

Peter Strachan

WA Senate Candidate - Stable Population Party
BSc, Grad Dip Fin, SF Finsia, AF SAA

Can Australia Afford a Big Population Option
July 2013

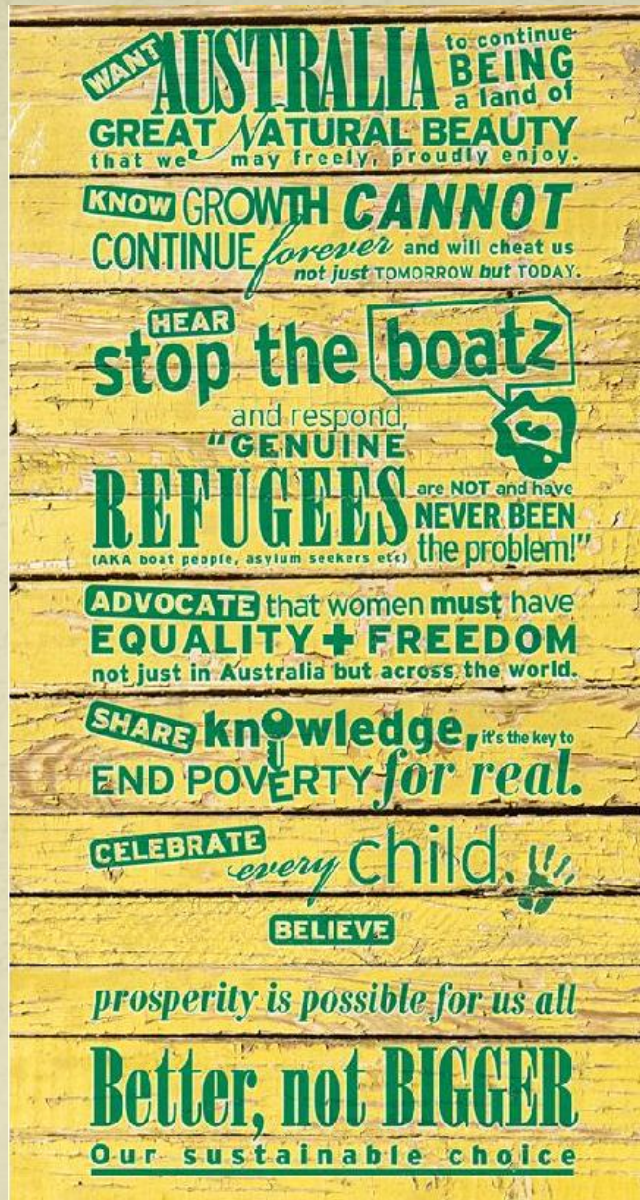


This is Our World & We Live in It

**The global economy
exists within &
depends on the
natural environment.**



**Aurora Australis and
Earth's troposphere**



Australia's sustainable choice

Stable Population Party

NO ONE WINS THE HUMAN RACE!



A sustainable Australia starts with a stable population.

Quotable Quotes

Democracy cannot survive overpopulation. Human dignity cannot survive it. Convenience and decency cannot survive it. As you put more and more people into the world, the value of life not only declines, it disappears. It doesn't matter if someone dies. The more people there are, the less one individual matters."

Isaac Asimov

"We must alert and organise the world's people to pressure world leaders to take specific steps to solve the two root causes of our environmental crises - exploding population growth and wasteful consumption of irreplaceable resources. Over-consumption and overpopulation underlie every environmental problem we face today."

Martin Luther King

"Instead of controlling the environment for the benefit of the population, maybe we should control the population to ensure the survival of our environment."

Stephen Hawking

Quotable Quotes

Mathematician Bertrand Russell, writing about overpopulation at a time when the world's population was half of what it is now, said, "Mankind would rather commit suicide than learn arithmetic." Humans have evolved to pay attention to local disasters, like tornadoes or earthquakes, but a slow-moving, global disaster like overpopulation gets overlooked. We're beginning to talk about the consequences of overpopulation—global warming, pollution, depletion of resources, wars and immigration—but we need to address the root cause. **Michael E. Arth (US Senate Candidate)**

Read more: <http://motherboard.vice.com/blog/birth-credits-population-control#ixzz2YB4jVF4V>

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Quotable Quotes

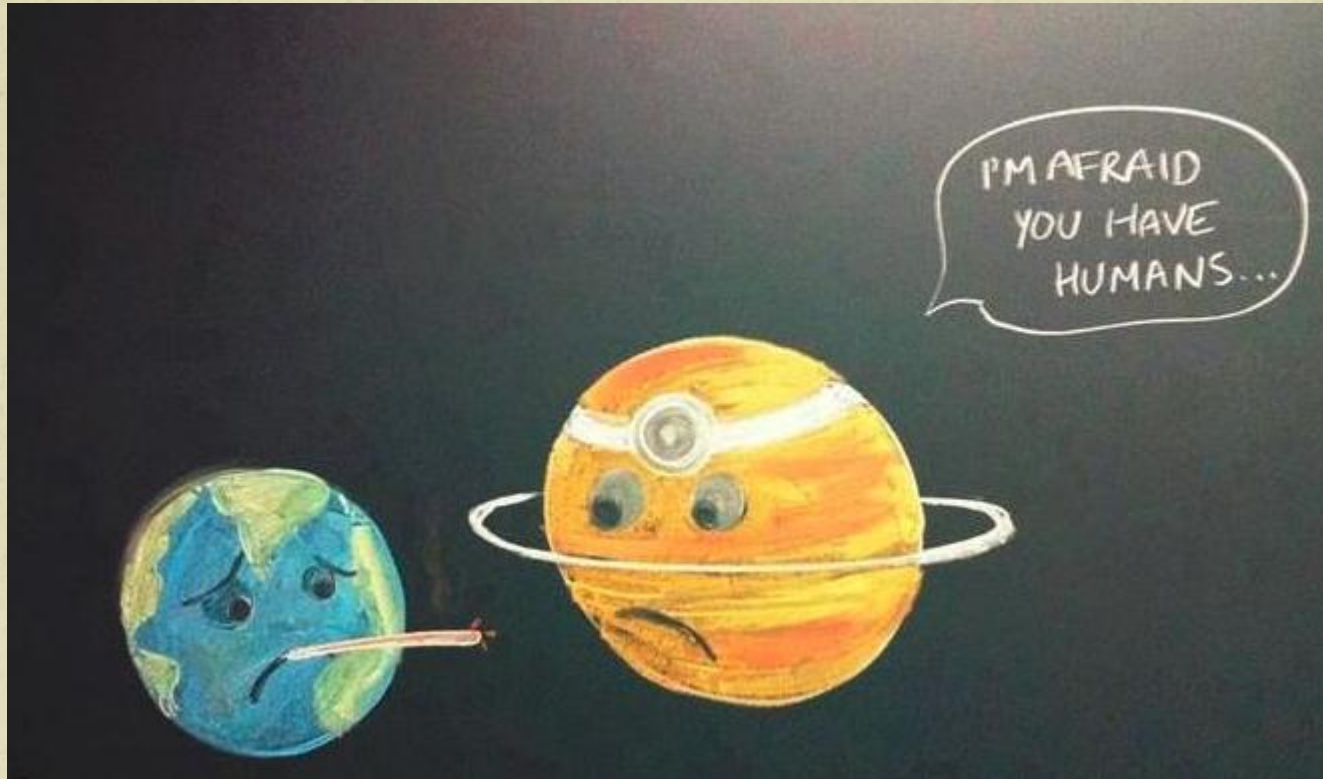
“It is a necessary, short-term, intermediate pain to pay for the absolute minimum hope of survival, which is a gracefully declining population, because if you don't do that you will have a rapidly imploding population one day.”

Jeremy Grantham in a Guardian interview, 12 April 2013

Global Population Progression

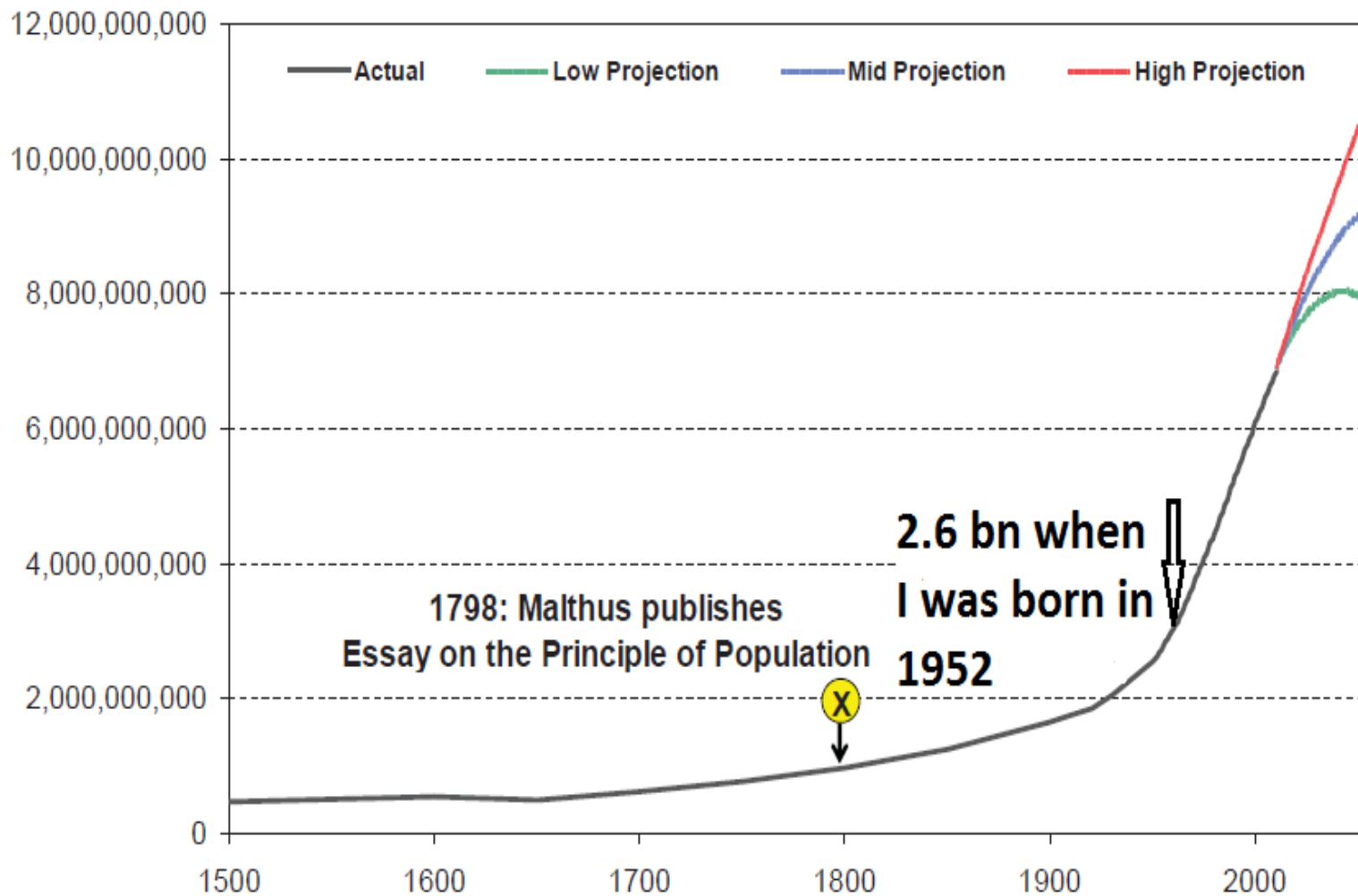
Each dot represents 1 million people





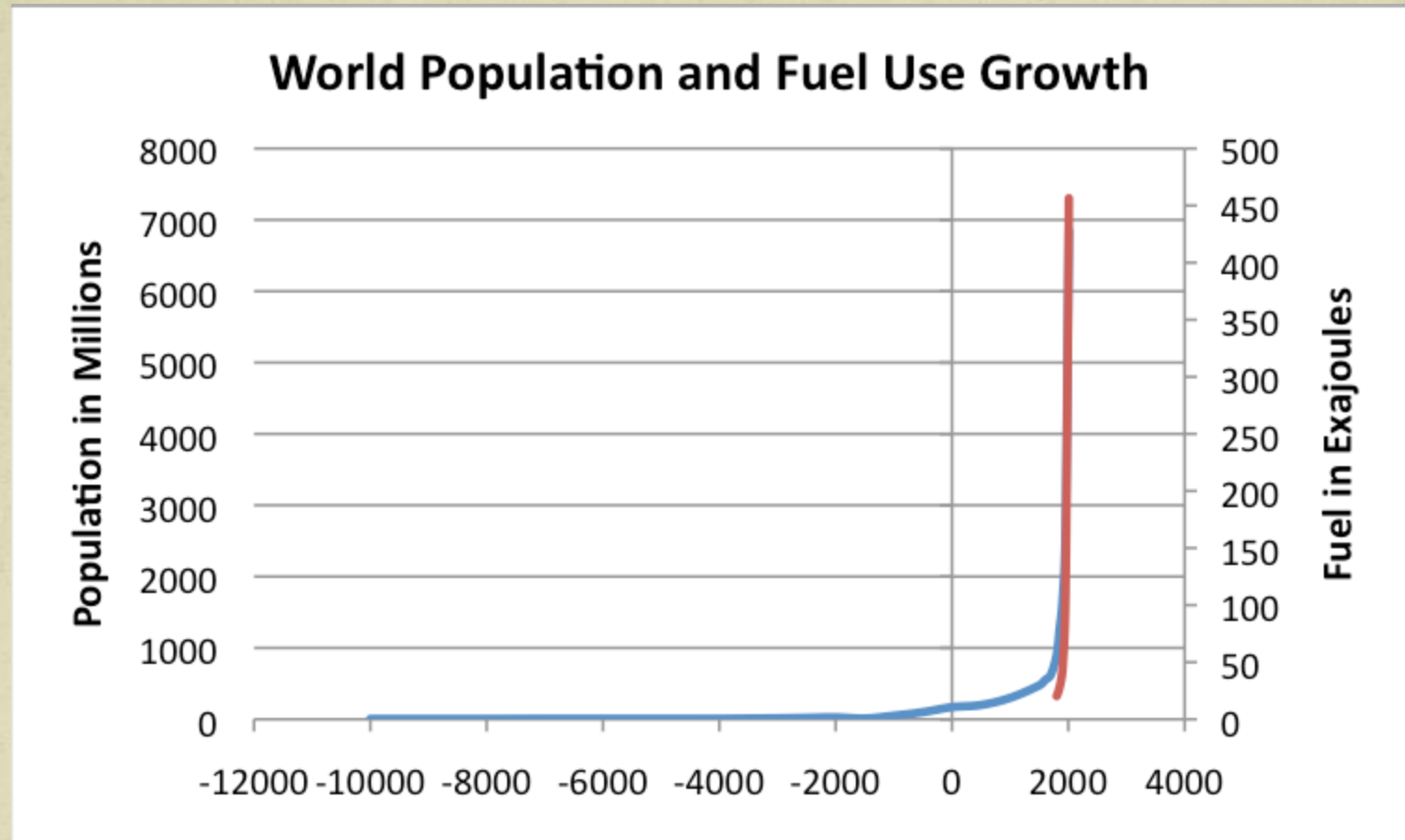
With thanks to PMC Daily Email

World Population: 1500-2050



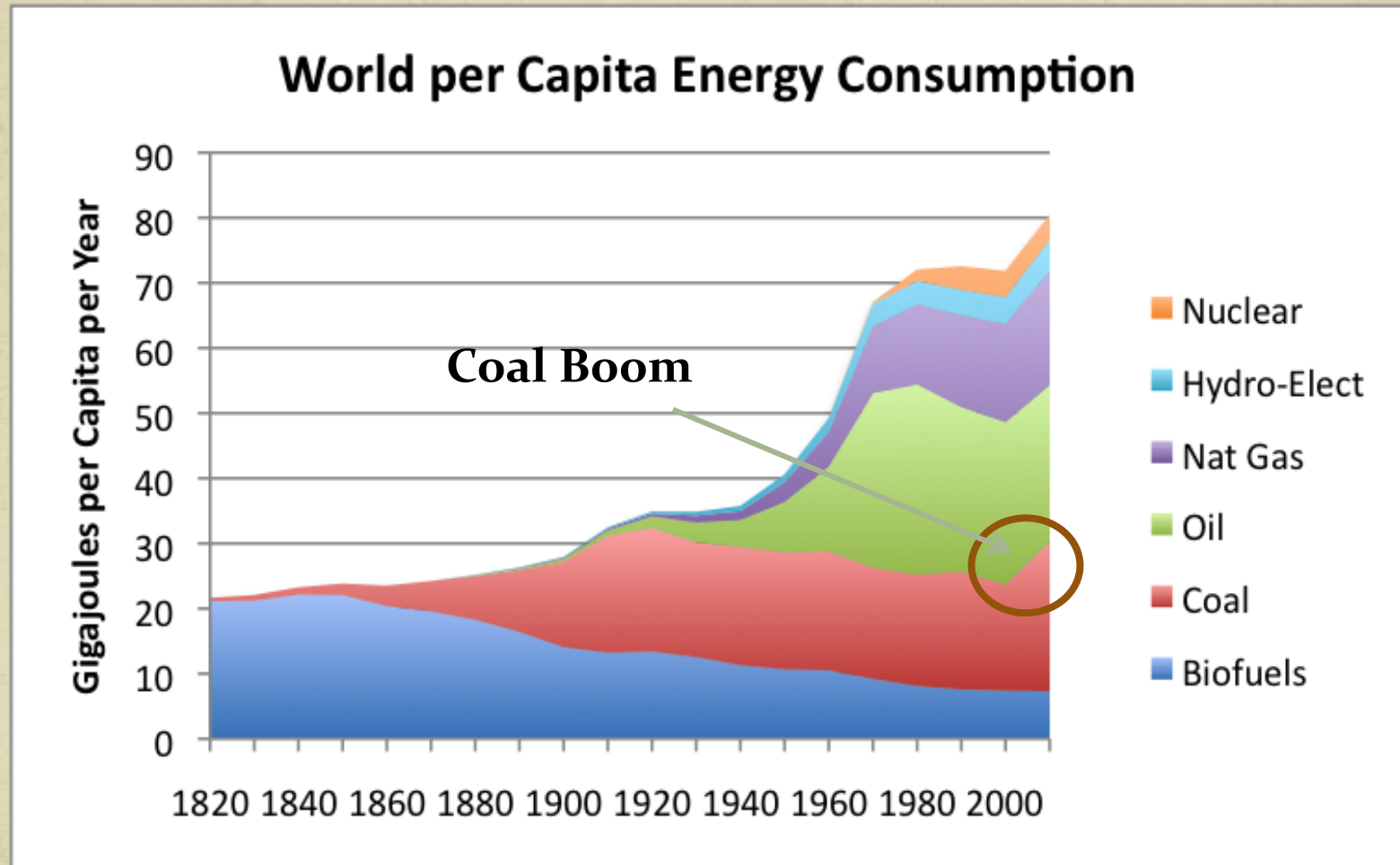
Source: U.S. Census Bureau, United Nations Actual data as of 12/31/10

Population relies on available energy



World population from US Census Bureau, overlaid with fossil fuel use (red) by Vaclav Smil from Energy Transitions: History, Requirements, Prospects

Without coal from Australia, Indonesia & China,
per capita energy would have fallen



Those who forget
the past are doomed
to repeat it.



History Of Celtic Britain S1 Ep2 - Age Of Warriors

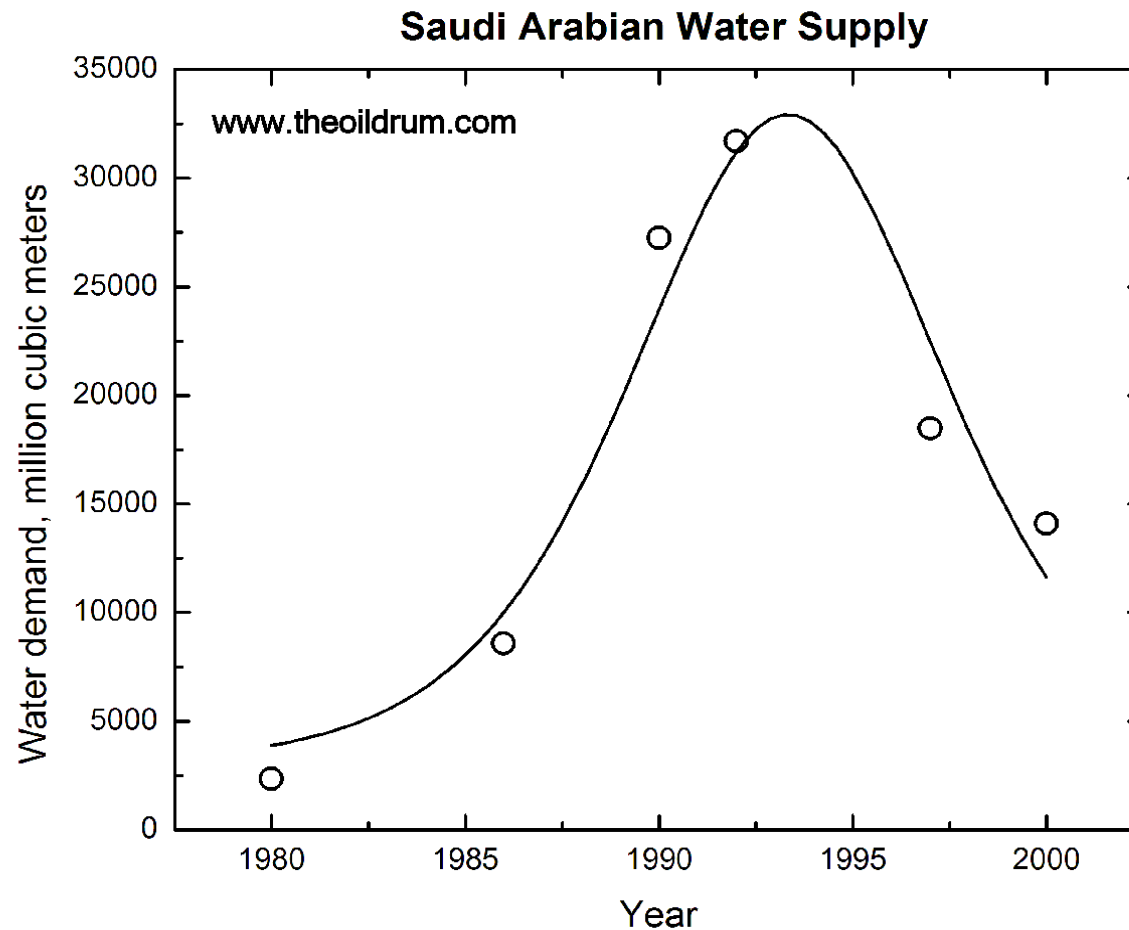
www.sbs.com.au

Age of Warriors - An epic exploration of the Celtic and Roman ages with Neve McIntosh. In this episode, the fast growing tribes of Britain turn violent. But out of the fighting something remarkable appears - glorious art and design, as v

A HISTORY OF CELTIC
BRITAIN: "The physical
size of our Island was
beginning to tell" ... "the
population continued to
grow beyond the capacity
of the land" ... "you get
tension" ... "you fight for
resources"... "it would
escalate into violent
warfare".

<http://www.sbs.com.au/ondemand/video/33690179515/A-History-Of-Celtic-Britain-S1-Ep2-Age-Of-Warriors>

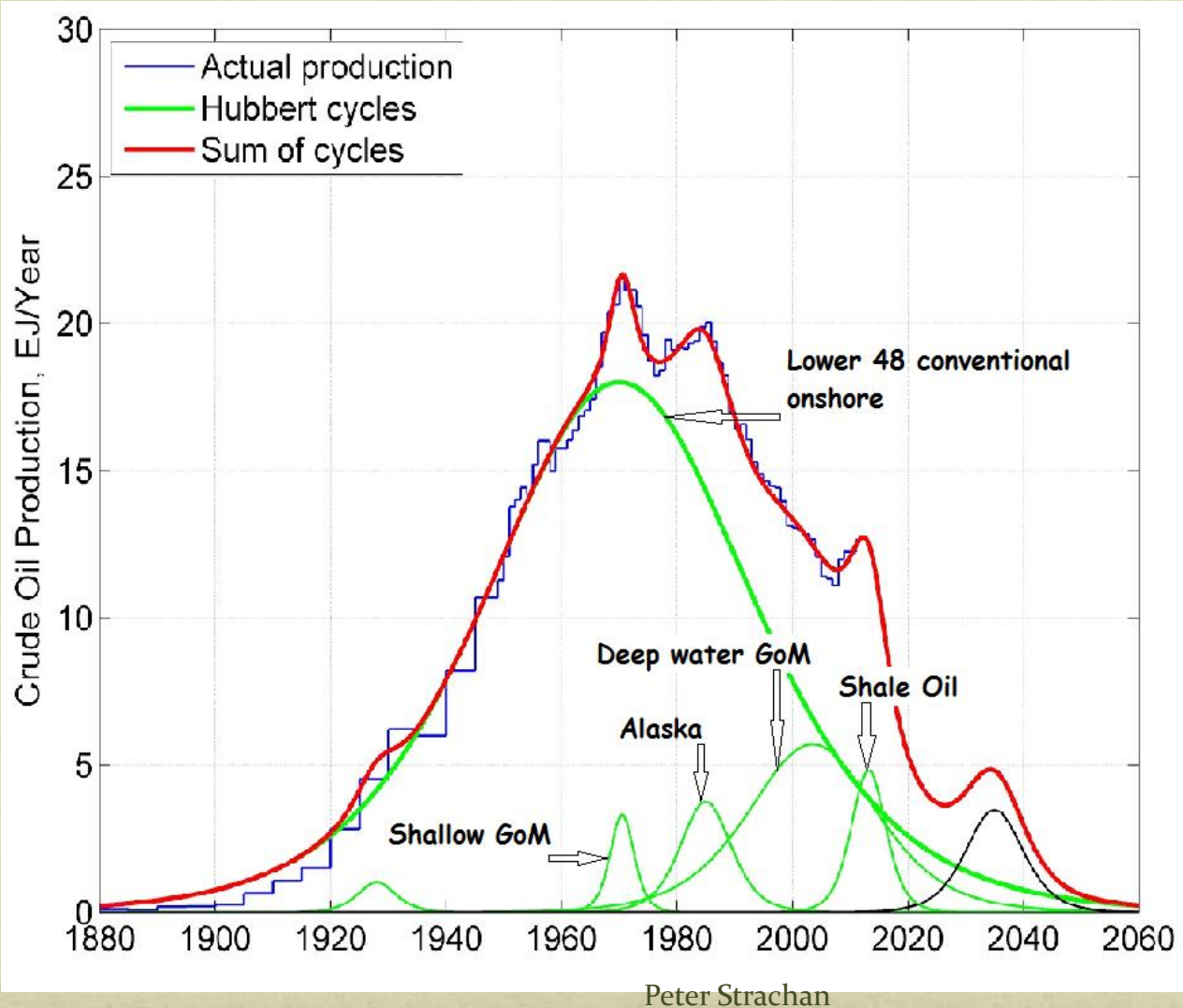
Concept of production from non-renewable or slowly regenerating Resource



Data from Abderrhaman, http://www.idrc.ca/en/ev-93954-201-1-DO_TOPIC.html

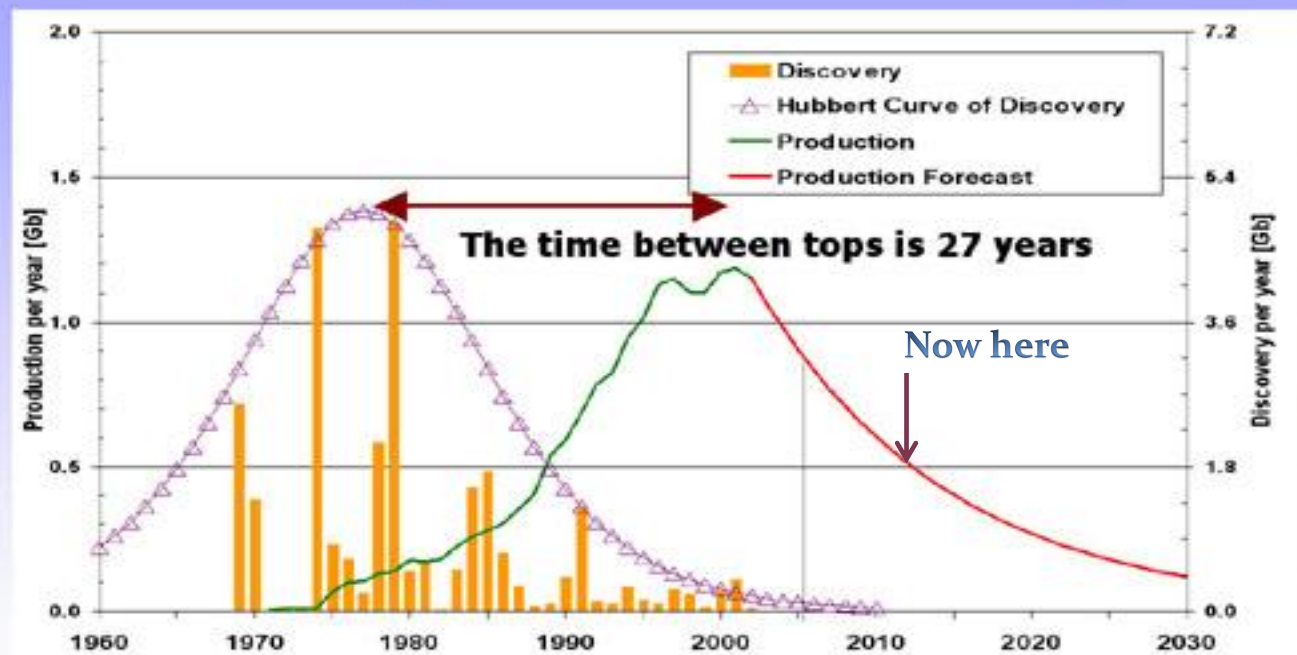
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Inexorable decline of US oil production



AFTER DISCOVERY RATE DECLINES, PRODUCTION DECLINE FOLLOWS - NORWAY

Found and produced oil in Norway

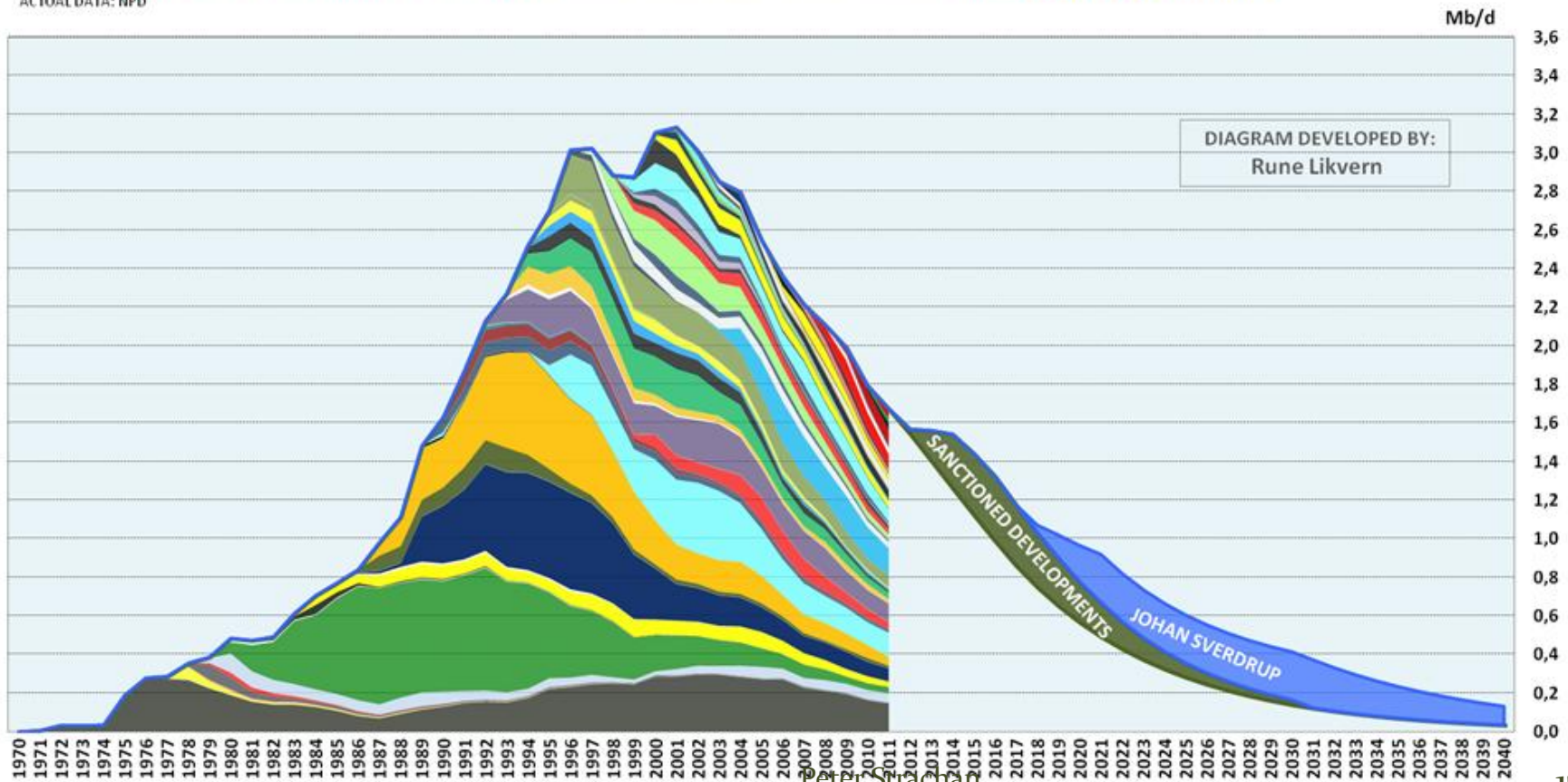


Production from each field peaks & then declines, so together production from an entire basin & all basins form the same pattern

NORWAY, CRUDE OIL PRODUCTION 1970 - 2011

AND A FORECAST TOWARDS 2040 WITH SANCTIONED DEVELOPMENTS AND JOHAN SVERDRUP

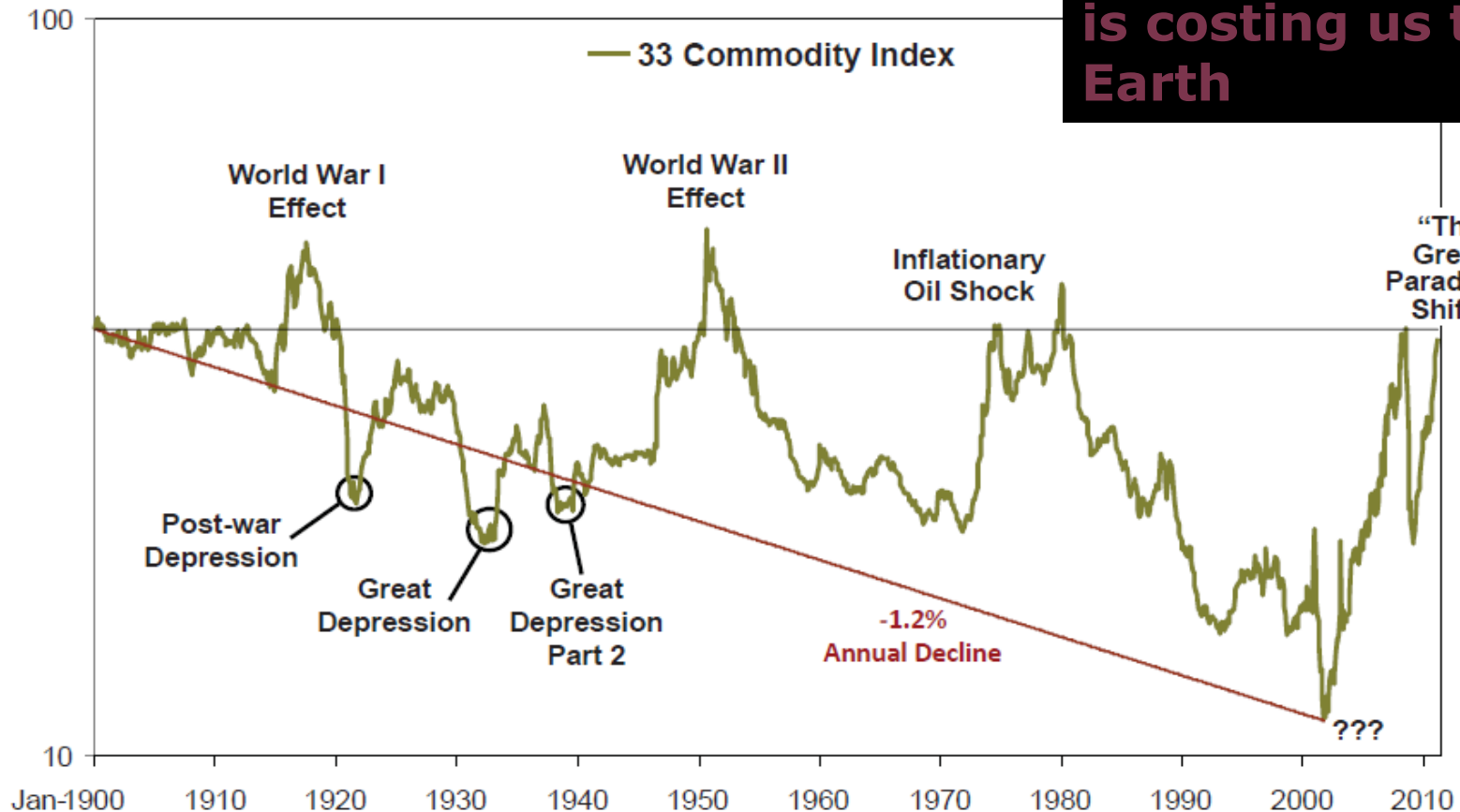
ACTUAL DATA: NPD



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GMO Commodity Index: The Great Paradigm Shift

population growth
is costing us the
Earth

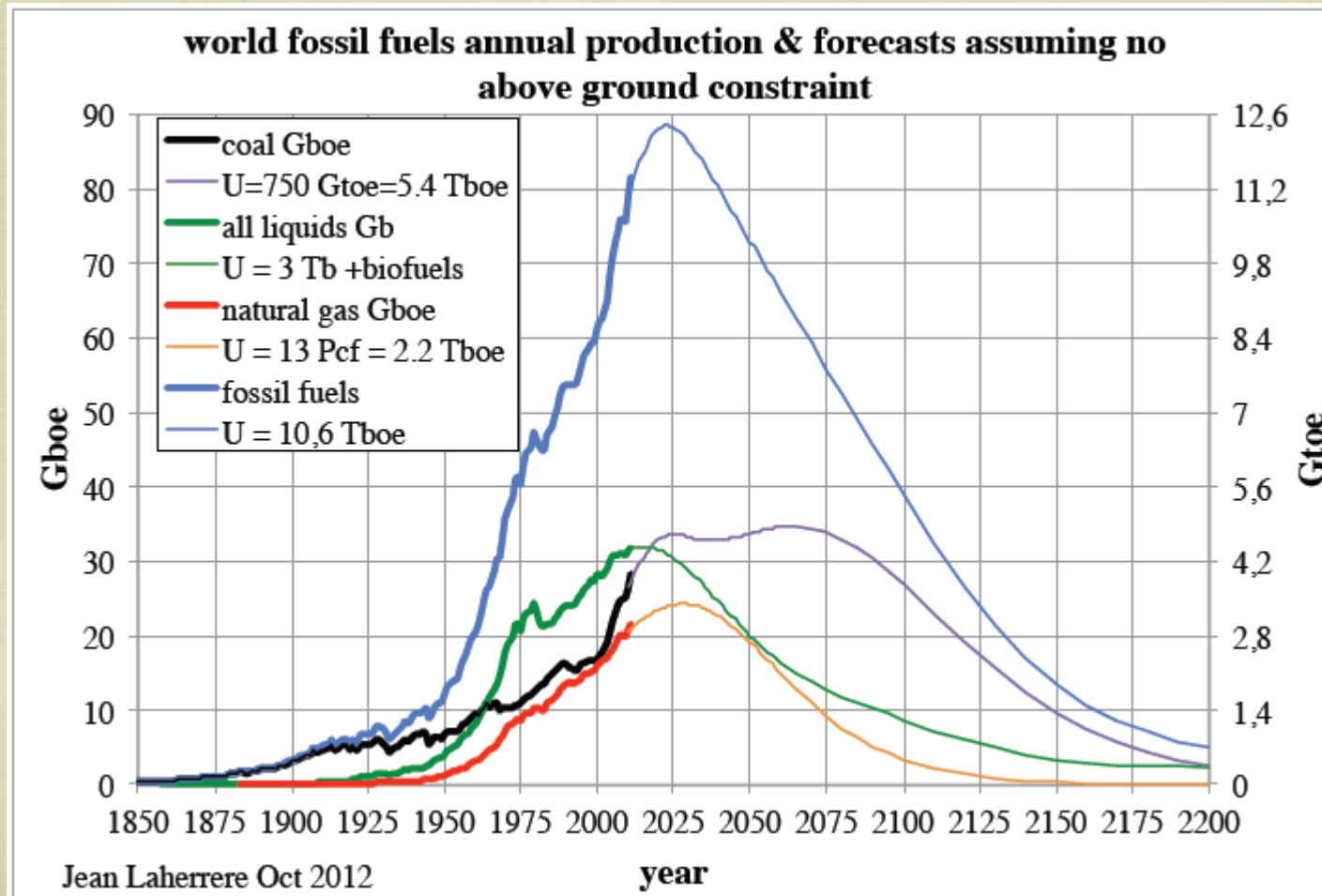


Note: The GMO commodity index is an index comprised of the following 33 commodities, equally weighted at initiation: aluminum, coal, coconut oil, coffee, copper, corn, cotton, diammonium phosphate, flaxseed, gold, iron ore, jute, lard, lead, natural gas, nickel, oil, palladium, palm oil, pepper, platinum, plywood, rubber, silver, sorghum, soybeans, sugar, tin, tobacco, uranium, wheat, wool, zinc.

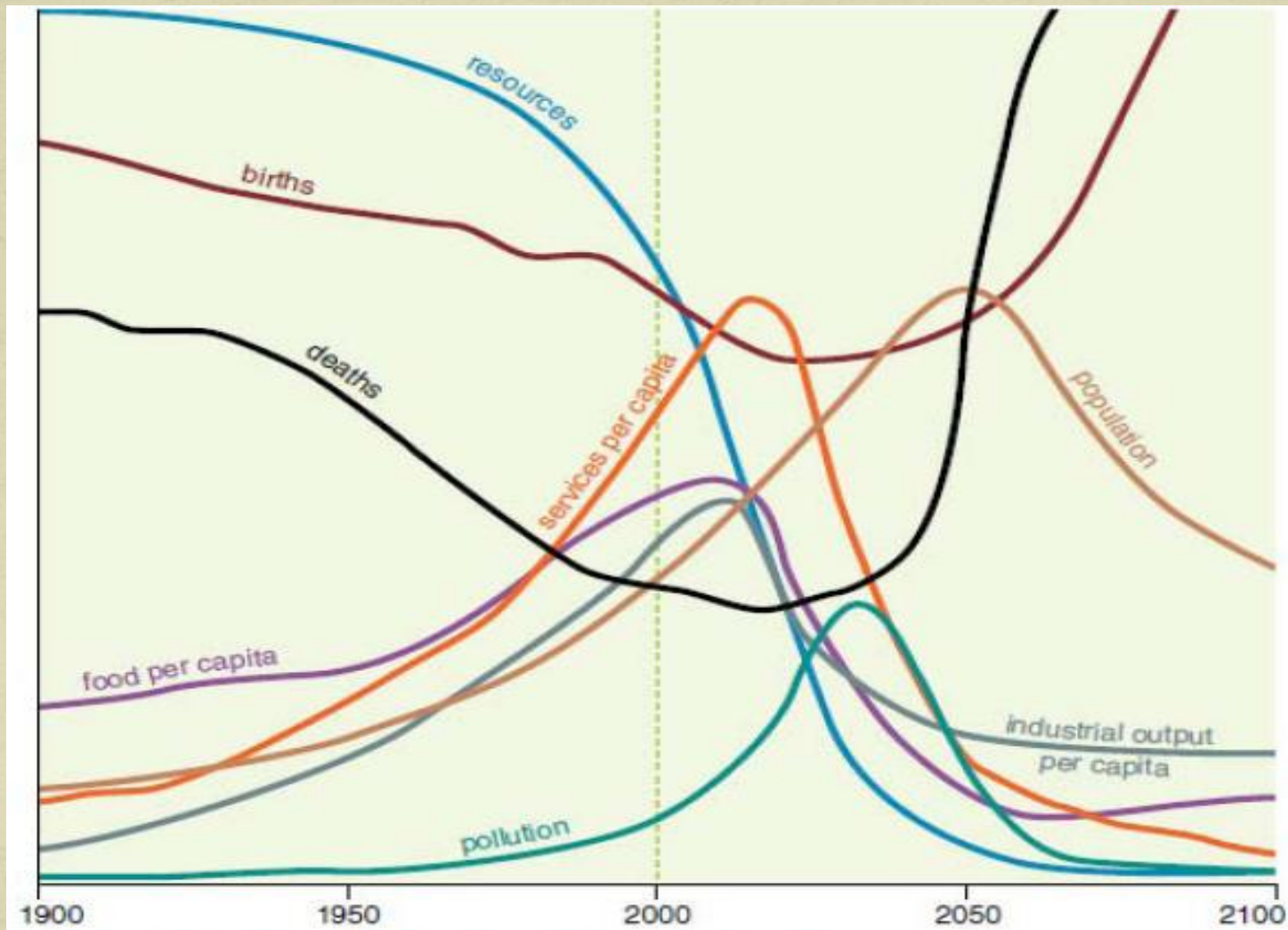
Source: GMO As of 2/28/11



Oil production is on a plateau, natural gas production will peak by 2030 & coal will reach a 50 year output plateau by 2025.

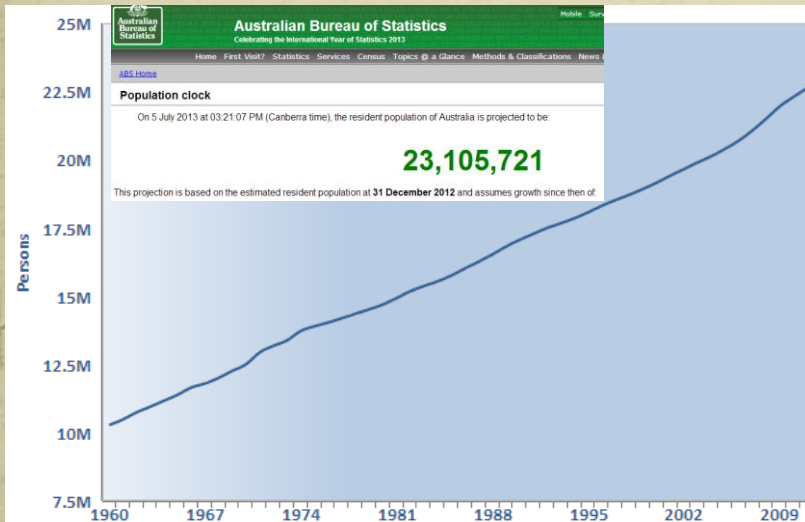


Limits to growth revisited

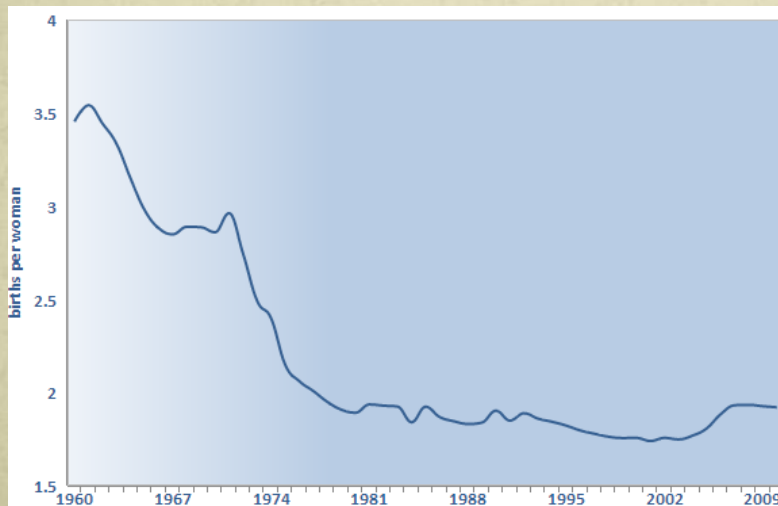
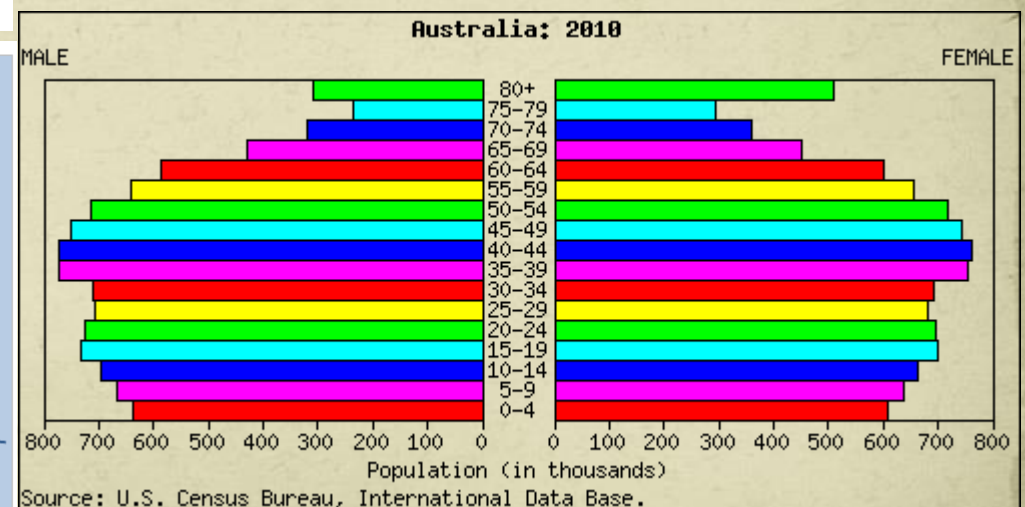
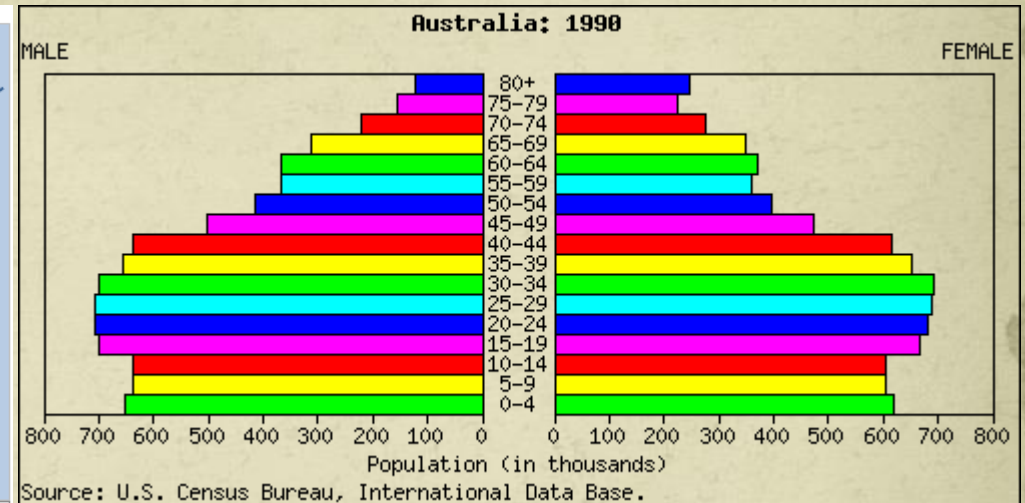


Source: Charles A. S. Hall and John W. Day, Jr

Australian Fertility rate has recently bounced under the influence of pro-natal policies



Source: [World Development Indicators \(WDI\)](#) & [Global Development Finance \(GDF\)](#), September 2012



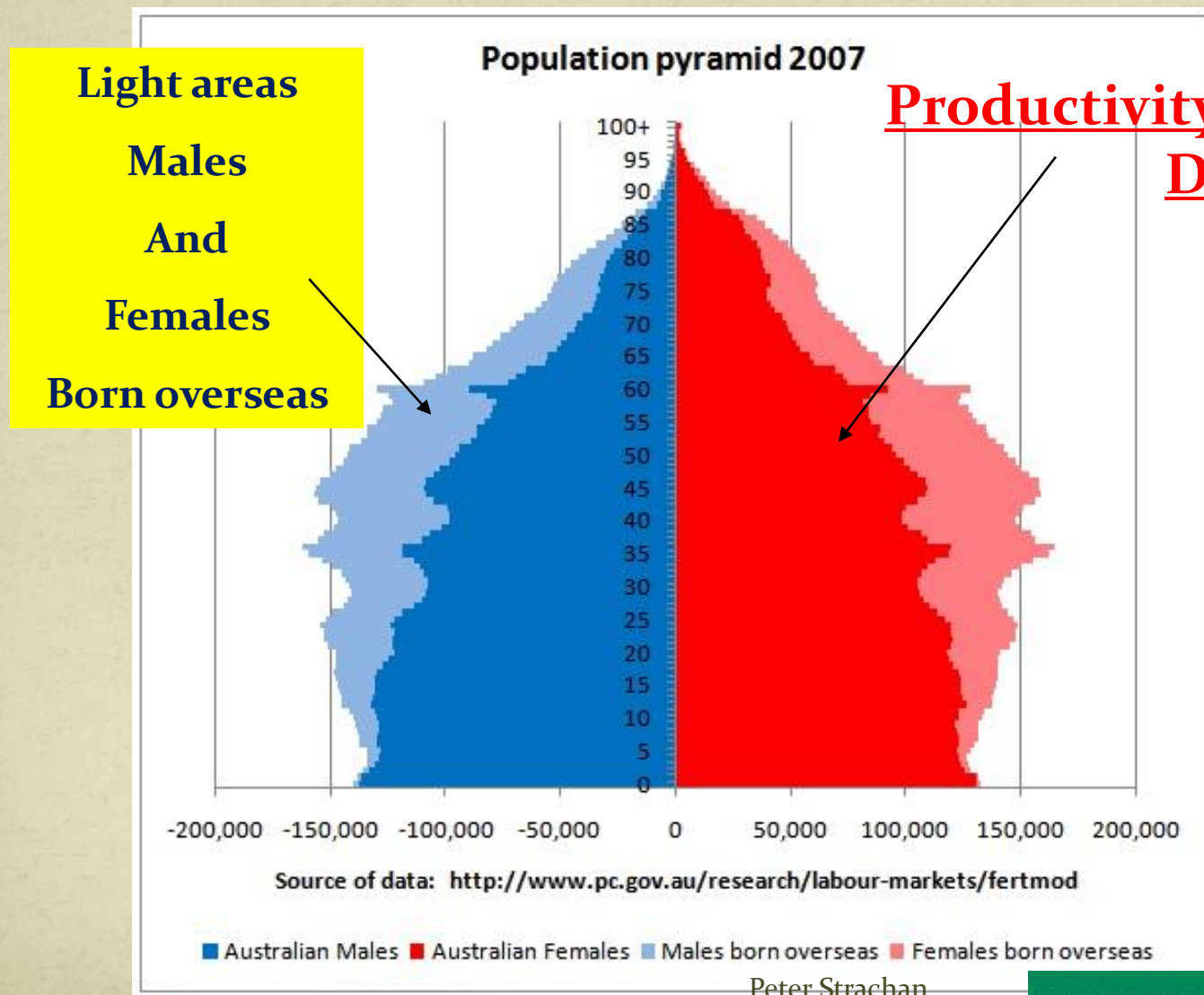
Source: [World Development Indicators \(WDI\)](#) & [Global Development Finance \(GDF\)](#), September 2012

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STABLE POPULATION PARTY ★

22

Aging population profile is exaggerated by immigrants,
who make up a large portion of the aging 'bulge'



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Environmental Impact Equation

$$I = P \times A \times T$$

I = Total consumption, environmental **Impact** or pollution outcome

P = The number of people or **population**

A = Individual **Affluence** or the propensity to consume

T = **Technology** impact

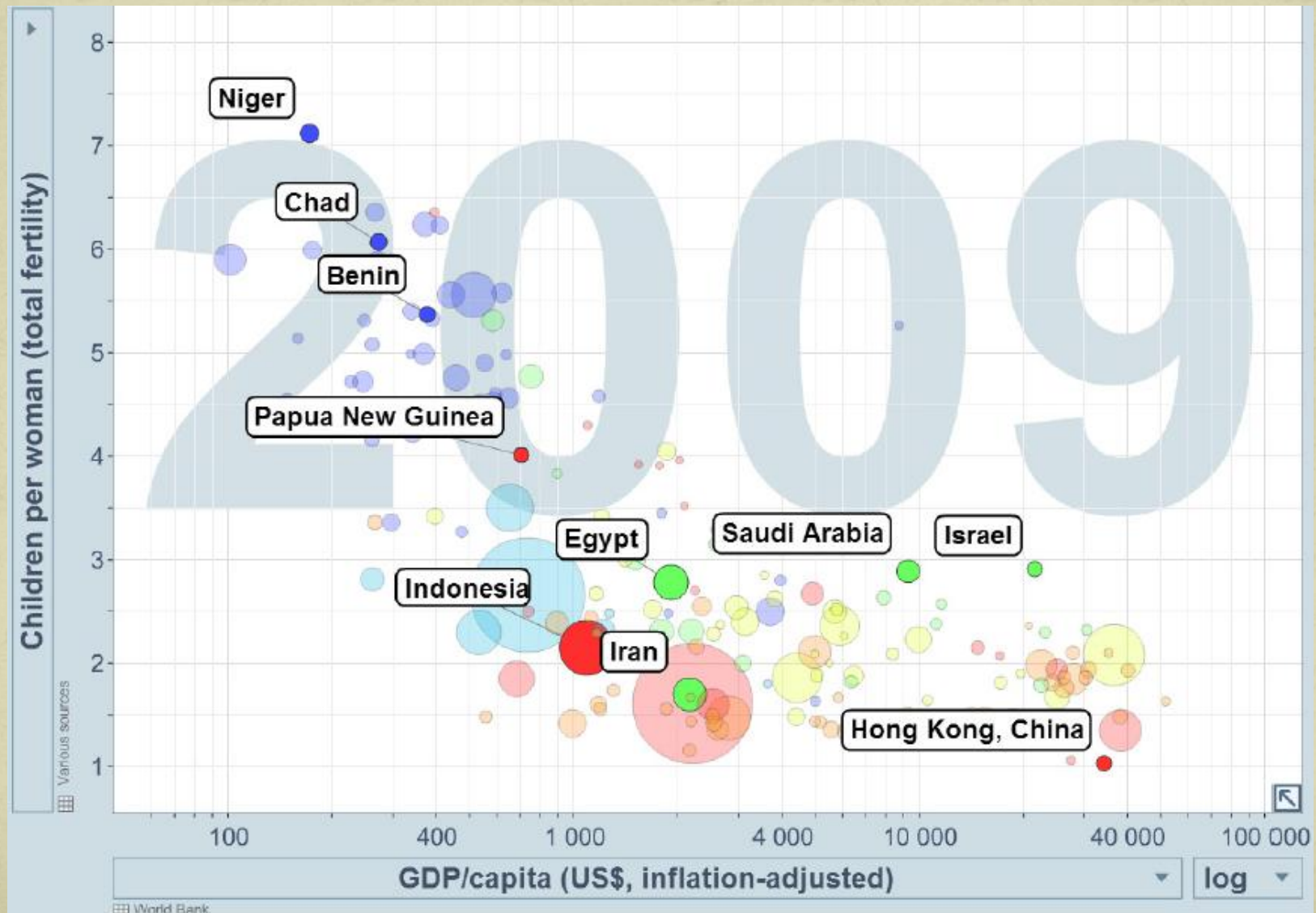
Population growth is impoverishing Australians & eroding quality of life

- **The per capita cost of infrastructure is now estimated to be at least \$200,000**
 - Australia has an infrastructure backlog of \$770 billion
 - Crippling local, state & federal government budgets
 - Population growth costs around \$1.40 for every \$1 of revenue it generates
- **In 2010-11, Australia had 3.8 hospital beds per 1000, down from 6 in 1970-71**
- **Between 1971 & 2012 population rose 77% to 23 million while vehicles on Australian roads rose 340% to 17 million from 5 million**

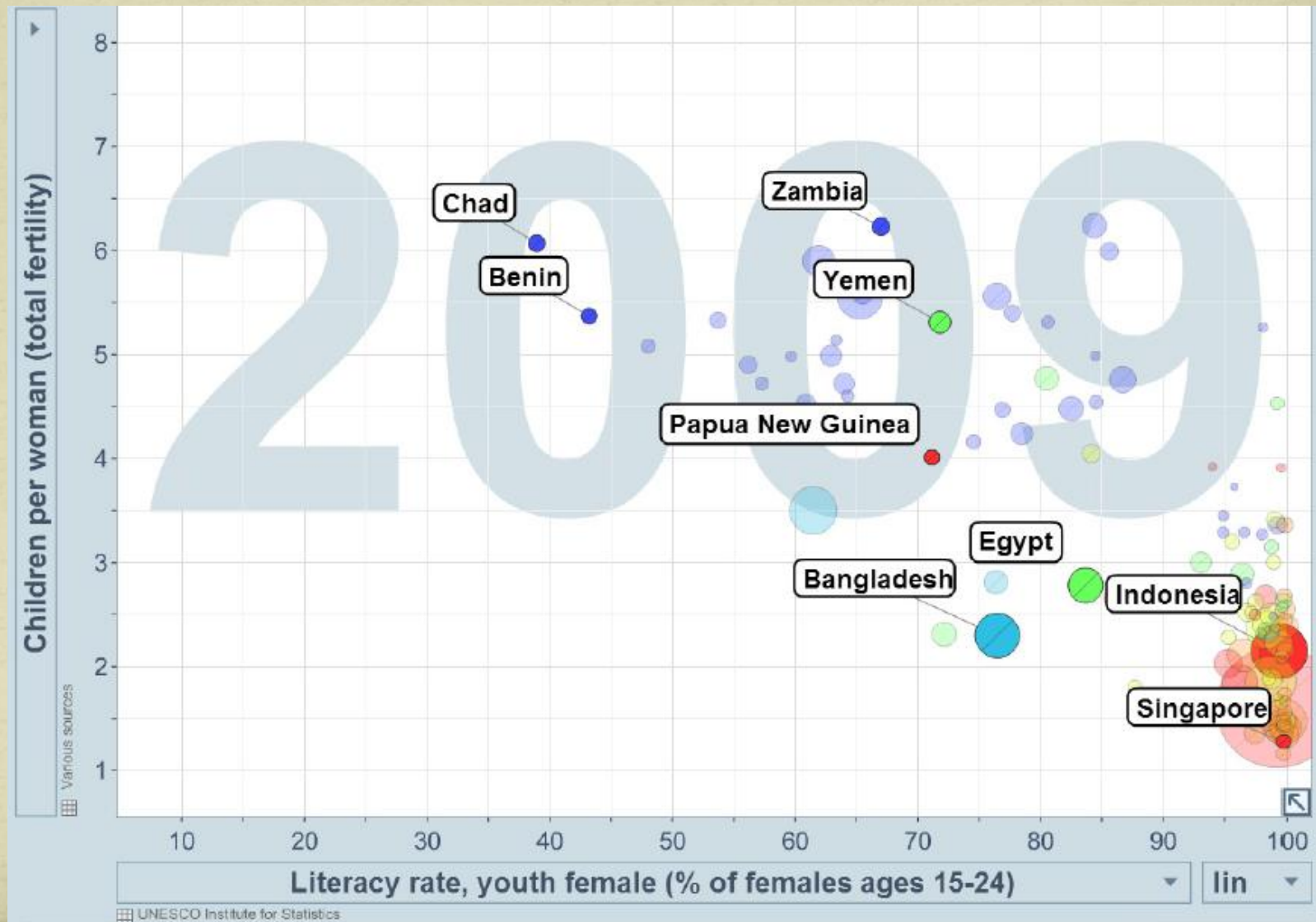
Population growth is the disease for which it is masquerading as a cure.

- **Many schools are now overcrowded, particularly in established areas where suburbs are being overdeveloped with high-rise**
- **Public transport is not getting delivered**
 - 50 km Melbourne - Regional Rail Link in Melbourne (Werribee to City) = \$5,000,000,000 or \$100 m. per km
 - 23 km Sydney - North West Rail Link = \$8,000,000,000 or \$350 m. per km.
- **With stable population, about 2% of built infrastructure needs to be replaced or renewed every year**
 - Population growth of 2% pa will increase cost to community for infrastructure by 100%, yet revenue base rises 2%

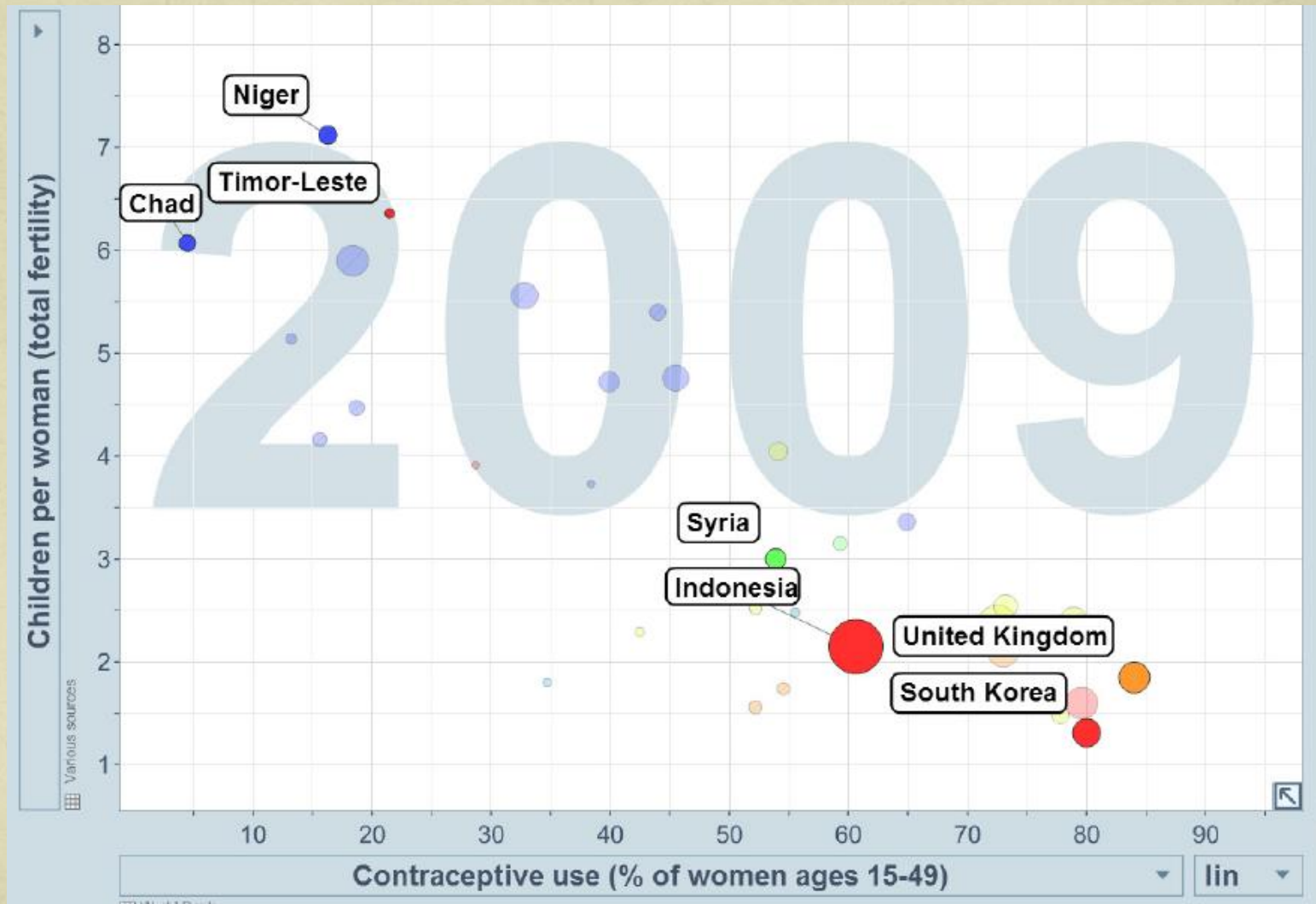
Fertility v.s. Per capita GDP



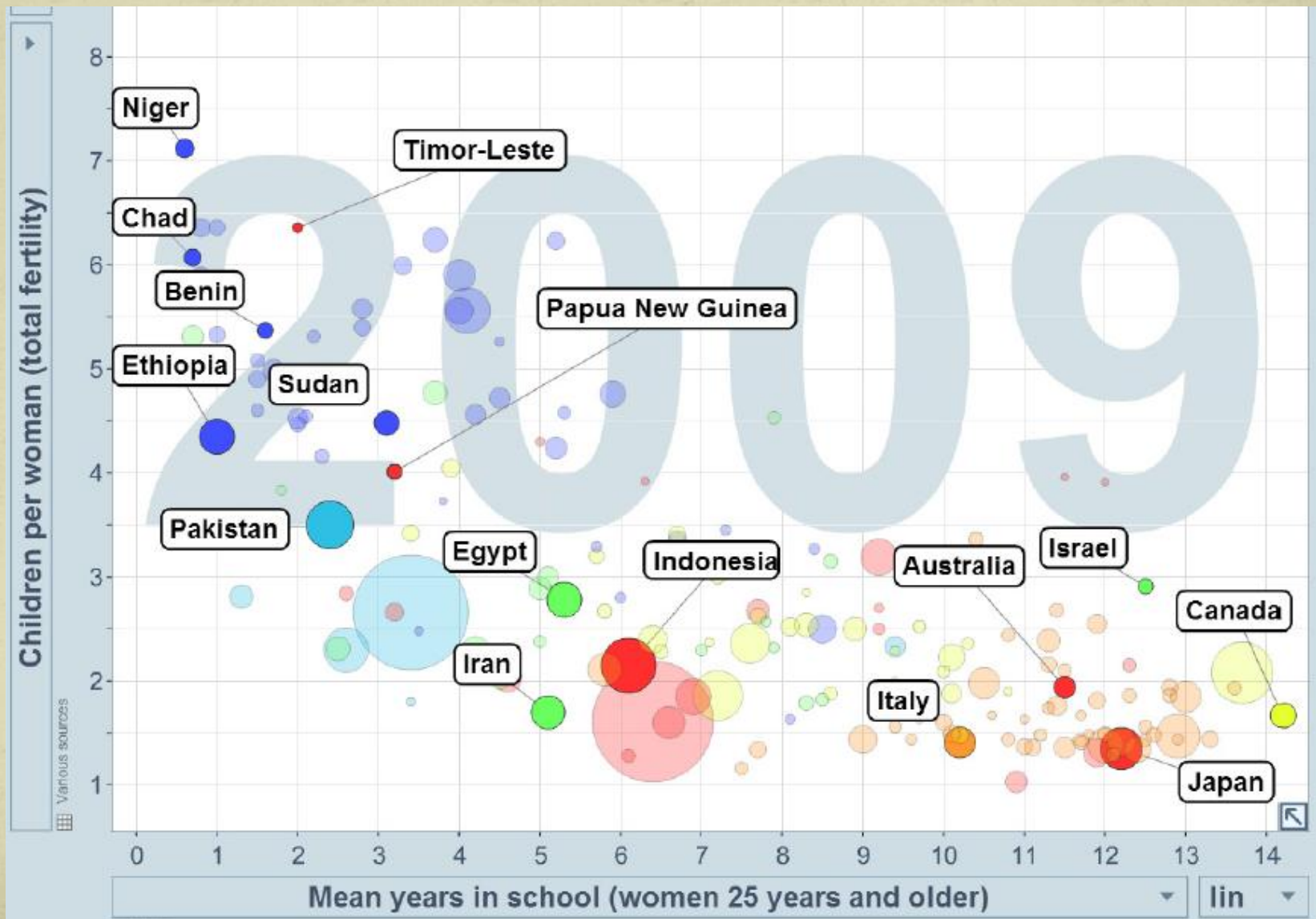
Fertility v.s. Female literacy



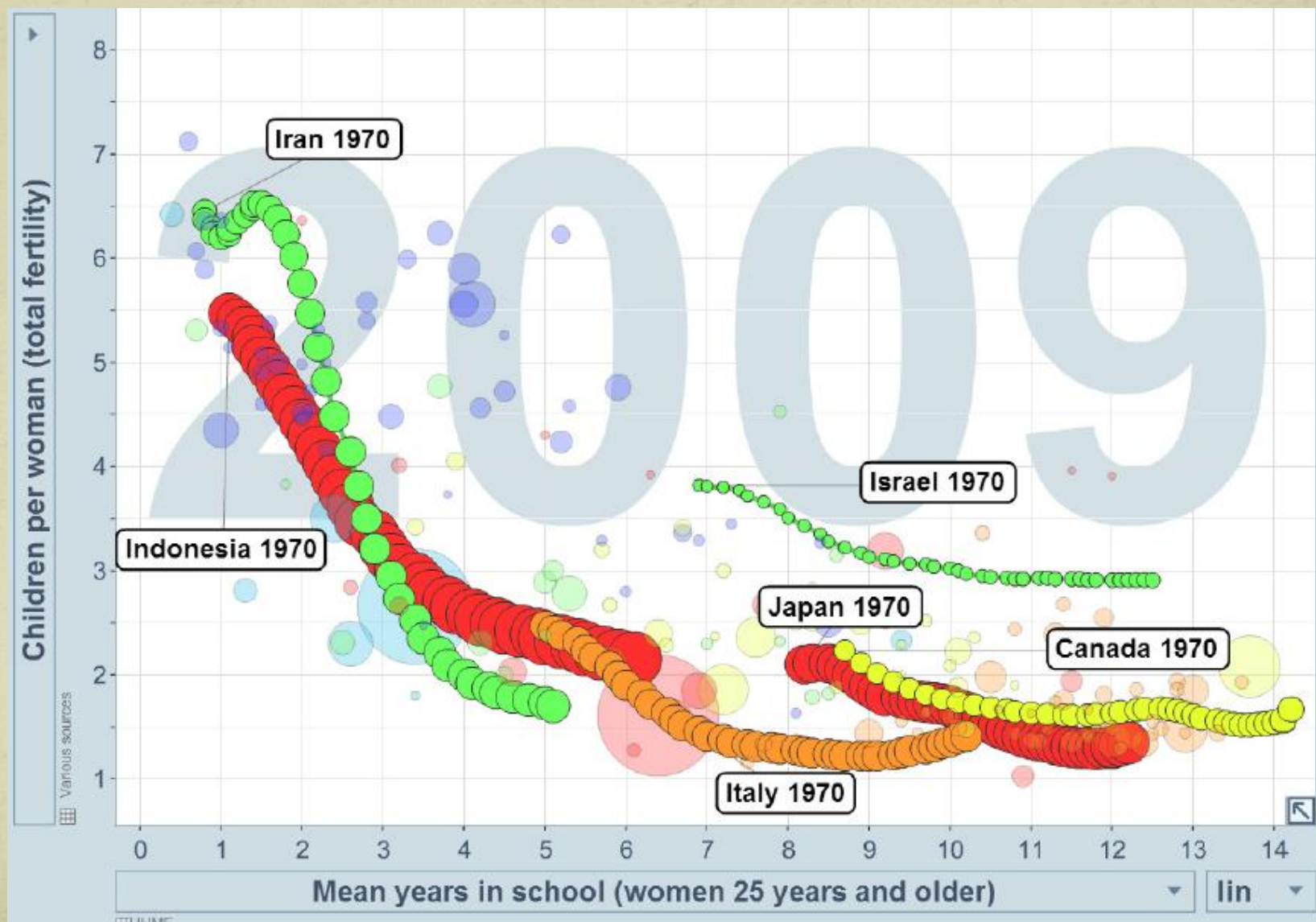
Fertility v.s. Contraceptive use



Fertility v.s. Women's education



Fertility v.s. Years in school over time



Stable Population Party

Bringing choice to the ballot paper

- Formed in 2010 to give all Australians a choice on population
- Quality of life and intergenerational equity through the sustainable use of energy, food and water resources is our priority
- The population debate is not the old 'immigration debate'
- Population growth is already causing or exacerbating Australia's major problems
- 73% of Australians support our stable population target of around 26m by 2050

Better, not Bigger

A sustainable Australia starts with a stable population

- Relieve overstretched hospital & school infrastructure
- Ease cost of living pressures (utilities, housing, transport)
- Protect the environment (food, water & energy security)
- Promote training & education (Australian job opportunities)
- Minimise overdevelopment (urban sprawl, high-rise)
- Protect the environment
- Help lower carbon emissions
- Create a more resilient economy

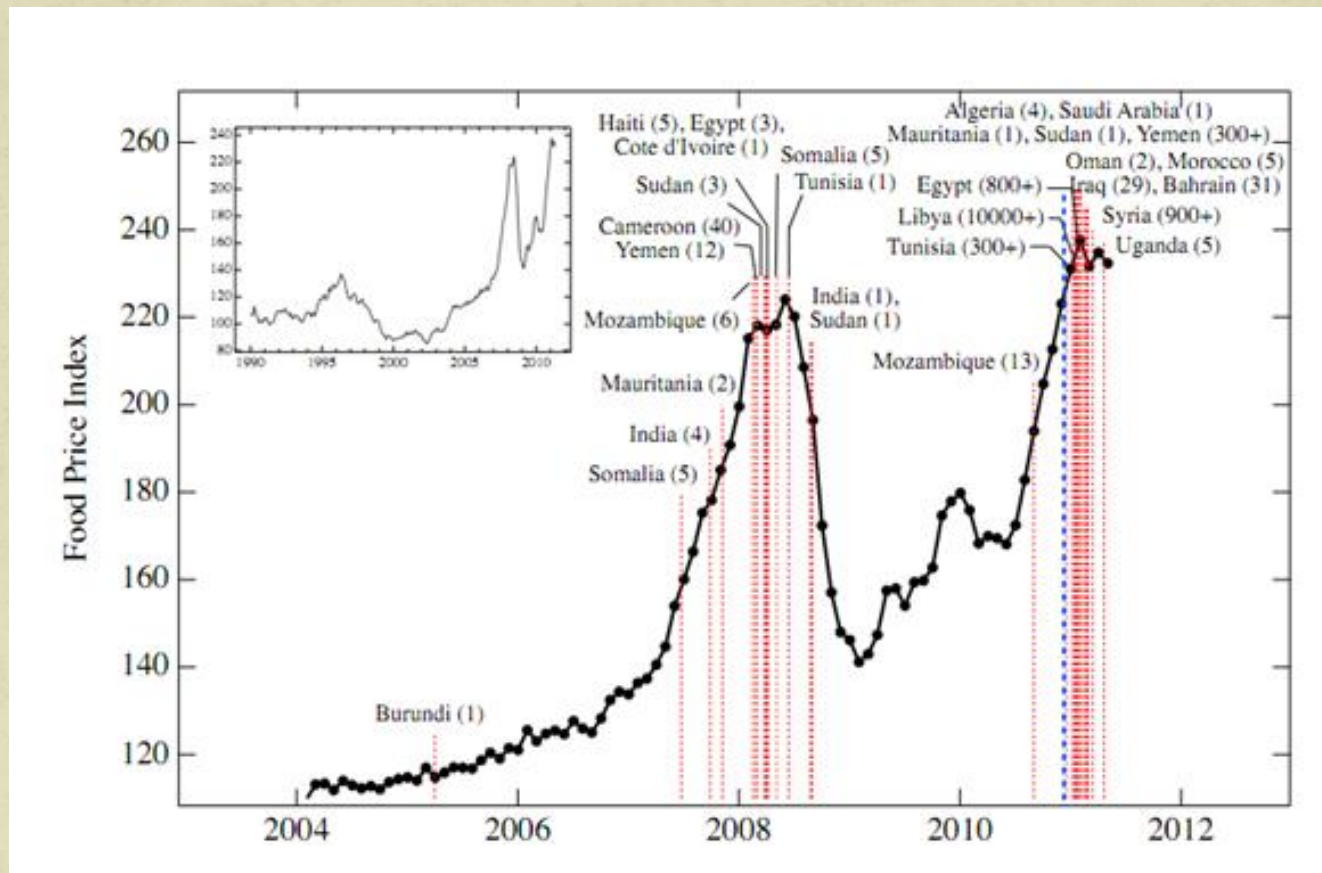
Myths & Legends

- Population is not a single issue, it's the everything issue
- You can't manage it if you can't measure it. Numbers are very important & Mother Nature is not going to negotiate!
- Protecting privilege?
 - Australia is not terra nullius. It is a sovereign nation
 - In what way would expanding Australia's population improve anything?
- Compassion?
 - What part of our population growth is humanitarian or "compassionate"? = 5% of total growth
 - Far better use of funds & environmental outcome, to assist people where they live
- Growth is driven by powerful business elites
- Expanding population does nothing to helping the poor – we don't even scratch the surface when it comes to "helping the underprivileged".
- Neglect of family planning & women's rights in our foreign aid program contributes to the problem

Discussion

Thank You

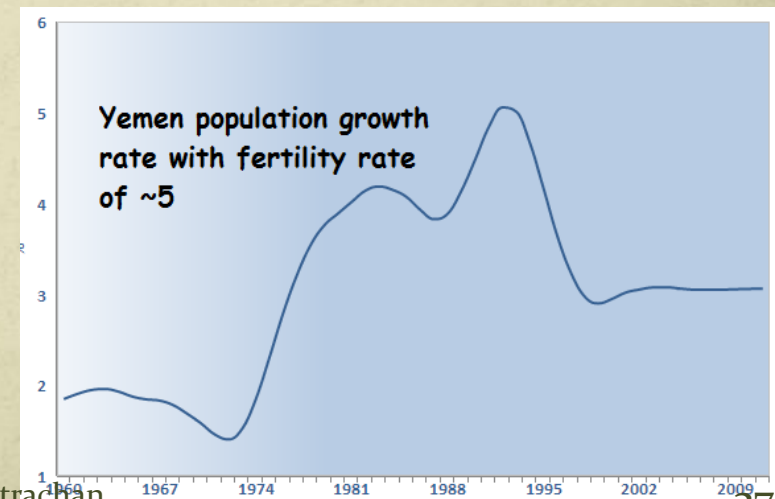
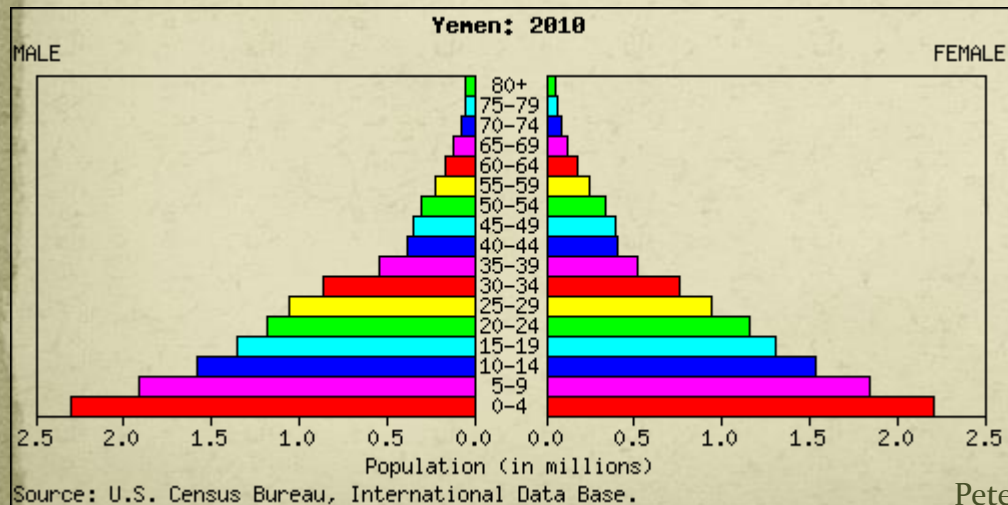
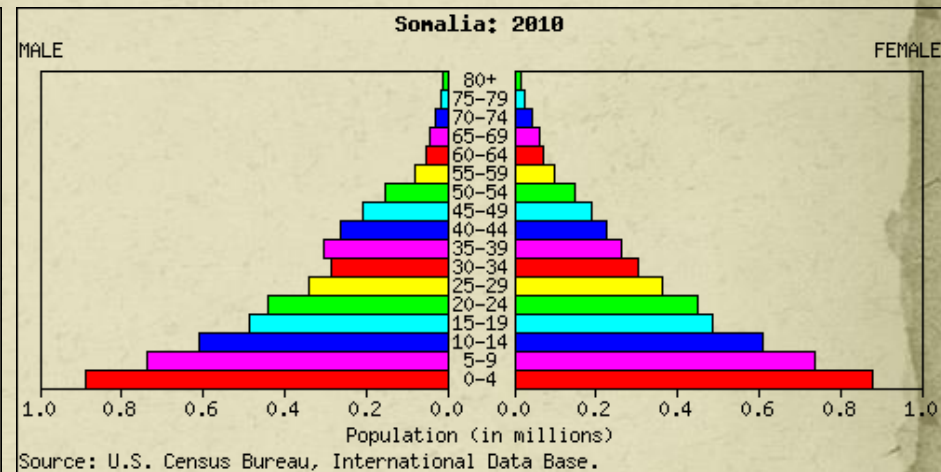
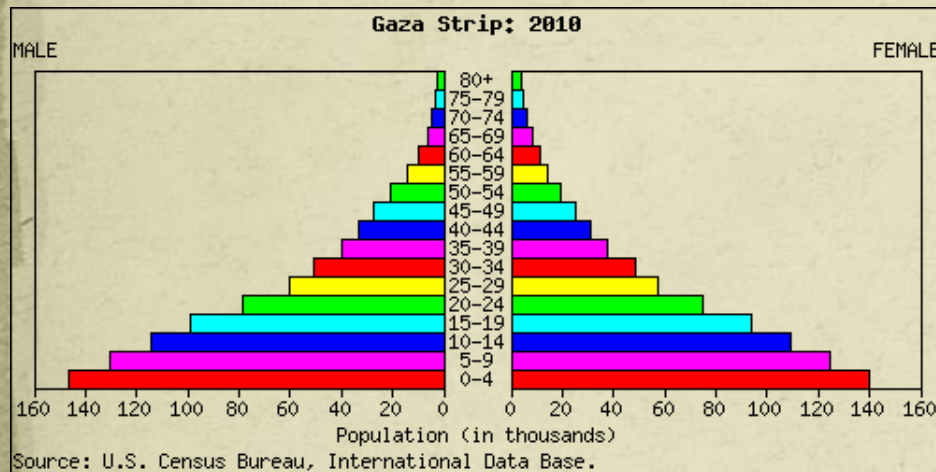
Food Riots Globally vs. Food price Index

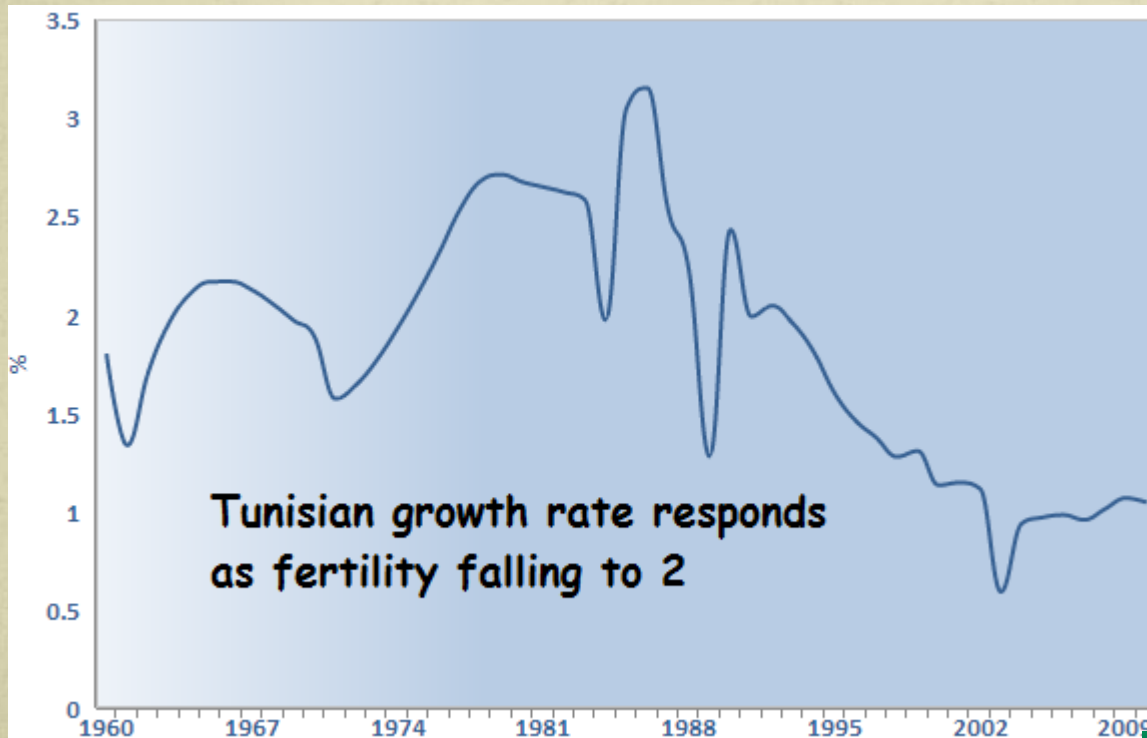
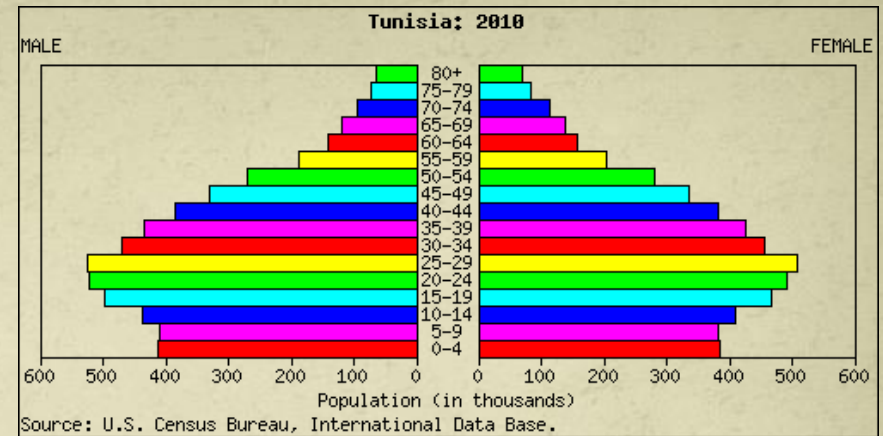
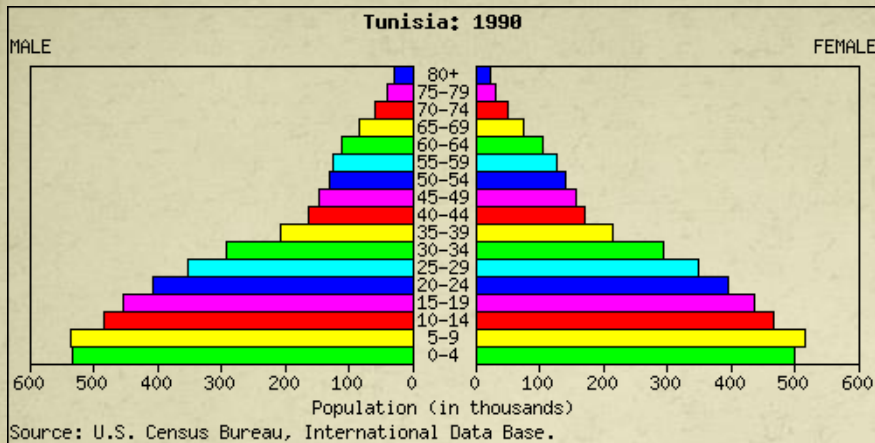


Source: Marco Lagi at the New England Complex Systems Institute in Cambridge,

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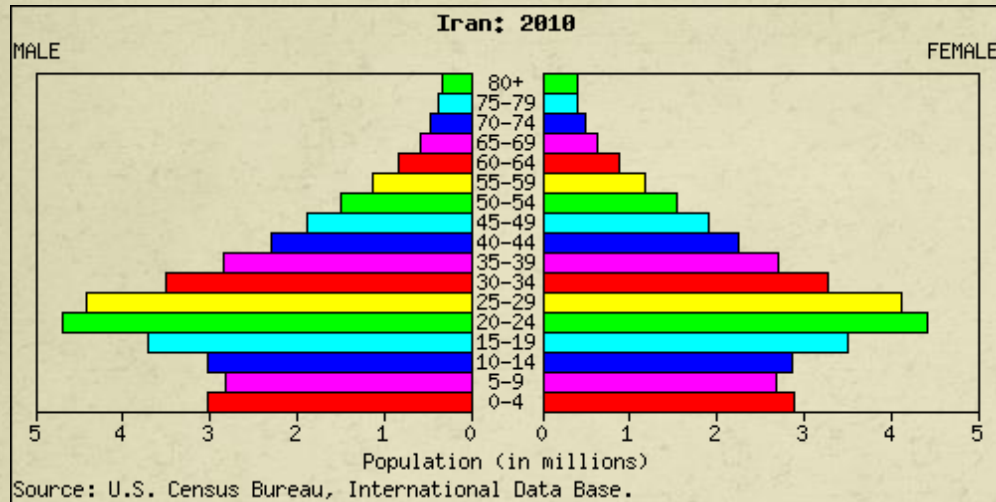
Trouble spots grow out of Regions with high fertility rates and flat demographic profiles



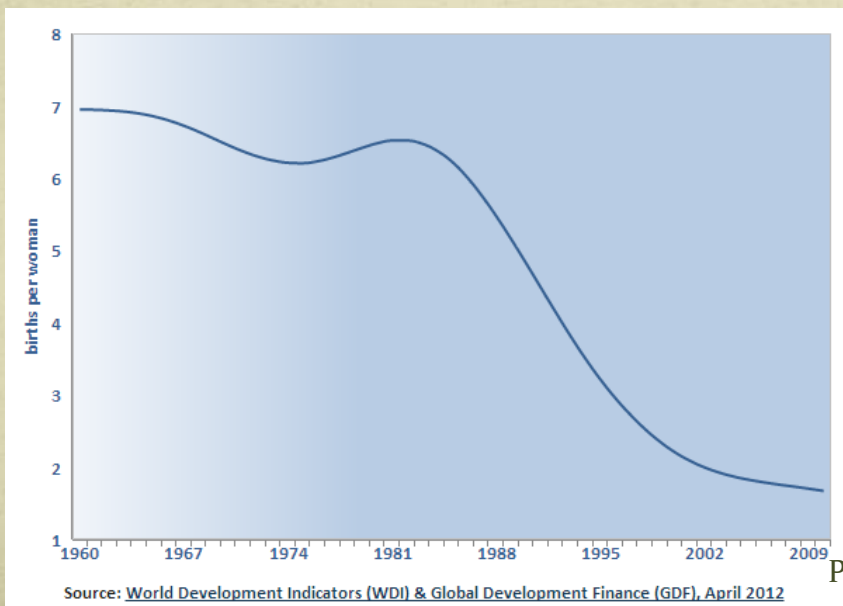


Fertility rate fell rapidly from mid 1980's but that effort did not reverse the damage done by high rates, creating flat demographic profile

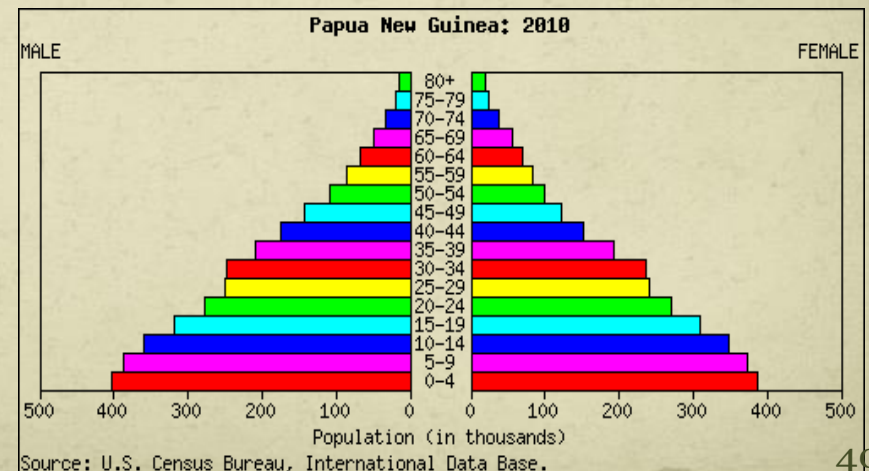
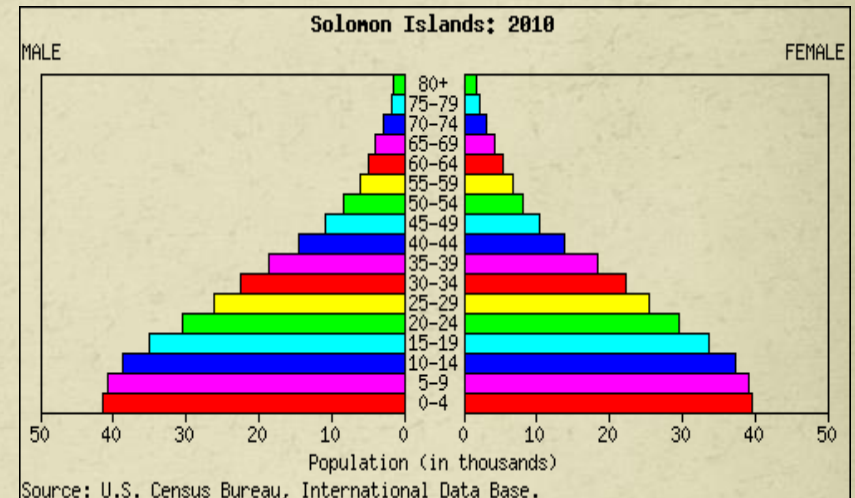
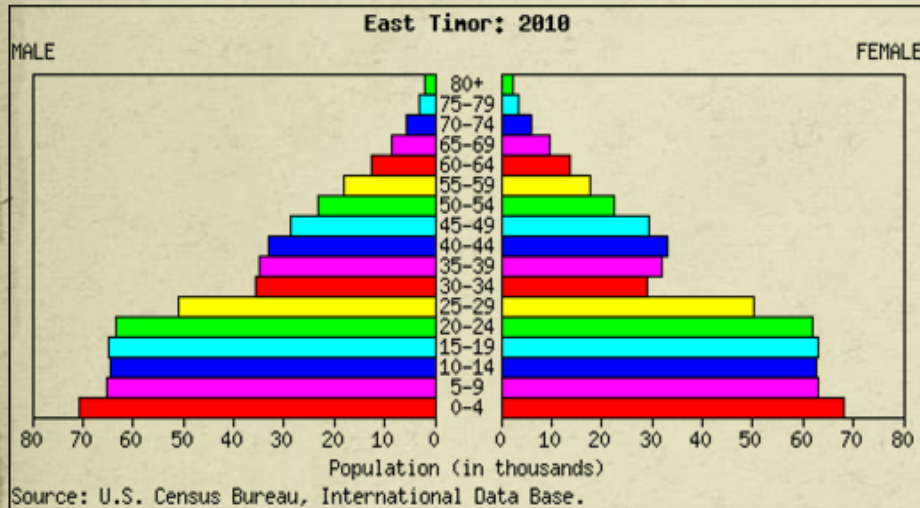
Iran Provides a classic example



Proactive policies in Iran during the 1990's dramatically dropped fertility leading to a top shaped profile, at least temporarily avoiding famine and/or social revolution in that country



Trouble on the Horizon

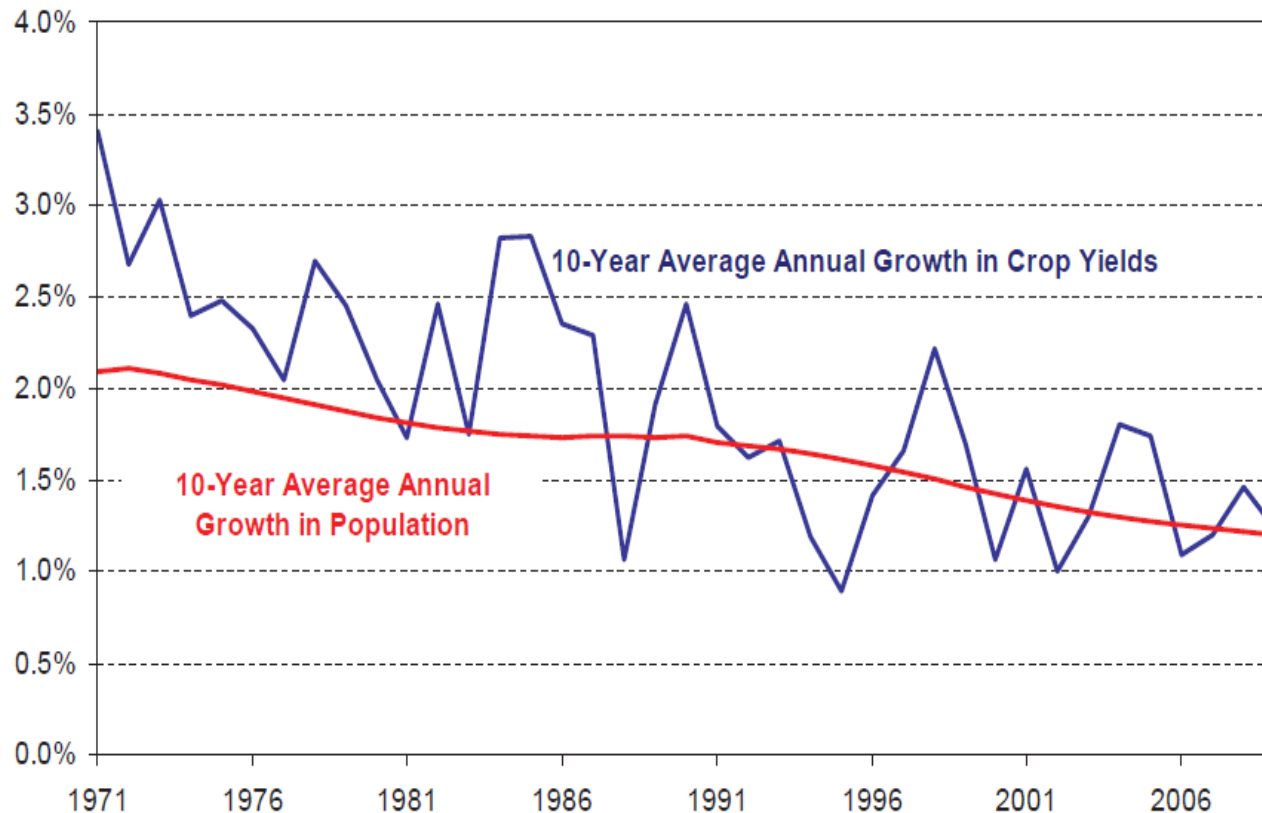


In a finite world, population growth means more and more people, sharing less and less

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Green revolution yield expansion outpaced by population growth

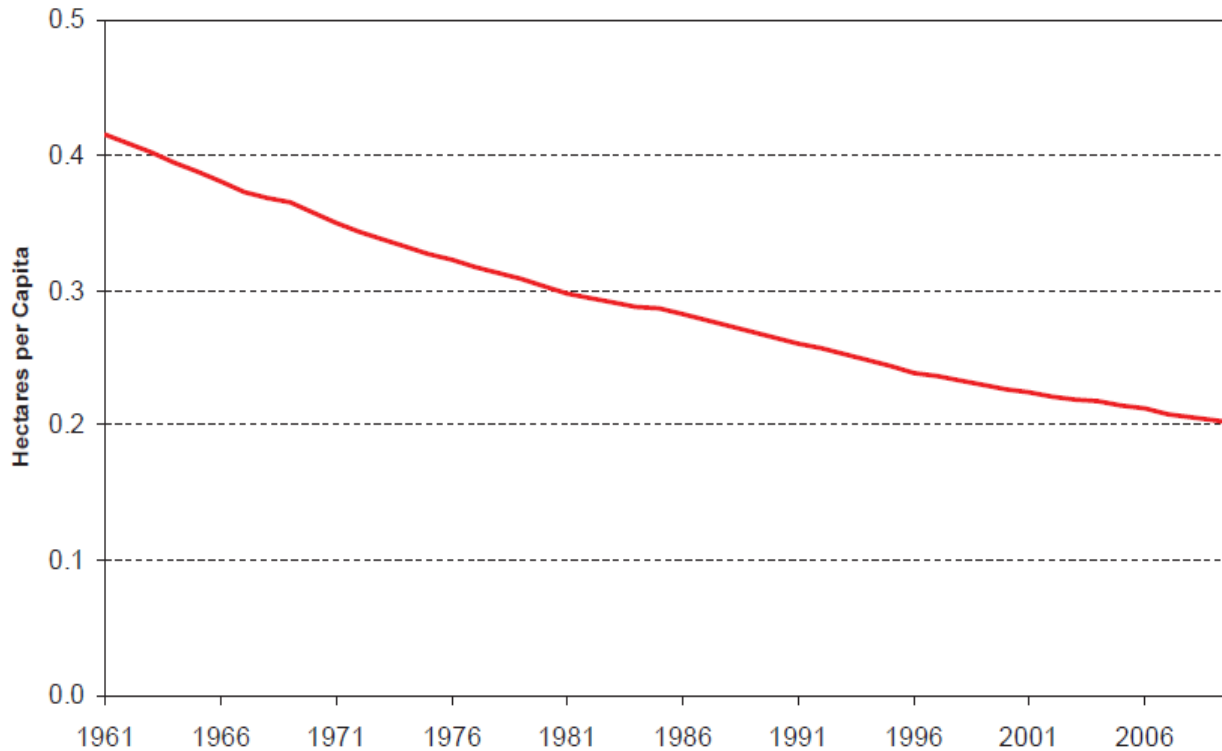
10-Year Average Annual Growth in Crop Yields



Source: Food and Agriculture Organization of the United Nations As of 12/31/09

We still only have one planet

World Hectares of Arable Land per Capita

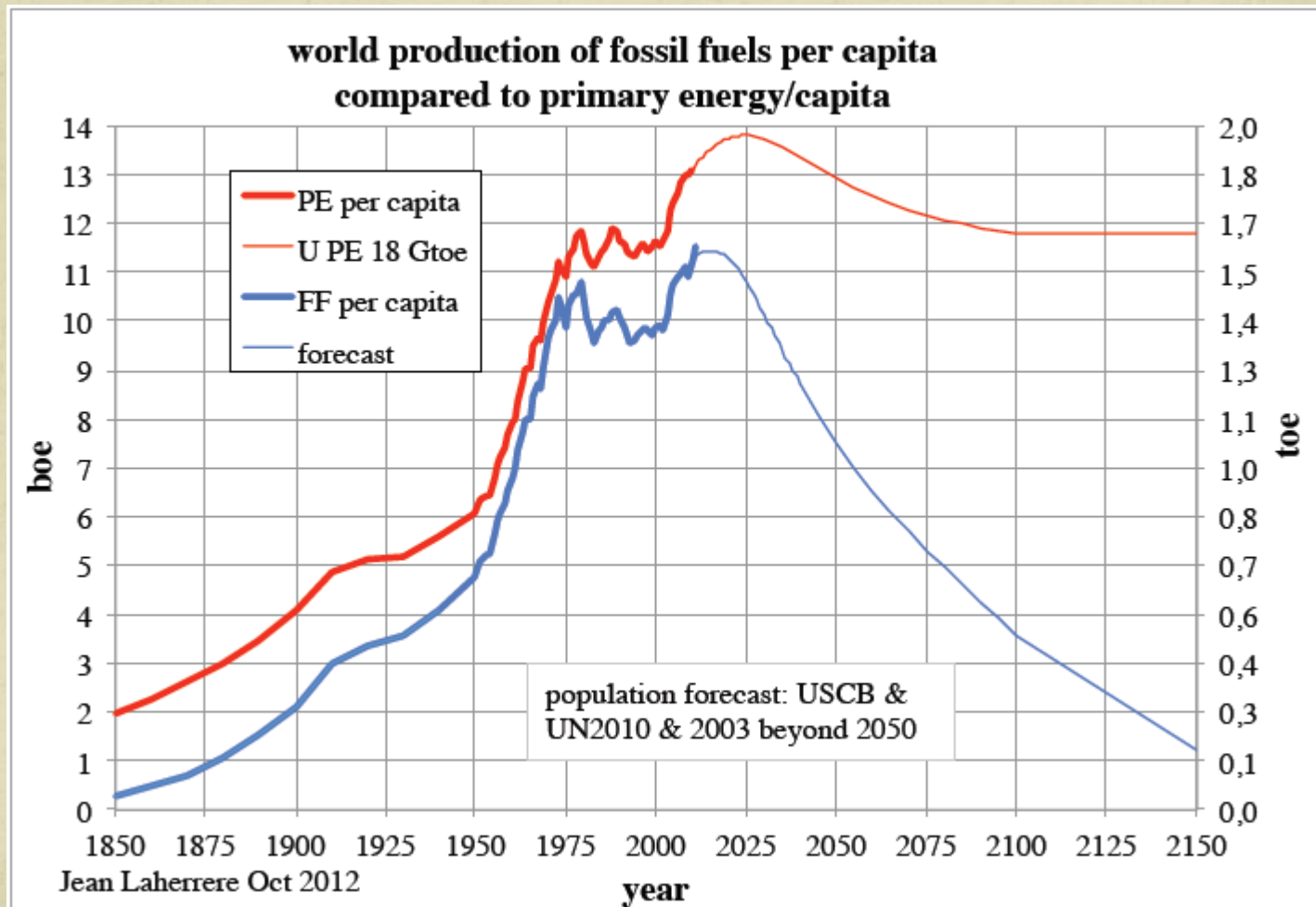


Source: United Nations Food and Agriculture Organization, U.S. Census Bureau As of 12/31/10

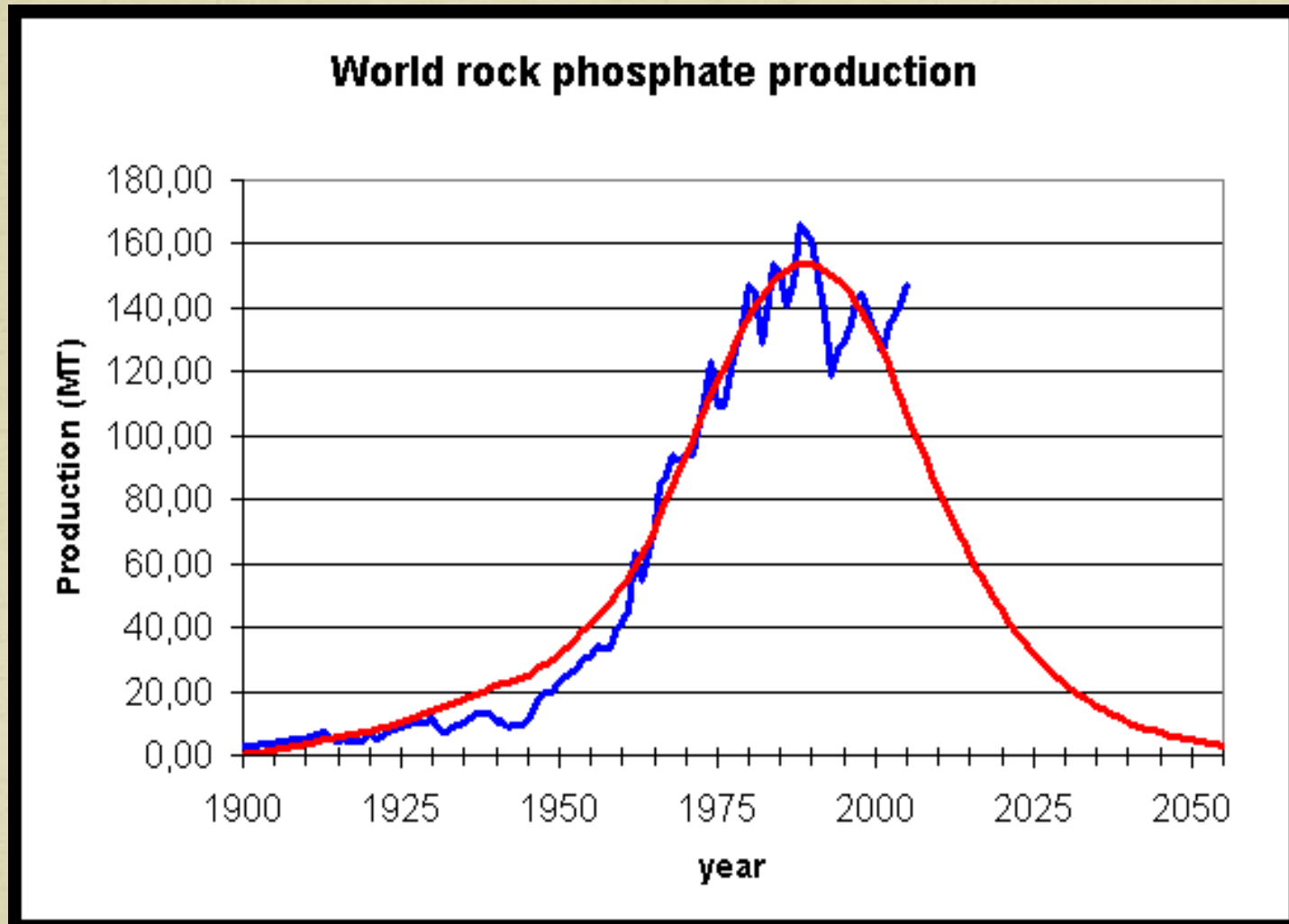
Winston Churchill in 1936

"So they go on in strange paradox, decided only to be undecided, resolved to be irresolute, adamant for drift, solid for fluidity, all-powerful to be impotent... Owing to past neglect, in the face of the plainest warnings, we have entered upon a period of danger. The era of procrastination, of half measures, of soothing and baffling expedients of delays, is coming to its close. In its place we are entering a period of consequences ...We cannot avoid this period, we are in it now..."

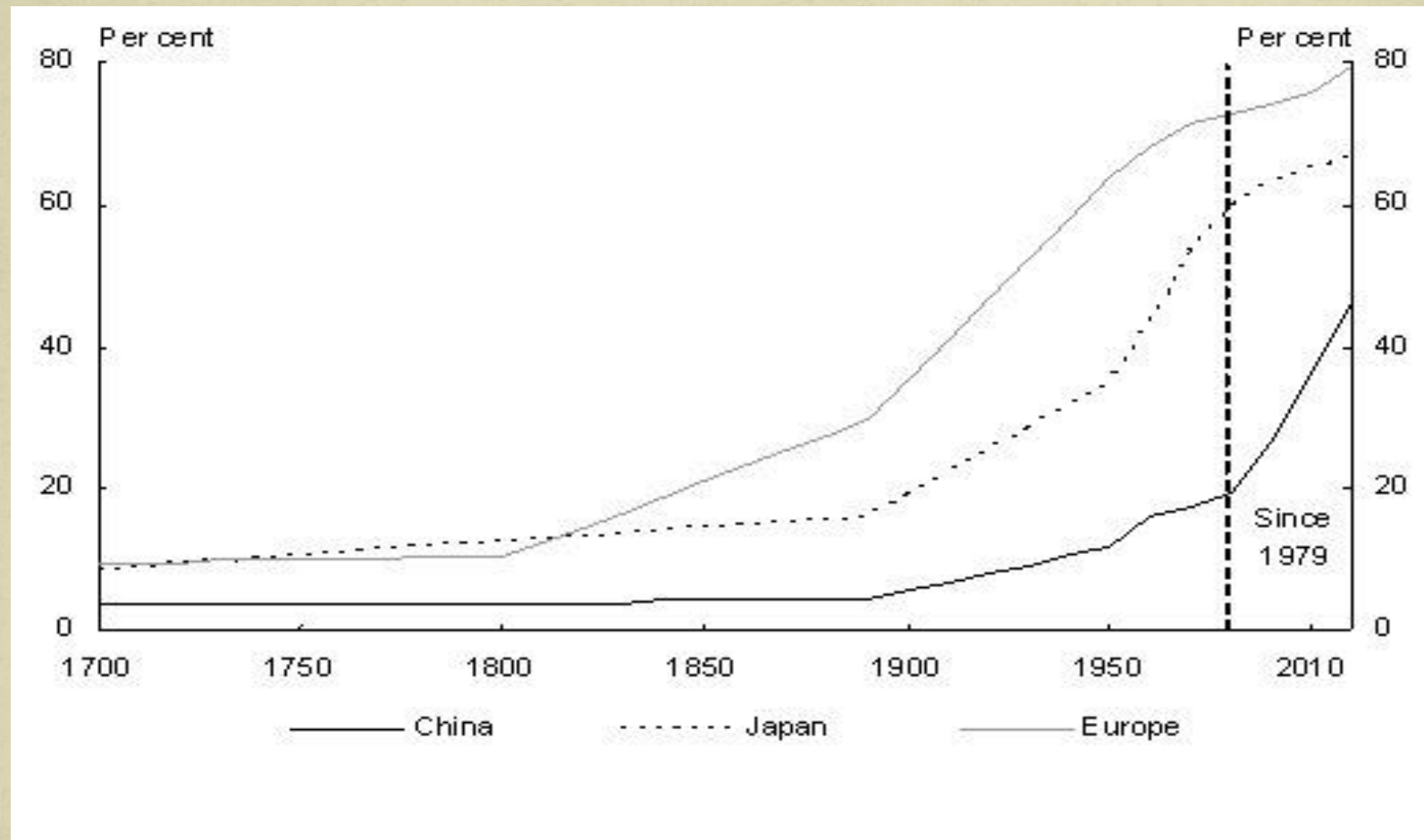
Fossil fuel production per person is peaking & primary energy per person will peak in 13 years



Now we see why BHP wants to expand
its P & K production

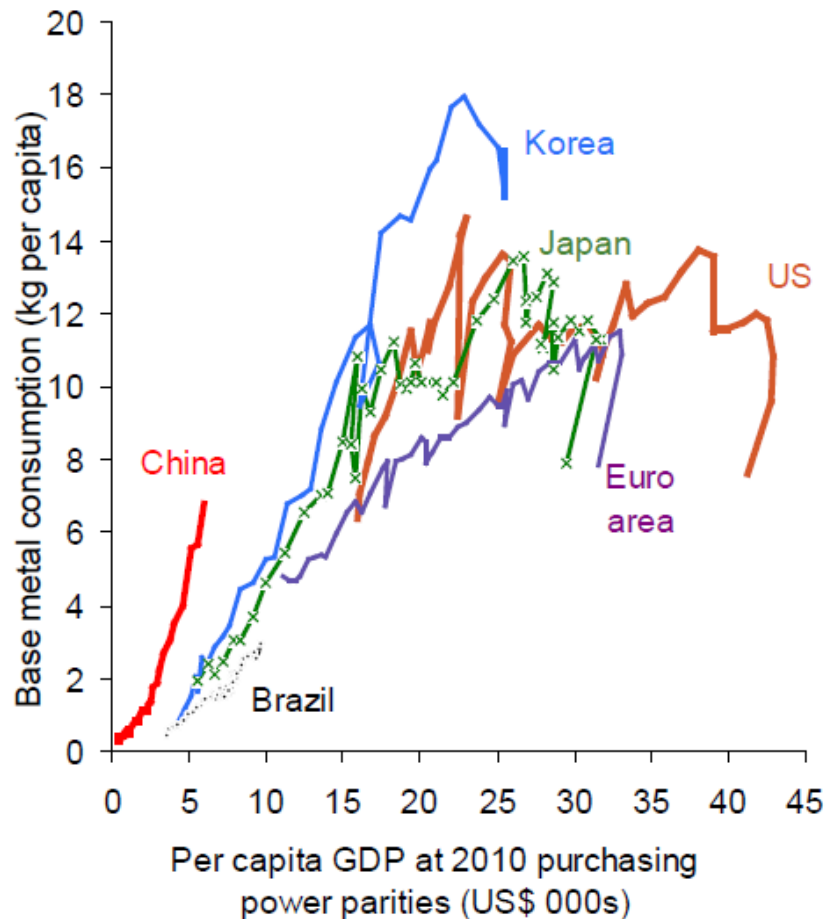


THE URBANISATION OF CHINA, JAPAN & EUROPE

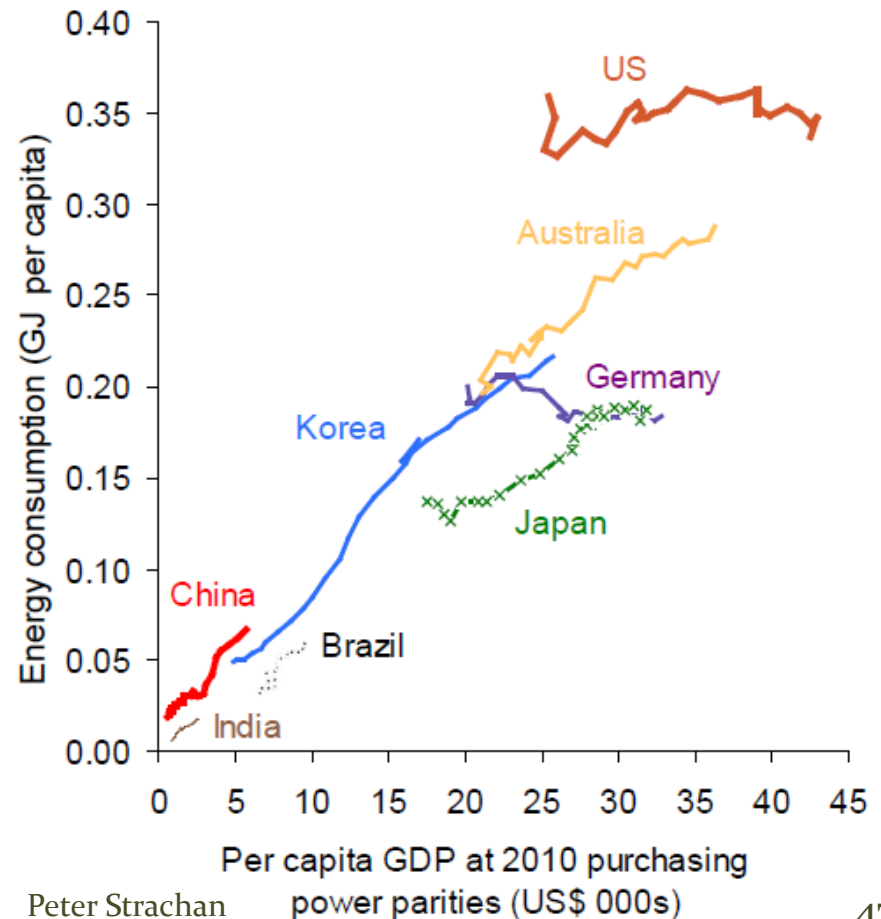


Stylized relationship between per capita GDP & commodity demand plays out to varying degrees for various countries & commodities

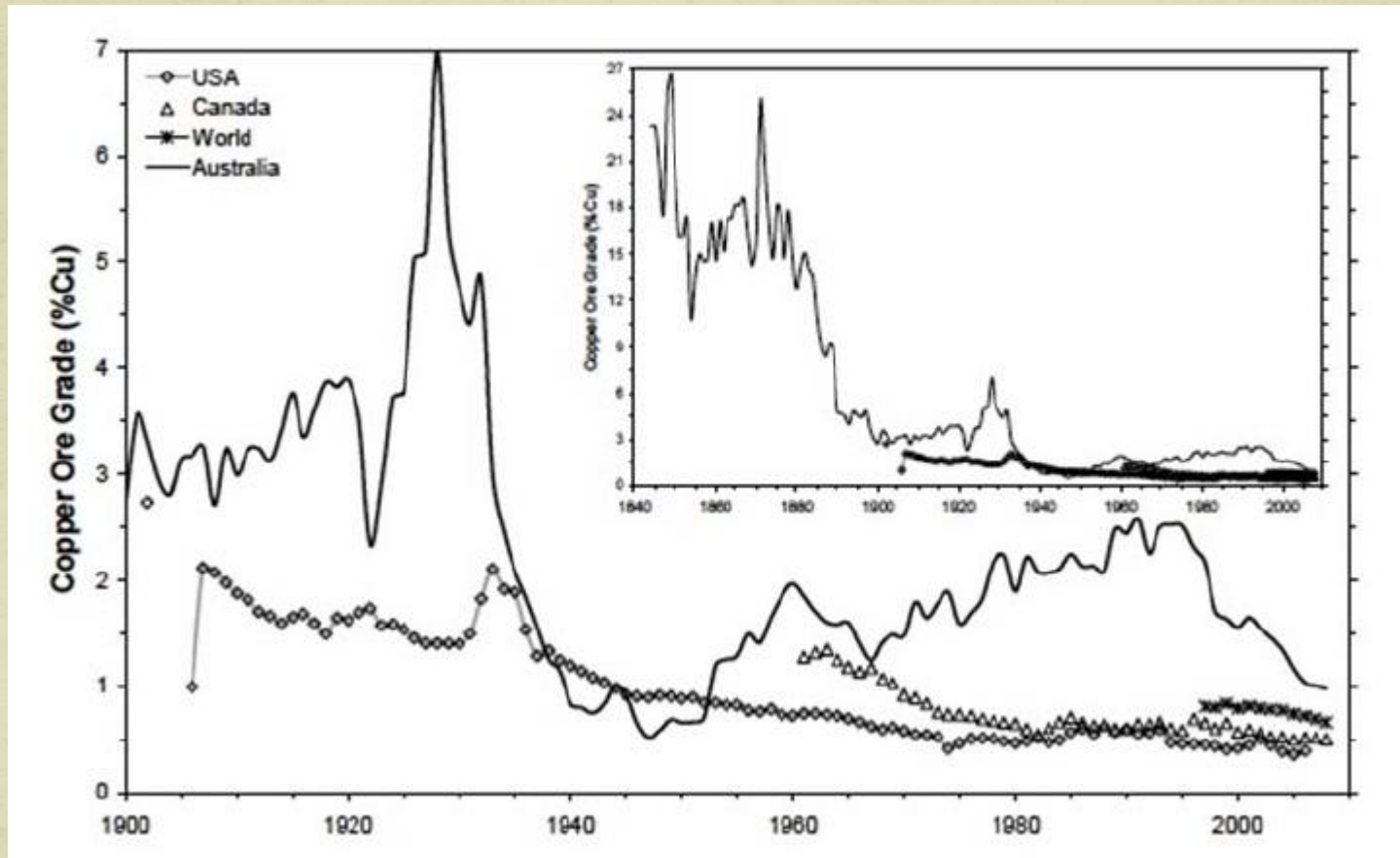
Base metal consumption and per capita GDP, 1960-2009



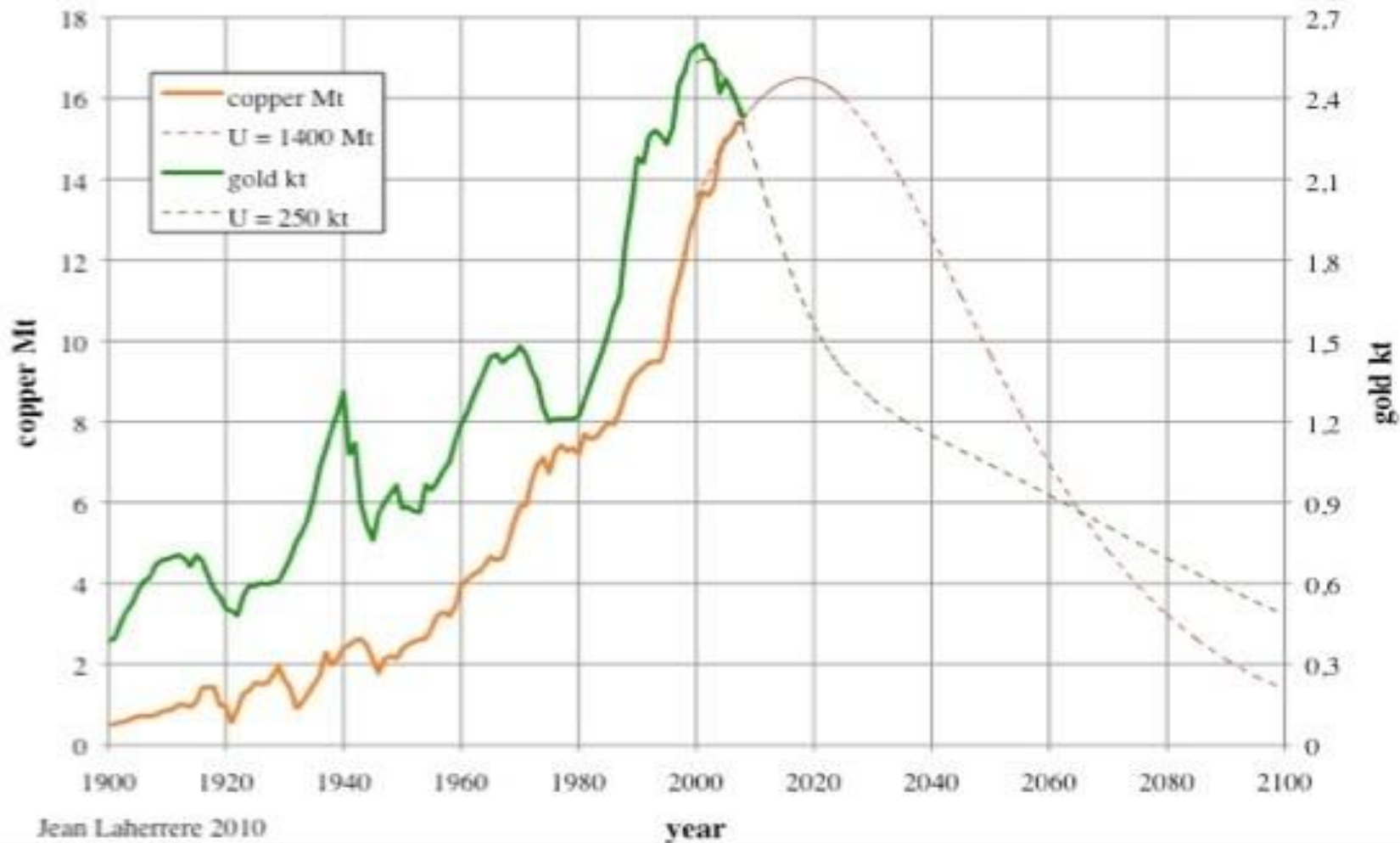
Energy consumption and per capita GDP, 1980-2008



Mined copper grades over time with approximate global average

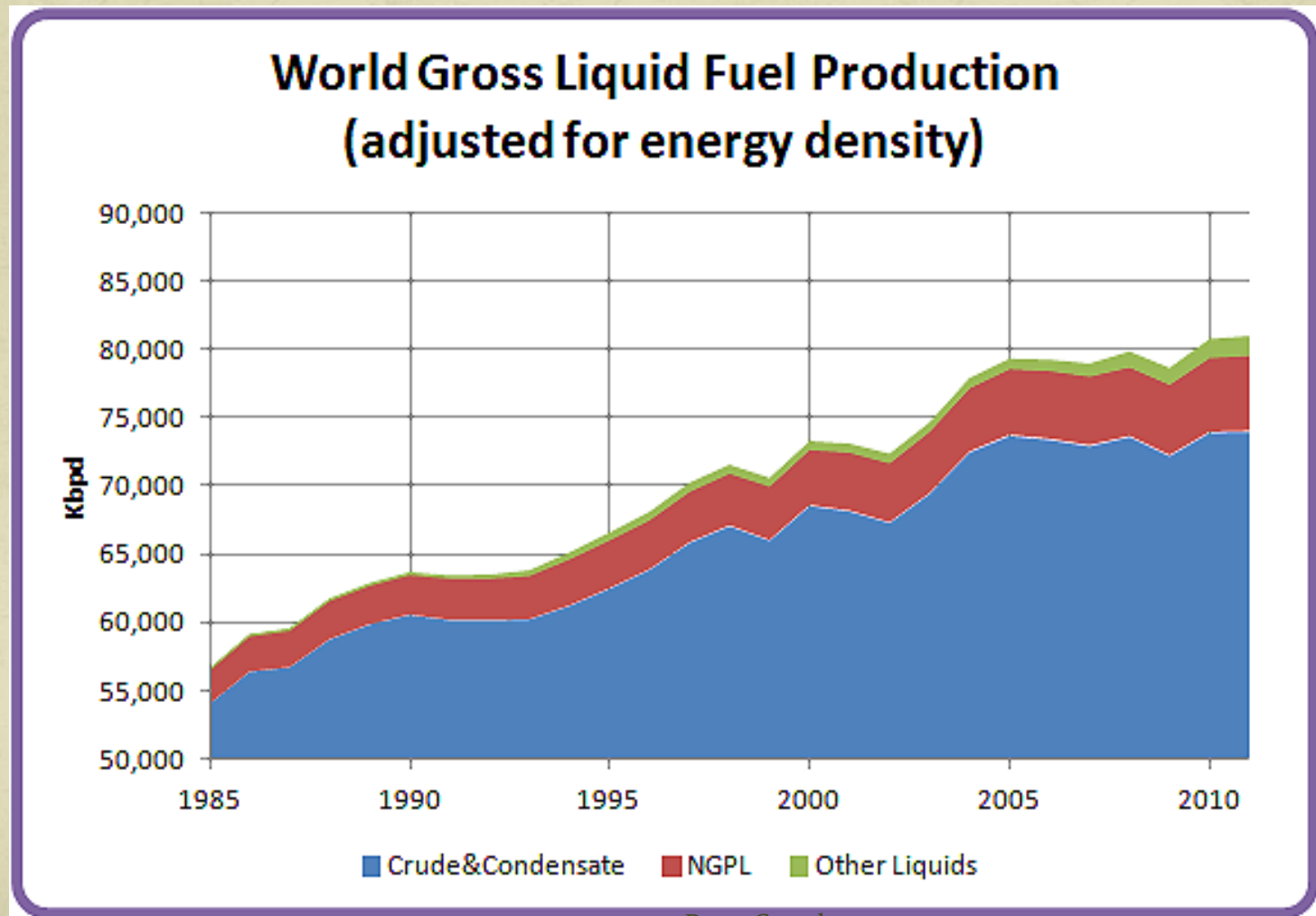


world copper & gold annual production & forecasts



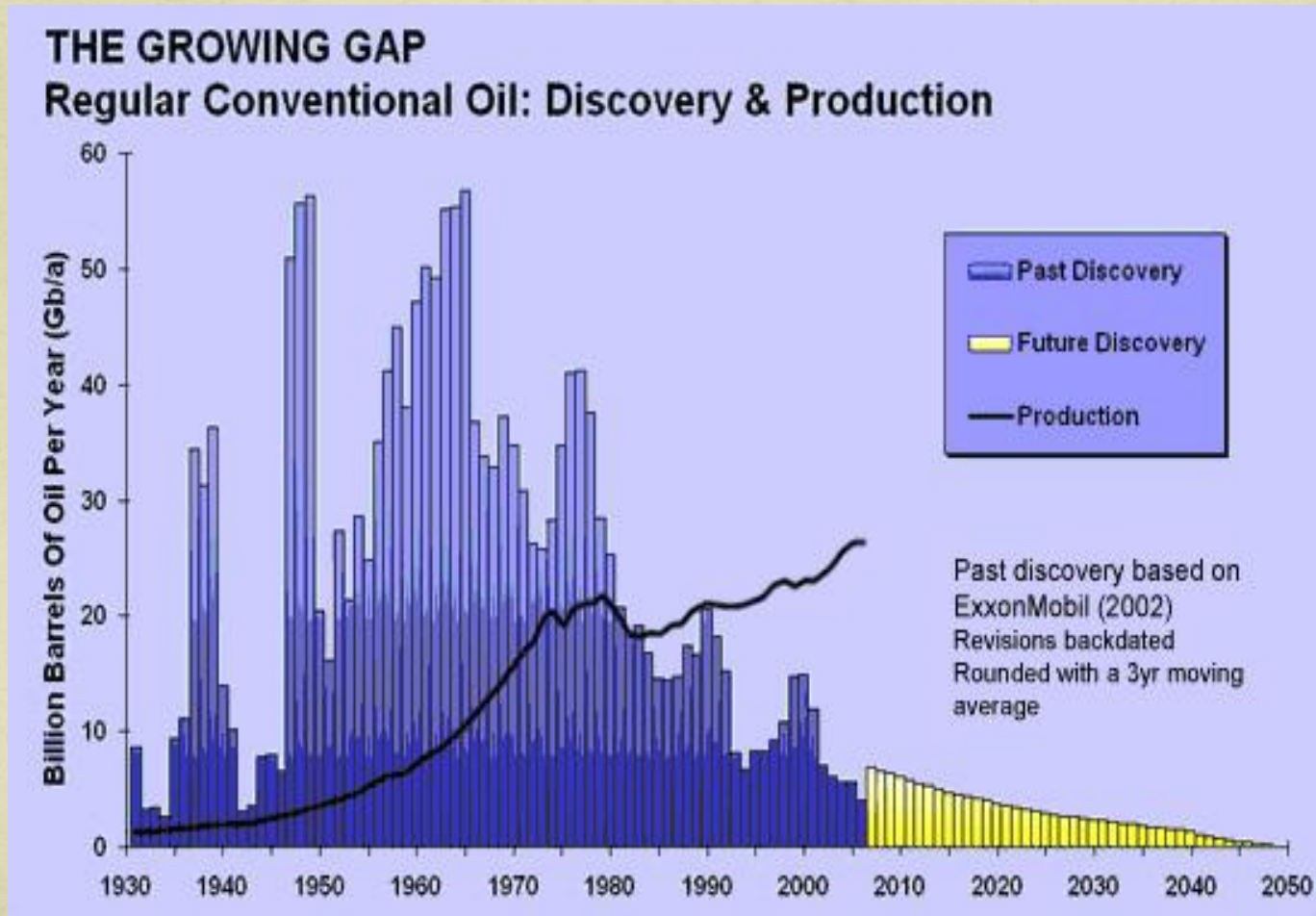
Oils 'aint oils

Production may be rising, but energy content is falling



Big easy oil has been found

Consumption is ~20 bn bbls pa larger than conventional discovery



Australia's near northern Neighbours move towards failed state status

WHILE CLIMATE CHANGE FEARS and migration are causing grave concerns about depopulation in parts of Polynesia and Micronesia, another part of the region is being cautioned about over-population.

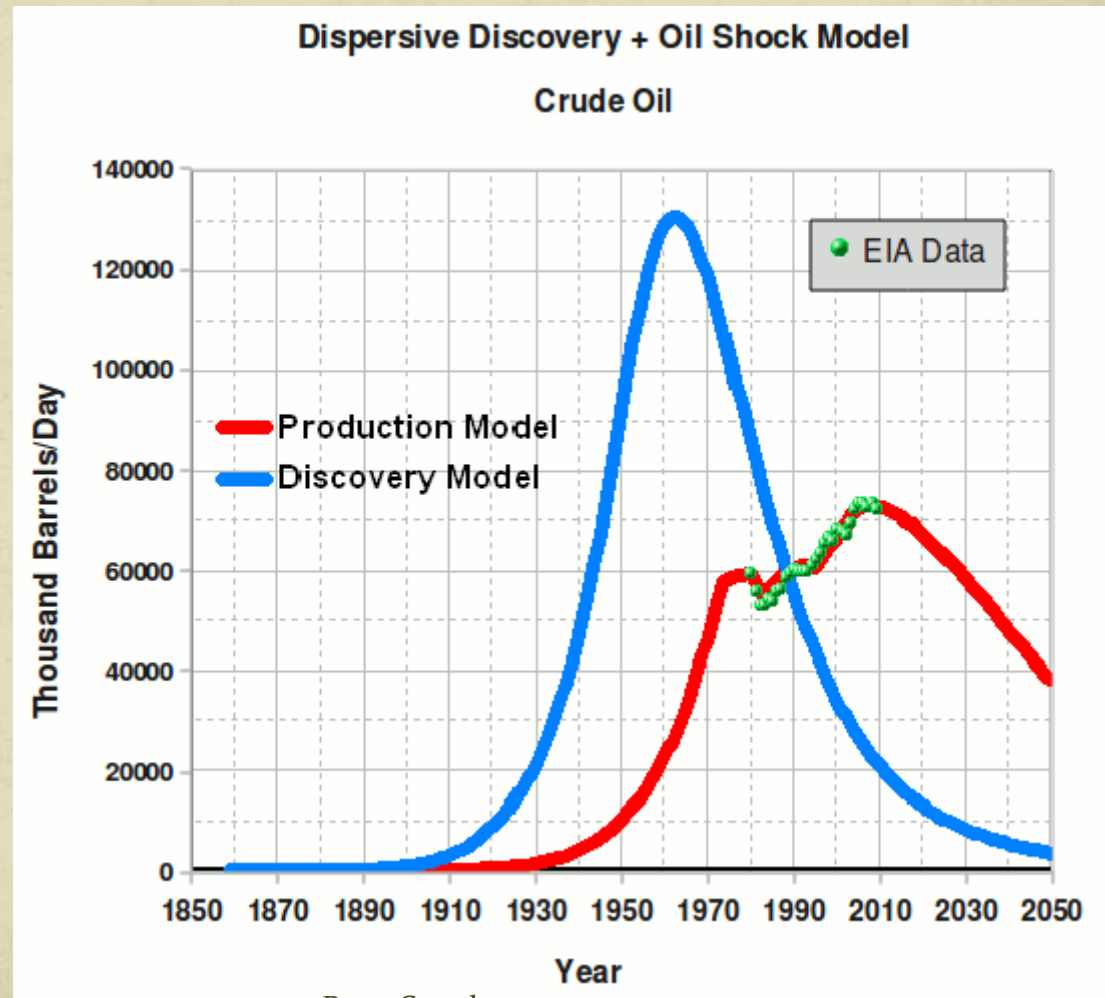
An unprecedented growth of 1.8 million in Papua New Guinea's population over the last decade is alarming regional environment analysts because of imminent dangers of over-exploitation of fisheries and forestry resources in the predominantly mountainous country.

http://asopa.typepad.com/asopa_people/2012/11/is-pngs-growing-population-a-threat-to-the-region.html

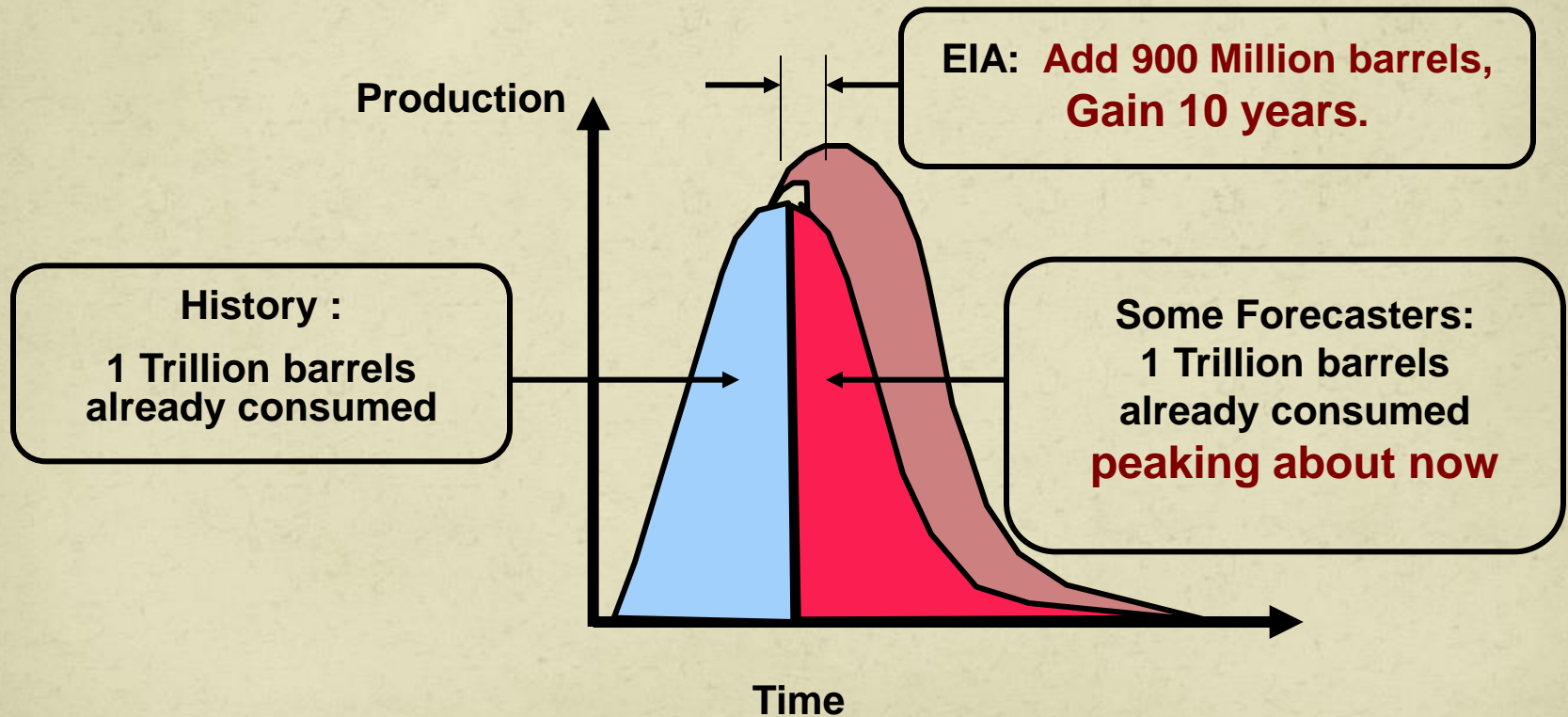


Peak oil is about flow rates, not total recoverable reserves

Peak discovery
in 60's, followed
by peak flow
rates 50 years
later



ADDING ALMOST A TRILLION BARRELS TO RESERVES GAINS ONLY 10 YEARS TO PEAK



BASIC FACT: IT TAKES ENERGY TO MAKE ENERGY

(All fuel conversion processes lose energy)

STABLE POPULATION PARTY ★

	<u>Conversion Type</u>	<u>Process Efficiency</u>
Dry Cell Battery	Chemical to Electrical	85-95%
Natural Gas to Compressed	Chemical to Chemical	85%
Crude Oil to Gasoline	Chemical to Chemical	79%
Natural Gas to H ₂	Chemical to Chemical	60%
Coal to Gasoline	Chemical to Chemical	50%
Grid Electric to H ₂	Chemical to Chemical	22%
Photovoltaic	Radiative to Electrical	15-25%
Soybean to Bio-Diesel	Chemical to Chemical	30%
Corn to Ethanol	Chemical to Chemical	5-10%
Plant Photosynthesis	Radiative to Chemical	4-5

Within 10 years Australian food production will almost certainly be lower than today. Within 40 years (2050) most oil will be gone and we will need to have completed a revolution in nutrient recycling and re-localisation of agriculture for even our current population to survive.