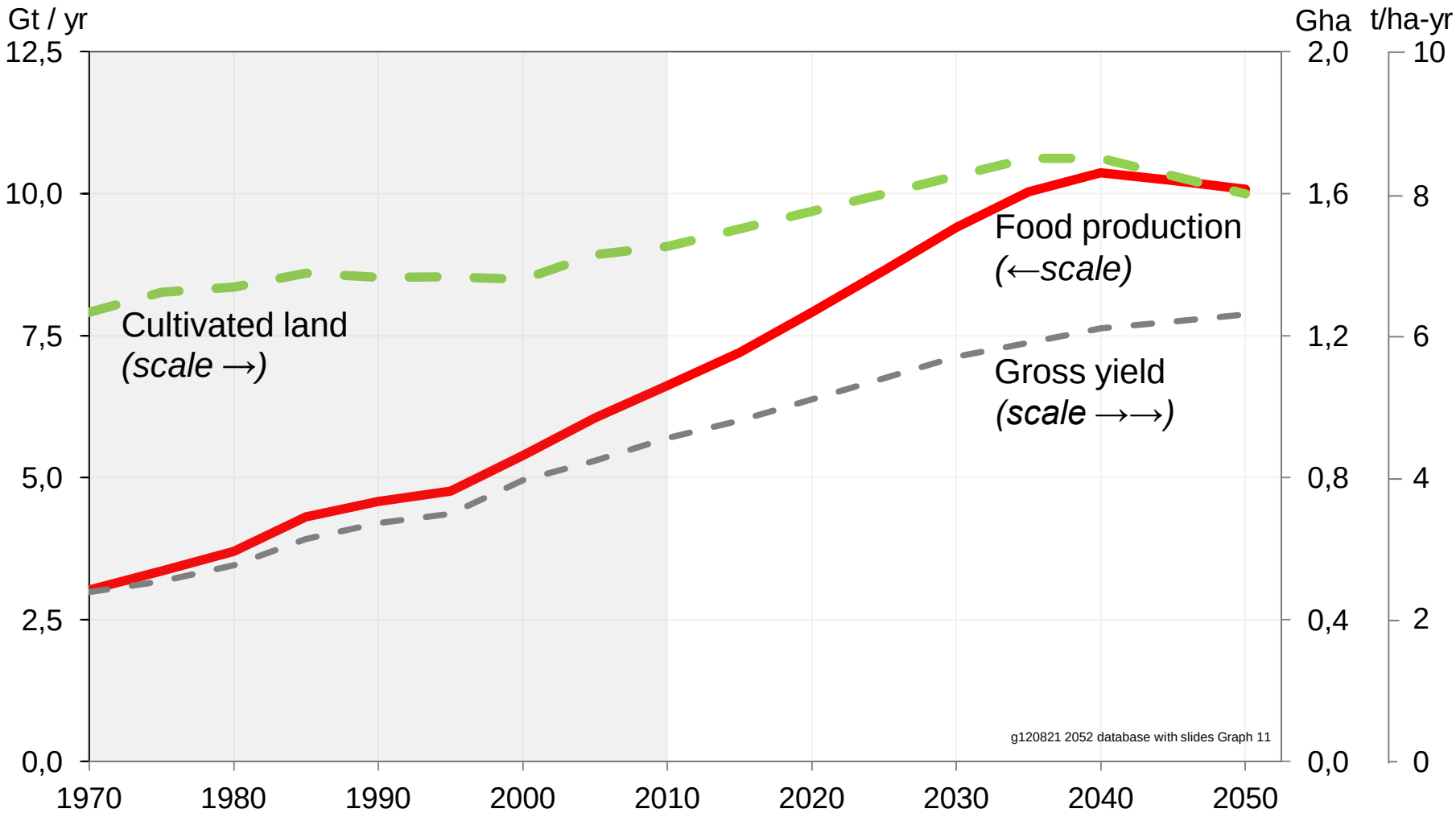
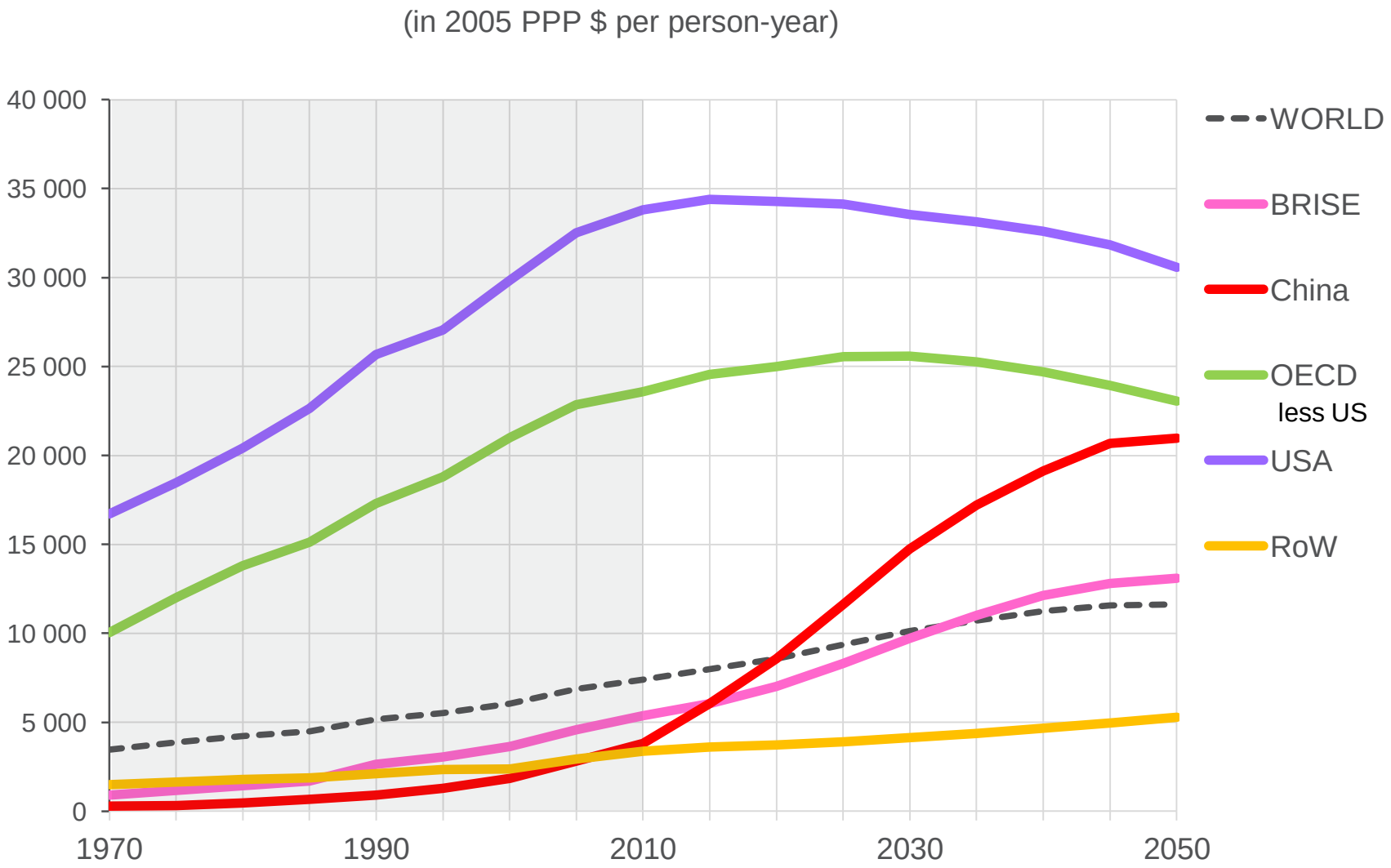


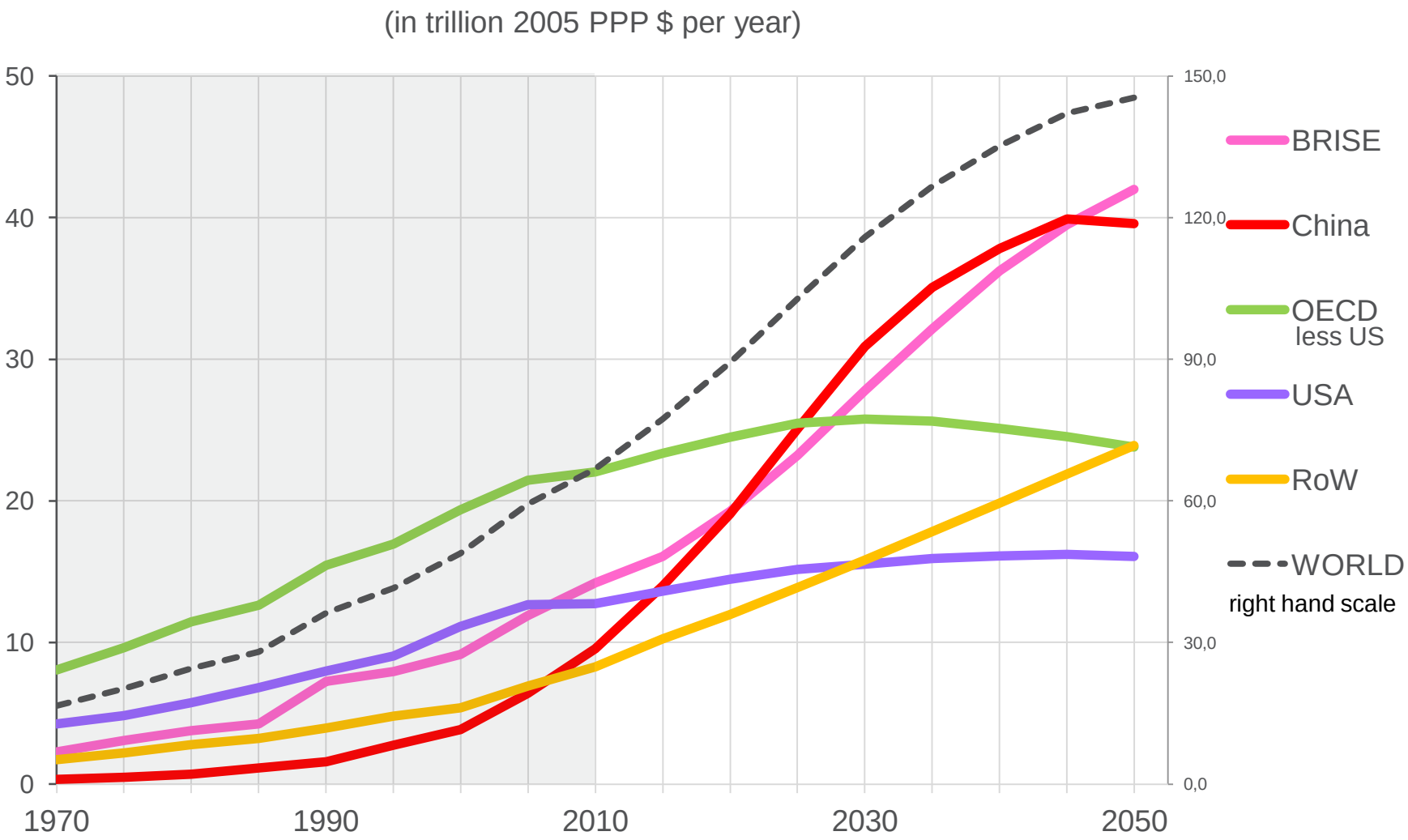
Figure 6-1: Food Production – World 1970 to 2050

Average disposable income – 1970 to 2050



Source: Jorgen Randers, *2052*, Chelsea Green, Vermont, May 2012

GDP – five regions 1970 to 2050



Source: Jorgen Randers, *2052*, Chelsea Green, Vermont, May 2012

Fossil fuels will prevail

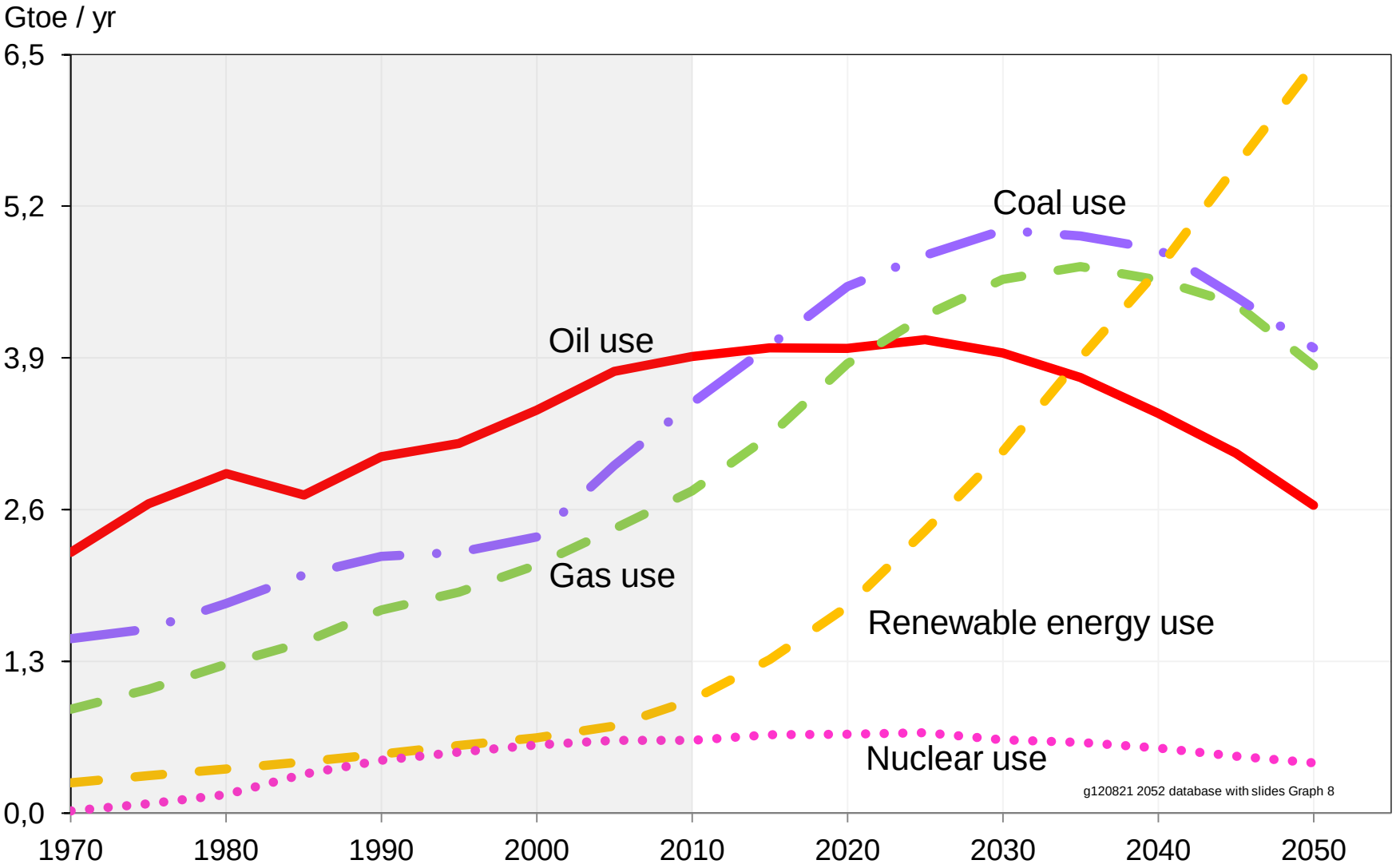
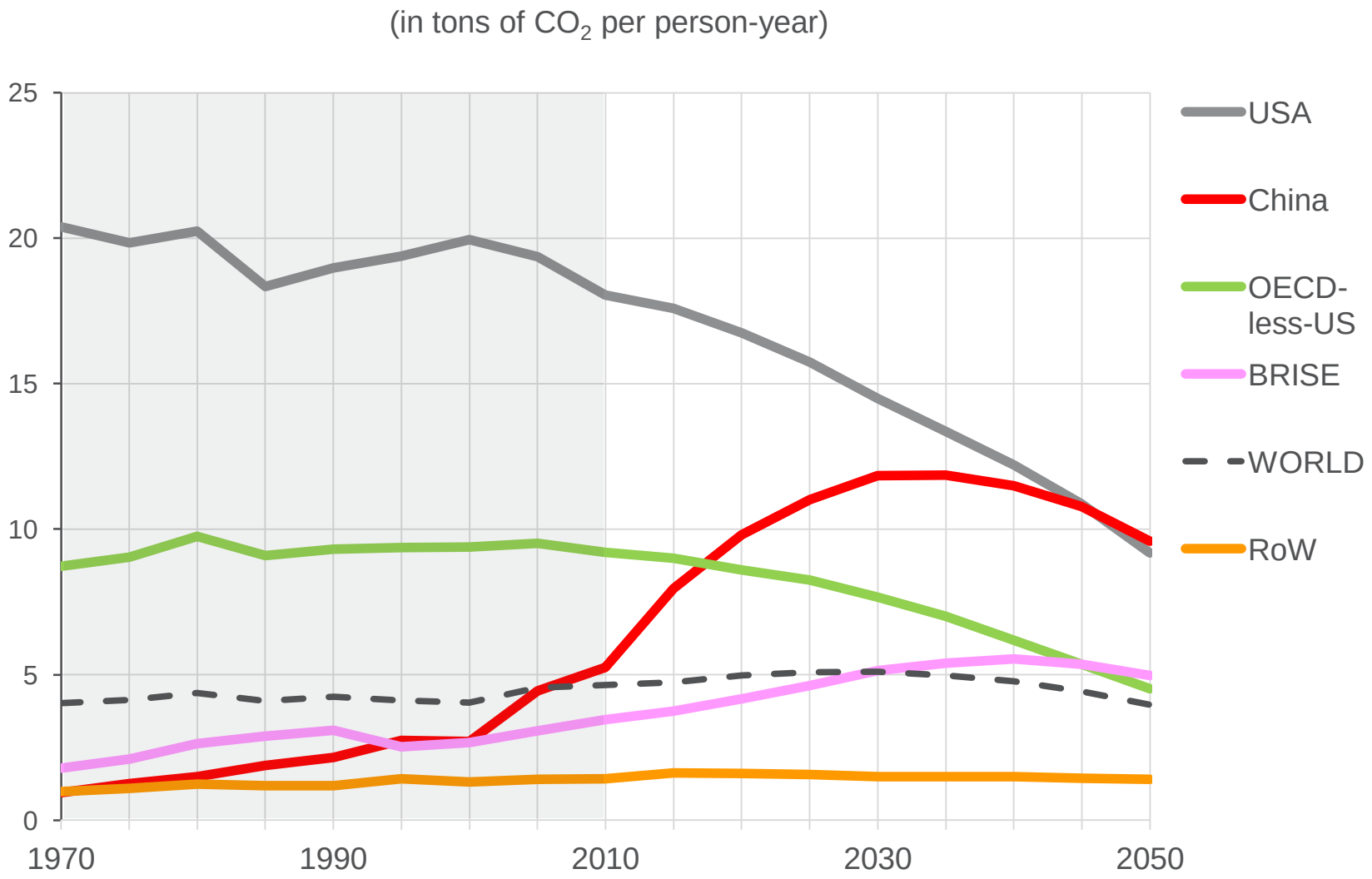


Figure 5-2: Energy Uses – World 1970 to 2052

CO2 emissions per person – 1970 to 2050



Source: Jorgen Randers, *2052*, Chelsea Green, Vermont, May 2012

What to do?

To create a better world for our grandchildren

- Have fewer children, especially in the rich world
- Reduce the ecological footprint, first by slowing the use of coal, oil and gas
- Construct a low-carbon energy system in the poor world, paid for by the rich
- Create new (supranational?) institutions that can counter national short-termism
- Develop a new goal (life satisfaction?) for rich world development

I don’t like what I see!