



The great context

By Ivar Moltke, Danish Technological Institute, October 2010

More bubbles to burst adding up to the the perfect storm 2030

Oil production is down 40%

Global warming is up 1 degree

World population is up 30%

Senior citizens and pensions are up 60%

A growing number of raw materials are declining

And

Computers are more intelligent than humans



Are you ready to make these crisis

**Your greatest
opportunity**



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Mindset

VS.

Consume

Product focus

Growth

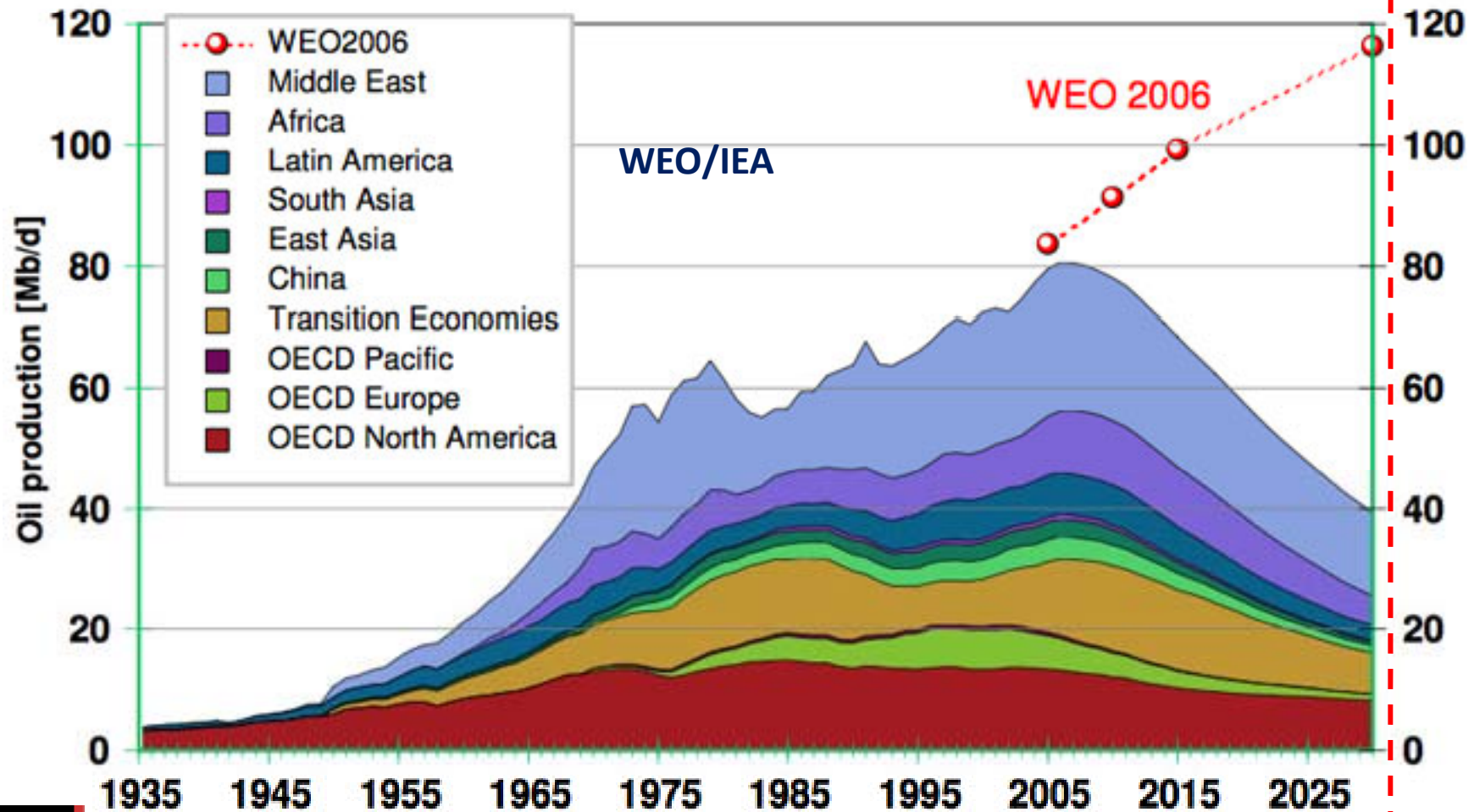
Use and recycle

User focus

Development

Oil shortage

Oil production world summary

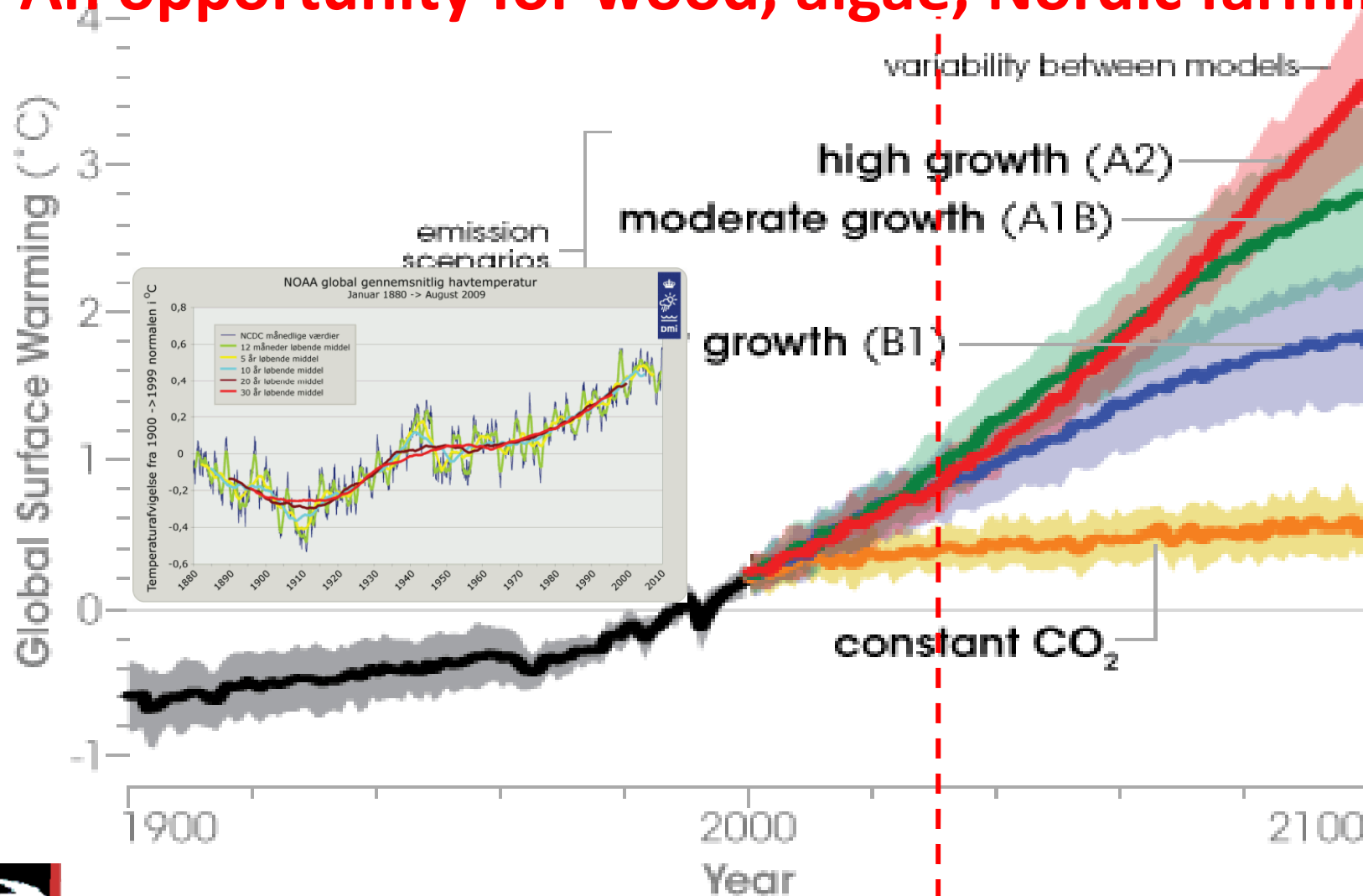


an opportunity for savings, electric cars and renewables

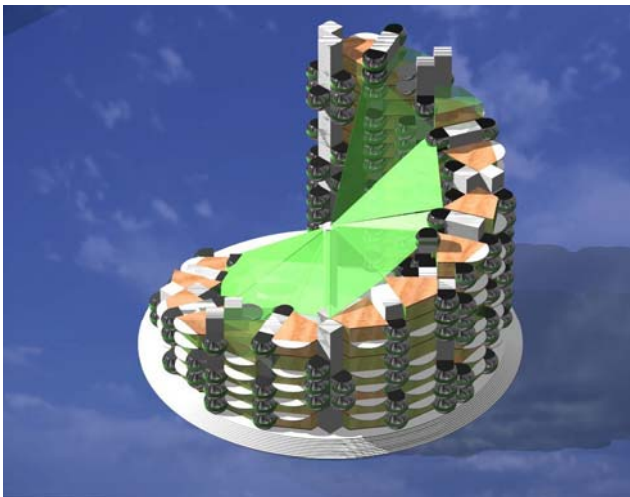
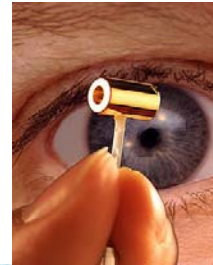
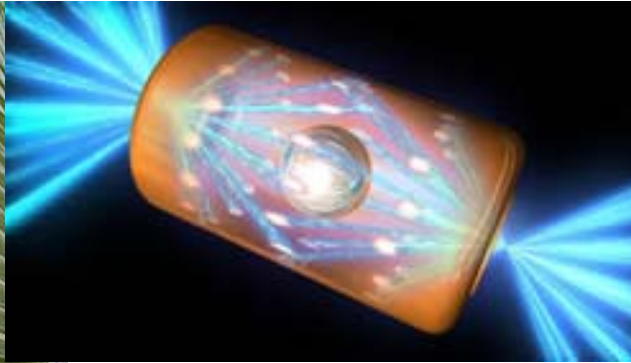


Global Warming

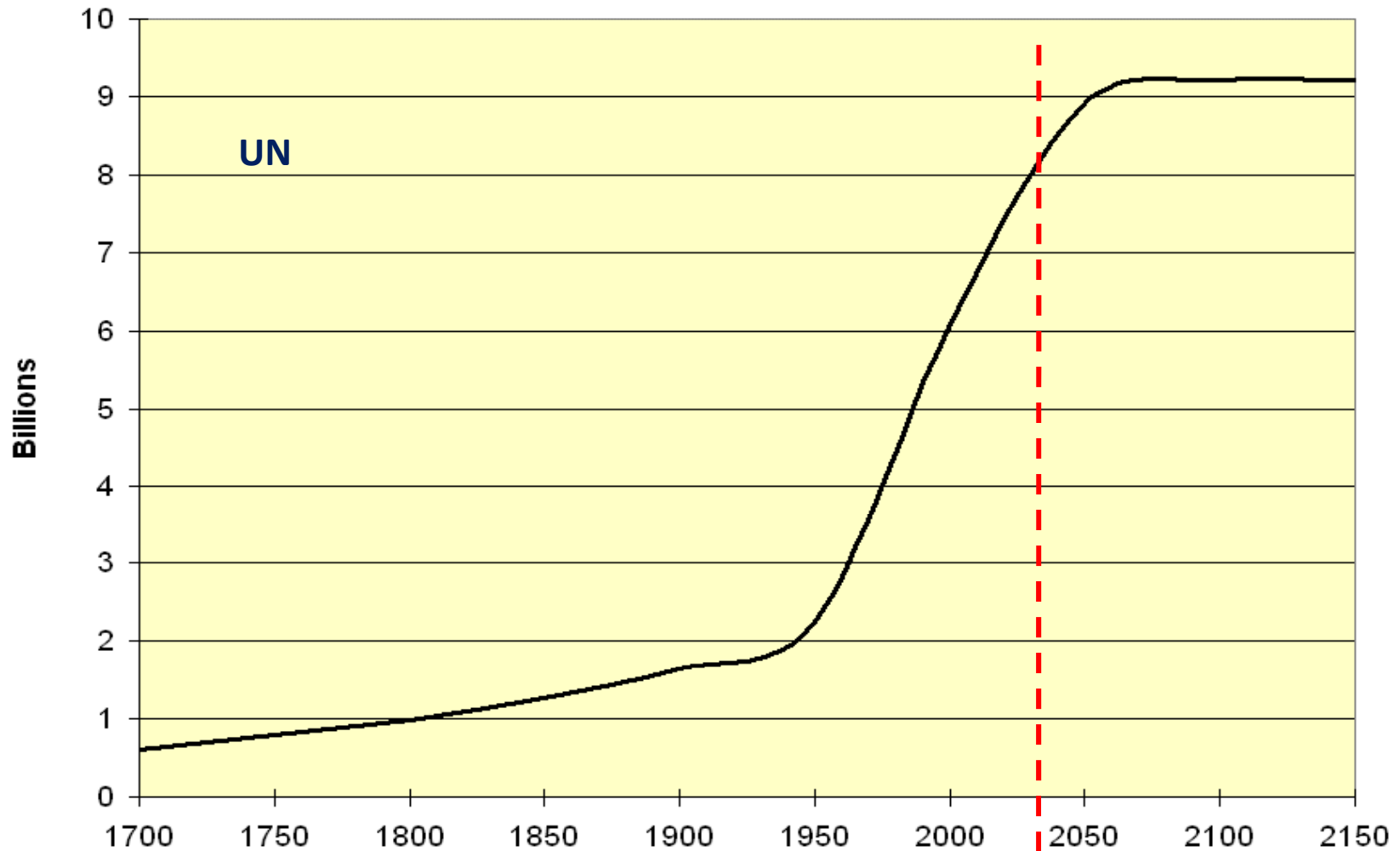
An opportunity for wood, algae, Nordic farming

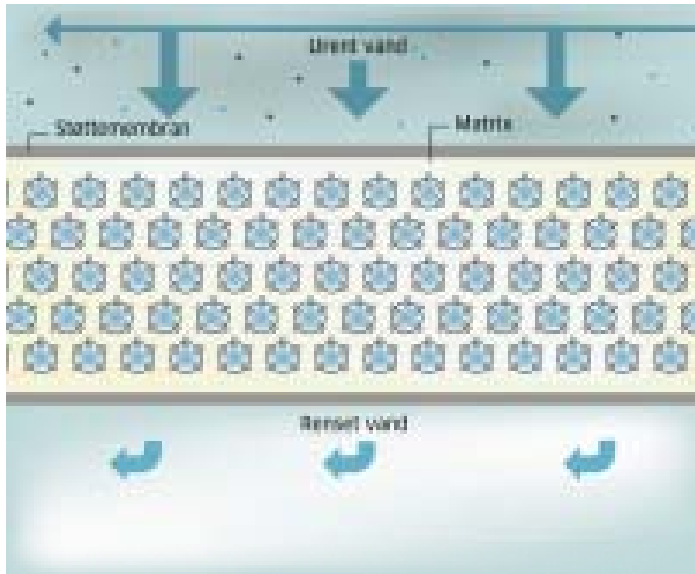


An opportunity, algae, Nordic farming, floating buildings



World population





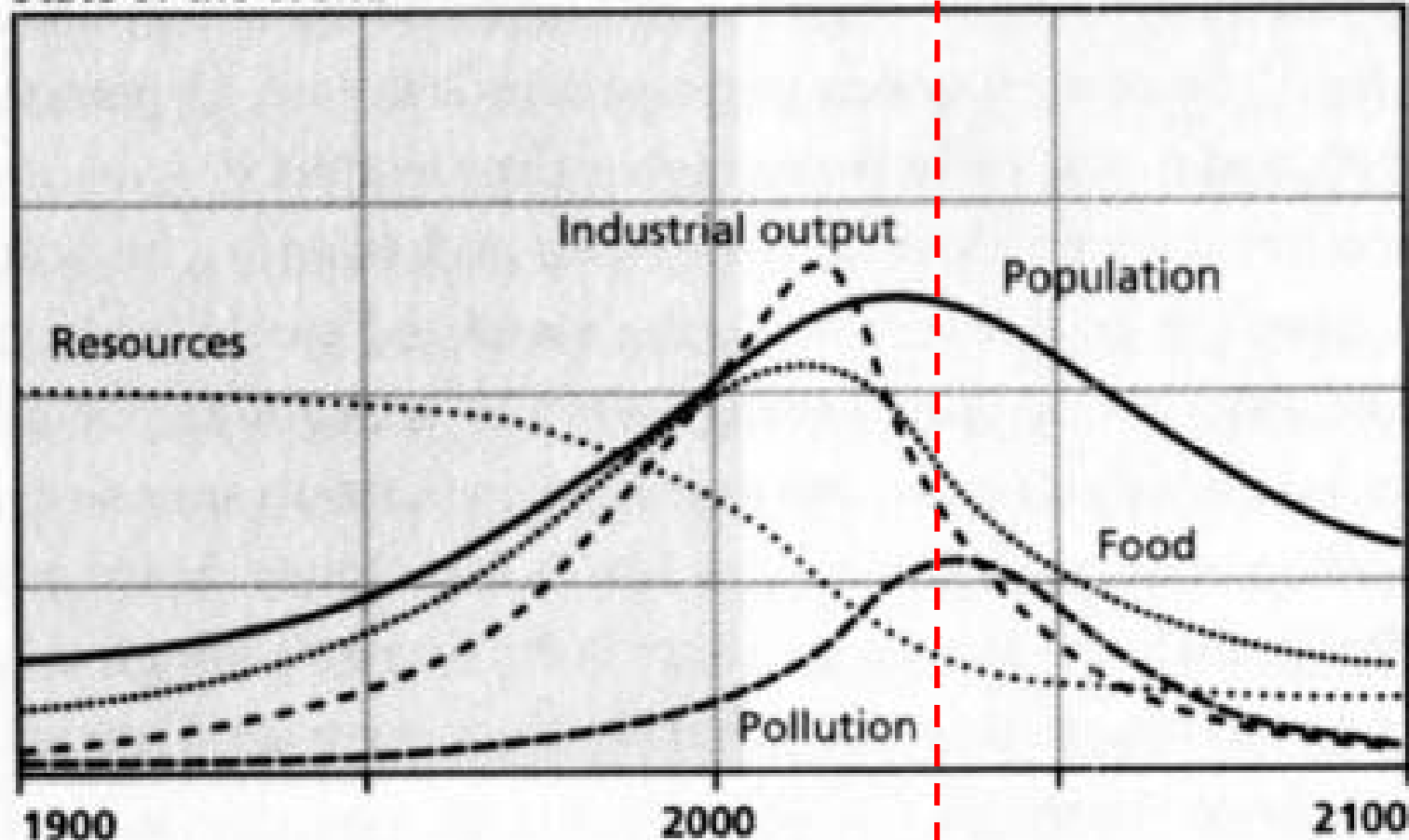
An opportunity for food, water, health care, education



Limits to growth

Limits to growth

State of the World



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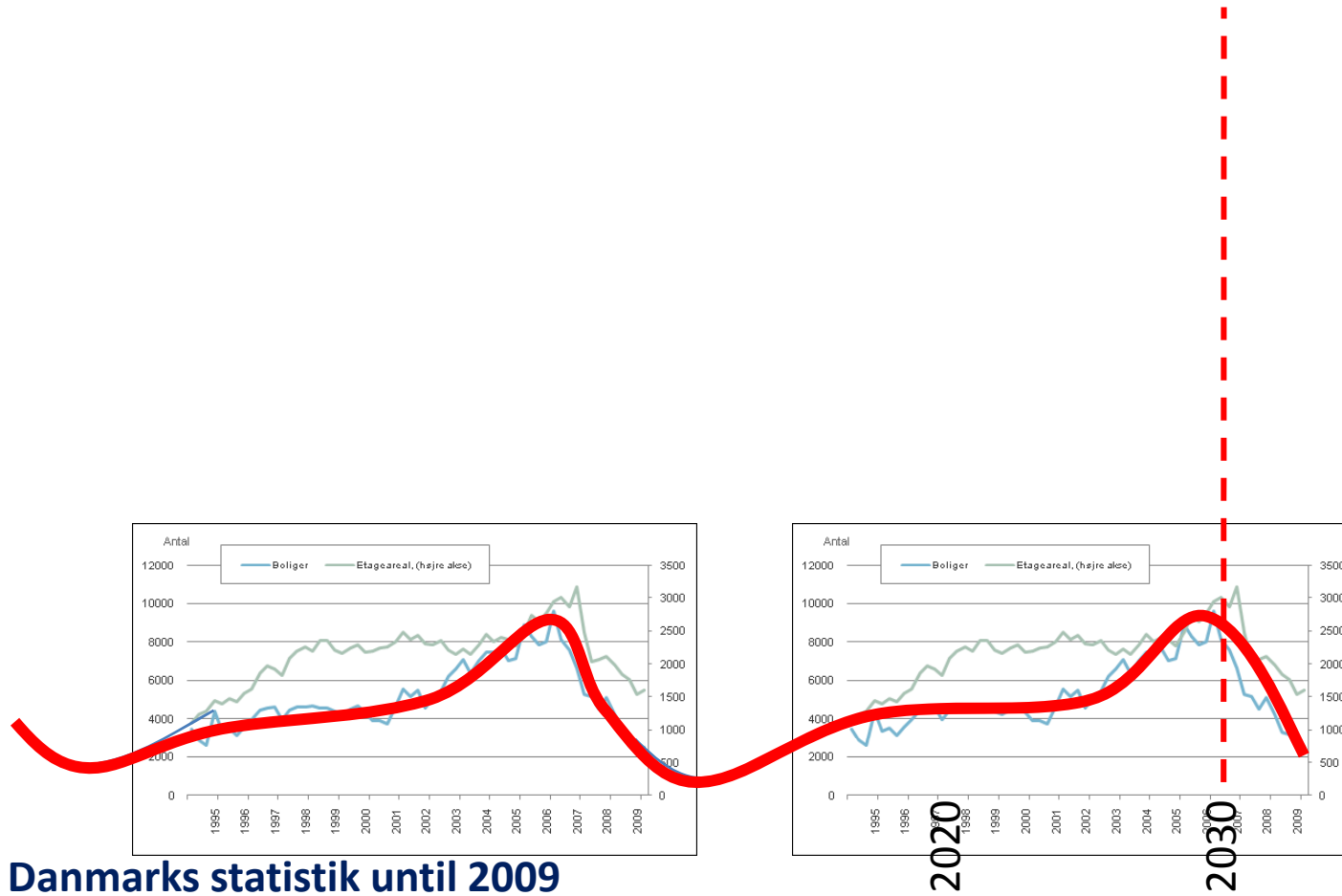
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An opportunity for substitutions, swarm intelligence and 3D printers



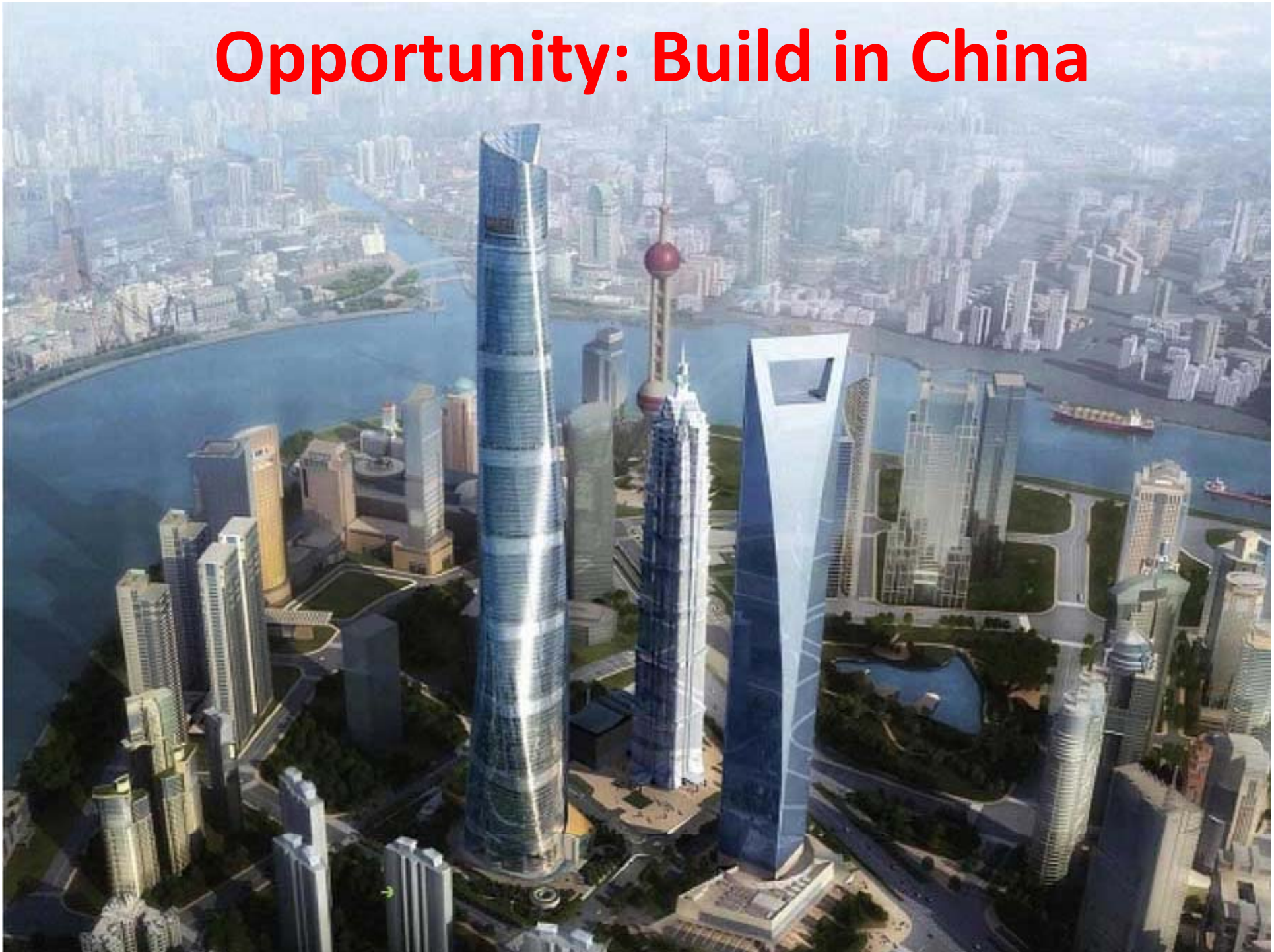
Few new houses in OECD



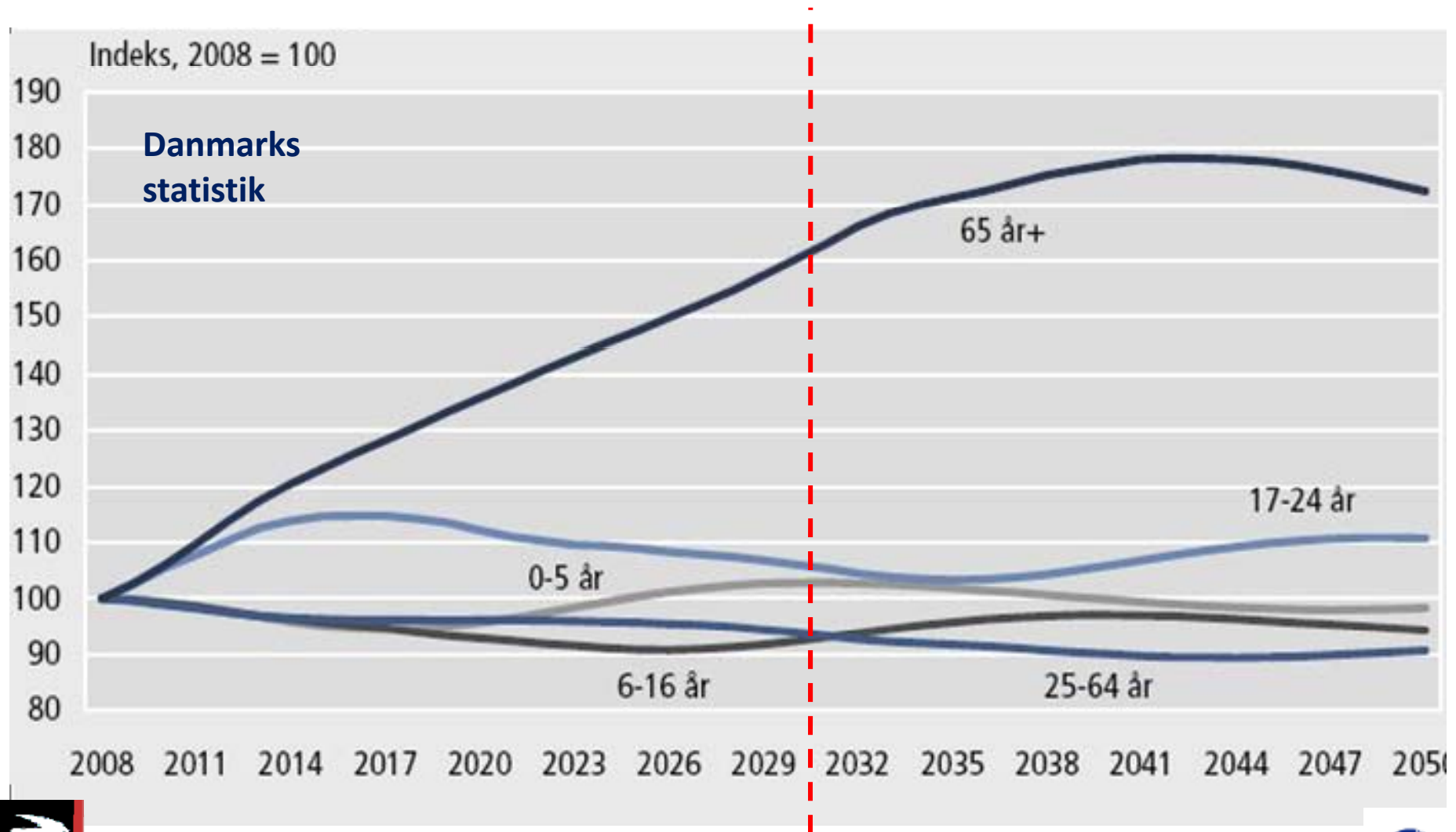
Danmarks statistik until 2009



Opportunity: Build in China



Aging society



A microscopic image of a cell culture, likely fibroblasts, showing a dense network of cells. Several distinct clusters of cells are highlighted with a yellow glow, indicating areas of interest or specific cell types. The overall image has a blueish tint, typical of phase-contrast microscopy.

An opportunity for health care, stem cells, robots, senior housing

Evolution of Computer Power/Cost

Brain Power Equivalent per \$1000 of Computer

MIPS per \$1000 (1997 Dollars)

Million

Singularity

A giant robot opportunity

1000

1

1

1000

1

Million

1

Billion

1900

1920

1940

1960

1980

2000

2020

Year

Human

Monkey

Mouse

Lizard

Spider

Nematode
Worm

Bacterium

Manual
Calculation



Burroughs Class 16

IBM Tabulator

Monroe Calculator

Zuse-1

ASCC (Mark 1)

Colossus

ENIAC

UNIVAC I

Whirlwind
IBM 704

IBM 7090

DEC PDP-10

CDC 7600

DG Eclipse

Apple II

IBM PC

Sun-2

Commodore 64

Macintosh-128K

Mac II

Gateway-486DX2/66

PowerMac 8100/80

Gateway G6-200

IBM PS/2 90

AT&T Globalyst 600

Power Tower 180e

Mac IIcx

Sun-3

Vax 11/750

DEC VAX 11/780

DEC-KL-10

DG Nova

SDS 920

IBM 360/75

IBM 7040

Burroughs 5000

IBM 1620

IBM 650



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