

Datblygiad Cynaliadwy

Sustainable Development

“Egwyddor drefniadol ganolog”

“Central organising principle”

Pam y strach?

What’s the problem?

Beth sy’n anghynaliadwy gyda’r drefn ar hyn o bryd?

What’s currently unsustainable?

Anghynaliadwyedd

Unsustainability

Dim gwaith?

Lack of work?

Dim twf economaidd ?

Lack of economic growth?

Dyled ?

Debt?

Dyfodol y gwasanaeth iechyd ?

Future of the NHS?

Pensiynnau ?

Pensions?

Newid hinsawdd/ynni?

Climate change/energy?

Colli....

Loss of.....

biodiversity/language/social
cohesion

bioamrywiaeth/iaith/undod
cymdeithasol?

Deall y broblem

Understanding the problem

John Kenneth Galbraith
“Y Gymdeithas Oludog”

Bargen Galbraith:
Etholaeth/cymdeithas –
llywodraethau –
busnes/masnach/diwydiant

John Kenneth Galbraith
“The Affluent Society”

Galbraithian Bargain:
Electorate/society –
government(s) –
business/commerce/industry

Y Fargen

The Bargain

- **Y cyhoedd** - gwaith, bywyd da, statws cymdeithasol
- **Llywodraethau** – dilyn eu polisiau/llwyddiant etholiadol
- **Busnes** - llwyddiant ariannol, gwerthiant proffidiol
- **The public** – work, good living standards, status, success
- **Governments** – achieve policy objectives, [re]election
- **Business** – commercial success and profit

**Bargen
Galbraith**

Unigolion
Cartrefi
Swyddi

Benthyciadau
Buddsoddiadau
Dyled

**GDP
TWF**

BANCIO
CYLLID

CYNHYRCHEDD

Etholidau, pleidleisio, dylanwad
Trethi
Incwm a phensyniau

Cwmnïau
Busnesau

Treth

Lobio

Gwasanaethau; is-adeiladaeth; buddsoddiad; ymchwil

Llywodraeth
Sector
Gyhoeddus

Nwyddau, gwasanaethau, incwm, elw

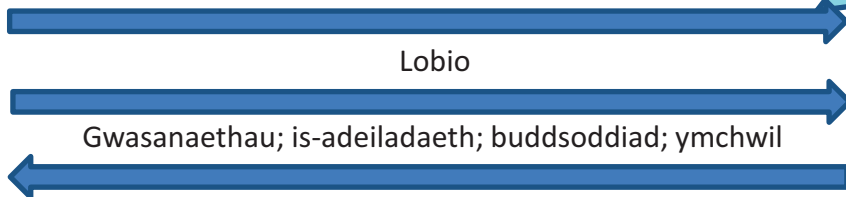
Perswād

Gwariant defnyddwyr

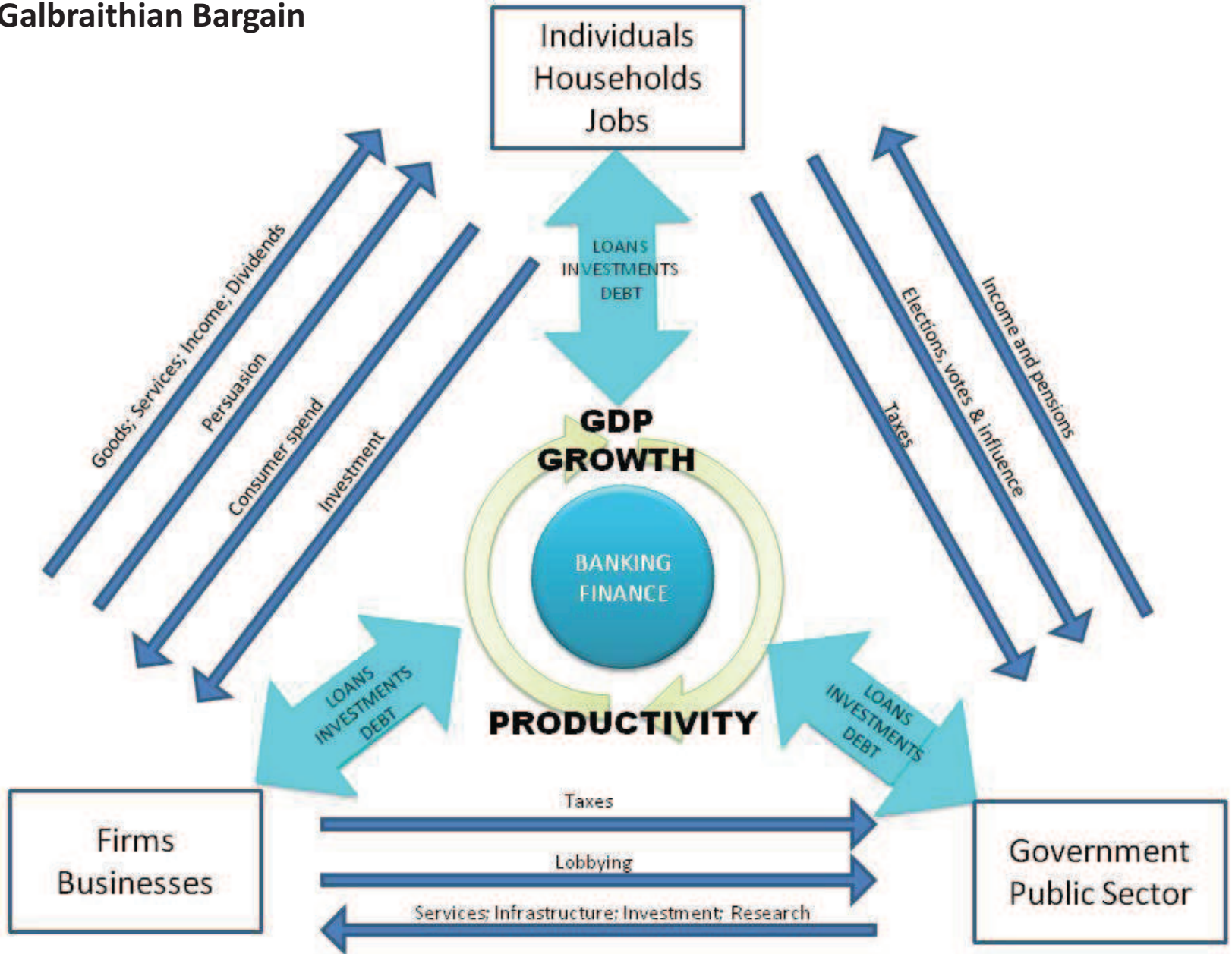
Buddsoddiad

Benthyciadau
Buddsoddiadau
Dyled

Benthyciadau
Buddsoddiadau
Dyled



The Galbraithian Bargain



Canlyniadau

Consequences

Twf diderfyn!

- creu galw -> caniatâu/annog dyled->
- gor-ddyled-> olwyn troed -> canoli a phreifateiddio cyfalaf a dylanwad -> grym i'r bancwyr ac i 'arian'.
- Cyfyndrefn ansefydlog – rheolaeth yn hanfodol

Infinite growth!

- generate demand -> allow/encourage debt ->
- too much debt-> treadmill-> centralise and privatise influence and capital -> power to bankers and to finance.
- Unstable system – regulation essential

Twf esbonyddol

Exponential growth

Cyfradd twf (%)

Amser dyblu (blynyddoedd)

Growth rate (%)

Doubling time (years)

1.0

70

2.0

35

3.0

23

7.0

10

10.0

7

GDP

Rhinwedd GDP - mesurydd
'cyffro' economaidd

OND...

Anwybyddu allanolion e.e.
erydiad Cyfalaf Naturiol a
dynol a ffynhonnell
buddsoddiad (dyled ddim yn
cael ei gofnodi)

Nifer o fesuriadau amgen
ISEW, GPI, mynegai'r UN

Strength of GDP - Indicator
of economic activity & job
creation

BUT

Omits many externalities
e.g. erosion of Natural and
Human Capital and source
of investment [Debt not
recorded]

Numerous alternatives
ISEW, GPI, UN indices

Dolenni sy'n cydio

Couplings and links

- Defnydd o'n hadnoddau Naturiol
Dŵr, Aer, Tir, Mwynau
Ynni rhad -> CO₂ +NTG ->
Newid Hinsawdd
- Egwyddorion Daly
- Prynwriaeth - pryngarwch
- Effaith poblogaeth – rhaid i'r byd heneiddio
- Natural Resource Use
Air, Water, Land, Minerals
Cheap energy – CO₂ + other GHG emissions ->
Climate change
- Daly's criteria
- Consumerism
- Population Effect – the world must age

Y pwysau

Impact

- Pwysau amgylcheddol dynol = poblogaeth x golud x technoleg
- Human environmental impact = population x affluence x technology
- A'i technoleg yw'r ateb
- Will technology save us?

Osgoi trychineb – bod yn gynaliadwy

Avoiding disaster

- cyfuniad o fygythiadau

Cyfalaf - gwaith - newid
hinsawdd - cost bwyd -
prinder dŵr a thir -
pwysau poblogaeth - mân
ryfeloedd - mudo.

- Combination of threats

Capital - work - climate
change - food prices –
water and food shortages
– population pressure
unrest/wars – migration.

Argymelliadau

Recommendations

- Deall y broblem
- It's the economy stupid'
'lles' yn annigonol
- Strategaeth economaidd-
amgylcheddol Gymreig
- Blaenoriaethu
- Nid GDP yn unig
- Ynni a gwaith – ynni
gwasgaredig
- Understand the problem
- It's the economy stupid'
wellbeing not enough
- Develop a long term Welsh
enviro-economic strategy
- Must prioritise
- Evolve from GDP
- Dispersed energy & work

BARGEN GALBRAITH'S BARGAIN

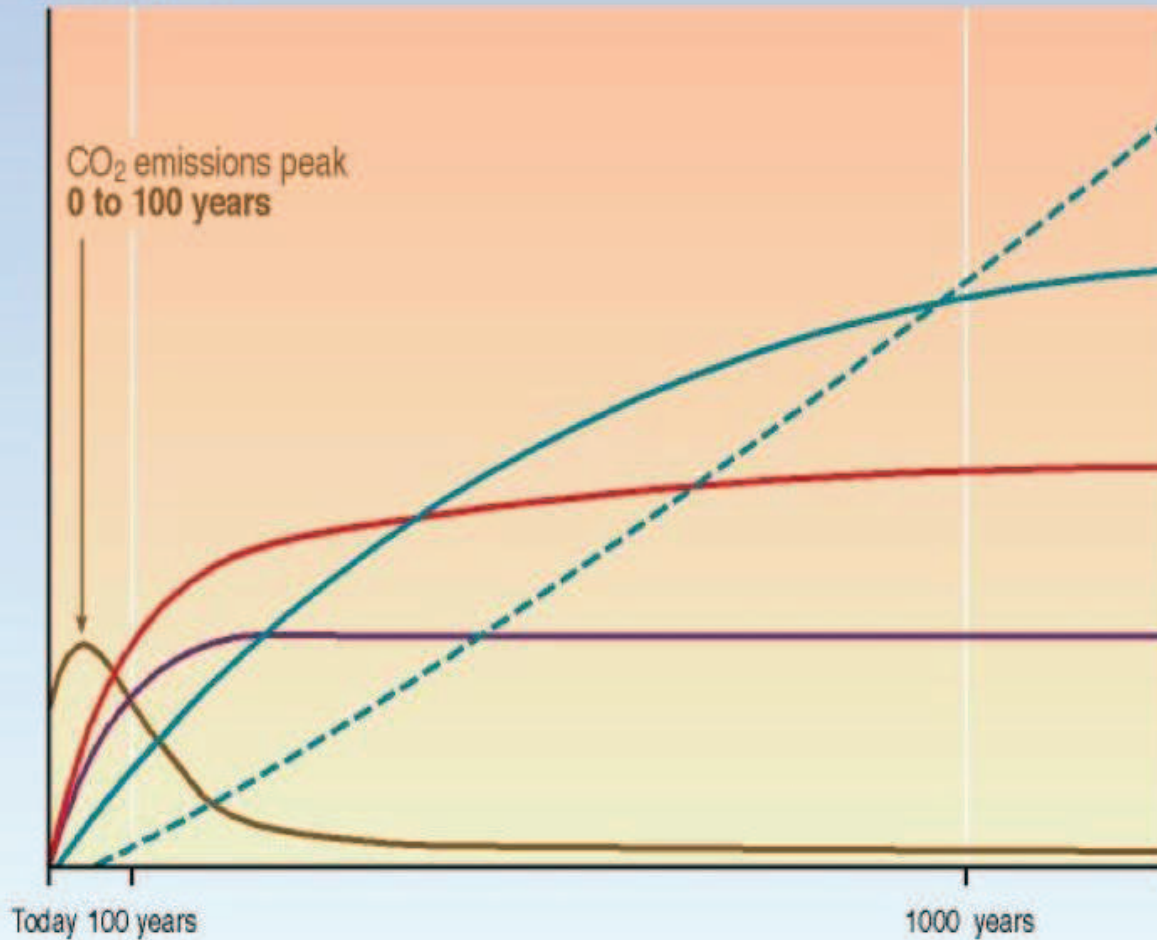
Symud ymlaen

Moving forward

- Dysg o eraill. Denmarc?
- Rhwystrau?
DNOs/Ofgen/Cynllunio/
Costau/sciliau
- Busnes a thechnoleg
- Camau pendant. Rhifau!
- Cyfrifoldeb
- Sut all pobl helpu,
ymuno a manteisio
- Learn from others.
Denmark?
- Obstacles?
DNOs/Ofgen/Planning/
Investment/Skills
- Business and tech.
- Quantitative steps
- Responsibility
- Together

Magnitude of response

Time taken to reach equilibrium



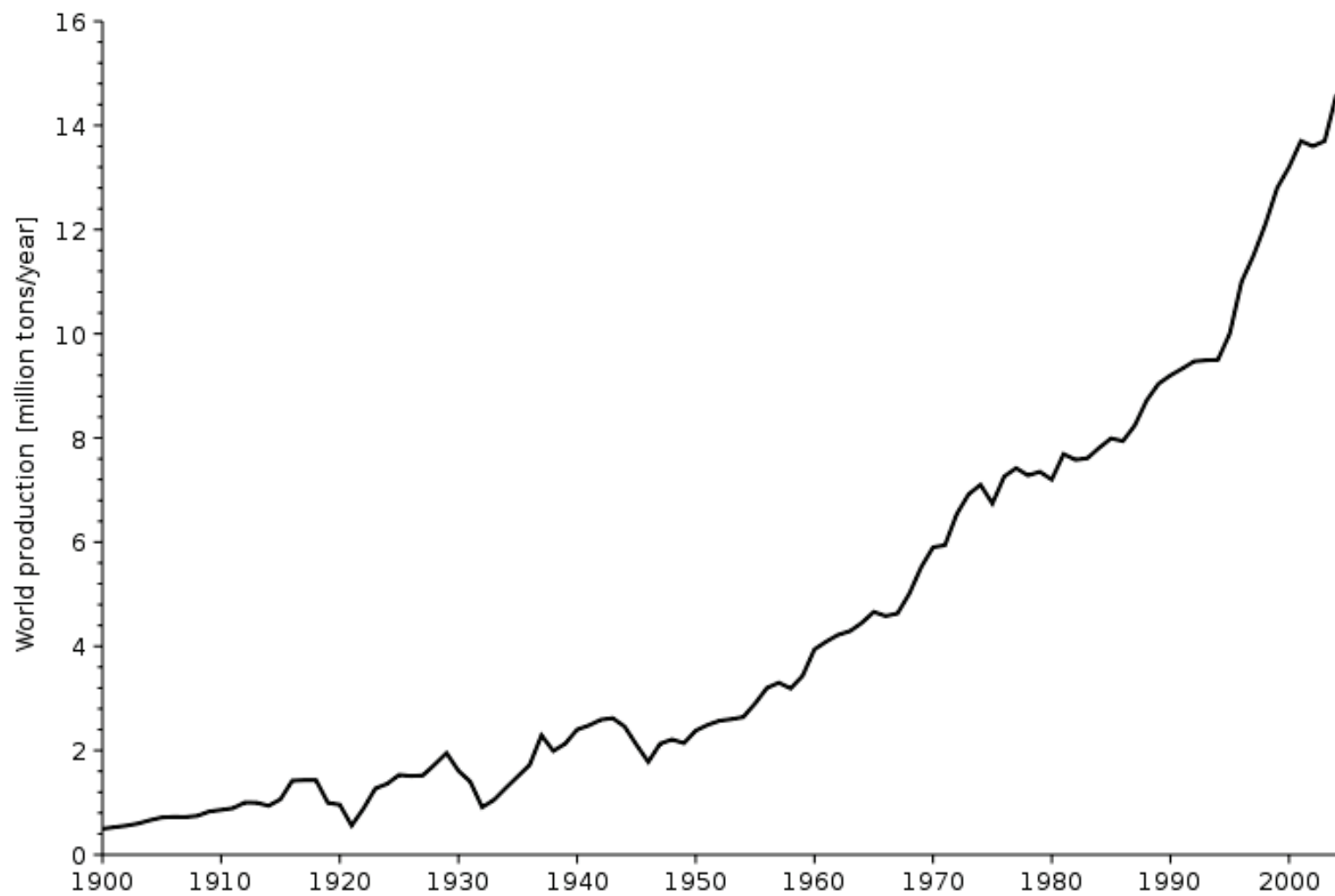
Sea-level rise due to ice melting:
several millenia

Sea-level rise due to thermal
expansion:
centuries to millenia

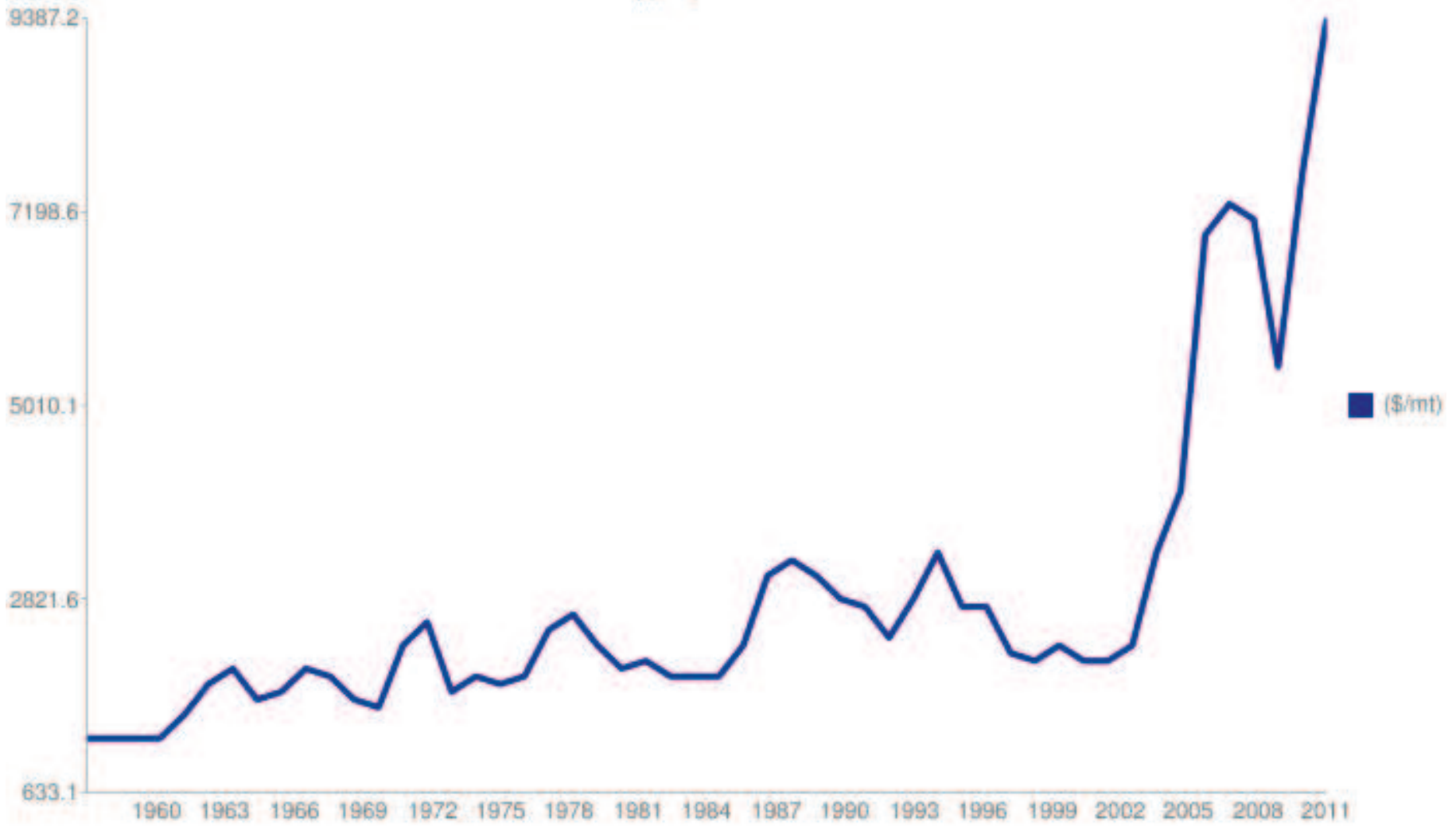
Temperature stabilization:
a few centuries

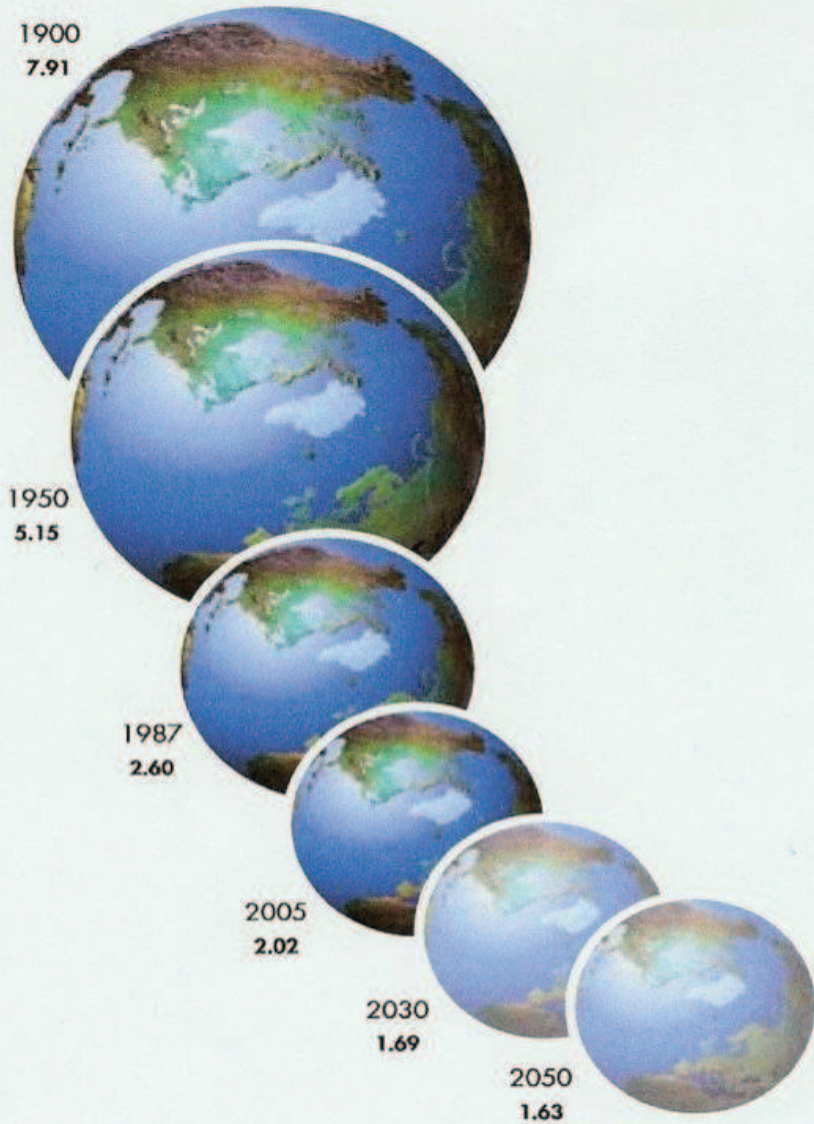
CO₂ stabilization:
100 to 300 years

CO₂ emissions

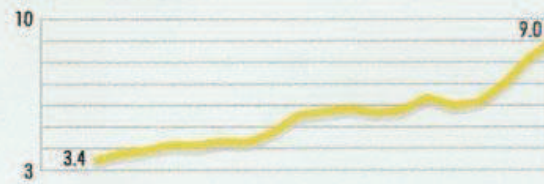


Copper price chart



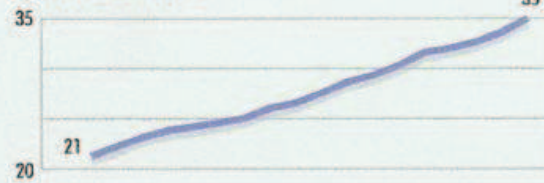


trillion constant US\$

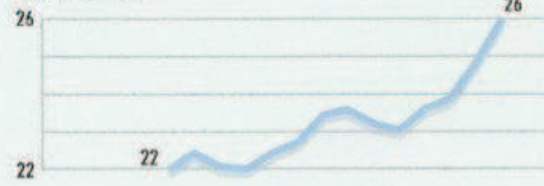


Trade
GDP
CO₂ emissions
Agriculture

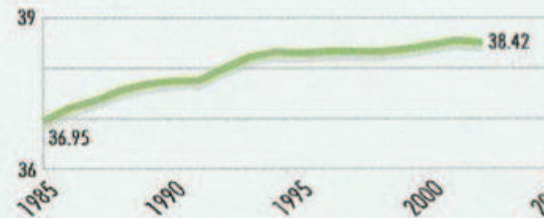
trillion constant US\$



billion tonnes



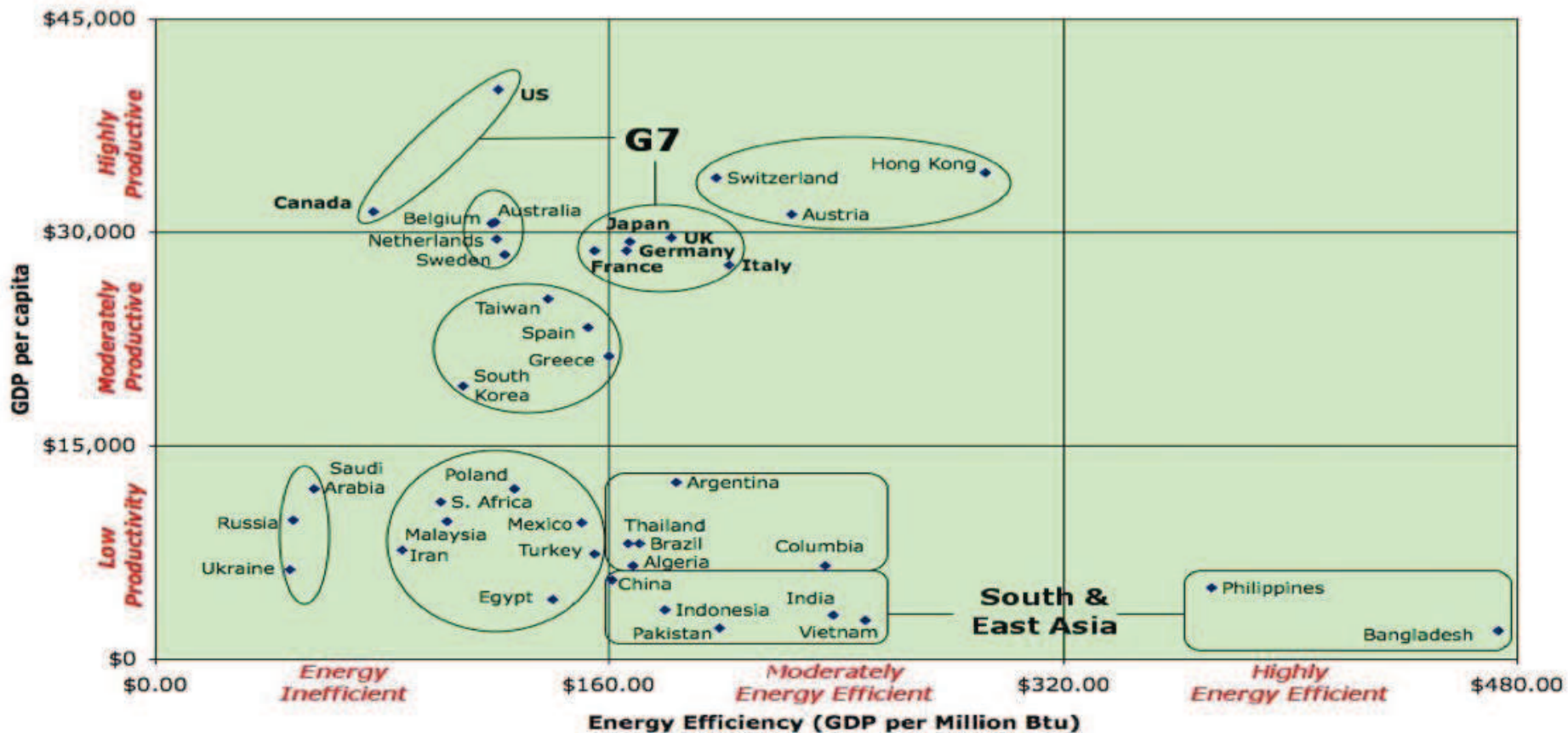
per cent of land area



Notes: Numbers next to images of Earth reflect hectares of land per capita.

Graphs show changes in trade volume (1987–2005), GDP (1987–2004), CO₂ emissions (1990–2003) and agricultural land area (1987–2002).

GDP vs. Energy Efficiency (Top 40 Economies by GDP)



Allwn ni ddysgu o Denmarc yn
hytrach na Lloegr/America?

Beth yw'r rhwystrau?

Pa gamau sydd angen eu
cymryd i'w goresgyn?

Pwy sy'n gyfrifol – pwy ddylai
gynghreirio?

Sut all pobl gyffredin helpu
gwleidyddion i gael y maen i'r
wal?

Can we learn from Denmark
instead of England/America?

What are the obstacles?

What steps are needed to
overcome?

Who's responsible – who
should co-operate?

How can ordinary people help
politicians to deliver?