



Building a state of equilibrium

The Great Transition to a Low Carbon, High Wellbeing Economy

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Building a State of Equilibrium
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- Why do we need a new economic direction?
 - Environmental limits
 - Growth isn't working
- The end of civilisation?
- How can we achieve a low carbon, high wellbeing economy?



Section 1

Why we need a new economic direction

Environmental Limits

- Globally, we're consuming nature's services – using resources and creating carbon emissions – 44% faster than nature can regenerate and reabsorb what we consume and the waste we produce.
- If the rest of the world wished to consume at the same rate as the UK it would require 3.4 planets like Earth.



Growth isn't working

- Between 1990 and 2001, for every \$100 worth of growth in the world's income per person, just \$0.60, down from \$2.20 in the previous decade, found its target and contributed to reducing poverty below the \$1-a-day line.
- A single \$1 of poverty reduction took \$166 of additional global production and consumption, with all its associated environmental impacts.
- Current, highly unequal patterns of the distribution of benefits from growth to get everyone in the world onto an income of at least \$3 per day would require 15 planets worth of resources to sustain the requisite growth.





Section 2

The end of civilisation?

Economics of oil dependence

- **Economic growth is predicated on the availability of ‘cheap energy’**
- IEA, IMF and G7 all warned that high oil prices have likely been constraining economic growth and economic recovery from the current recession.
- Growth in oil production has plateaued over the past decade yet consumption in non-OECD countries continues to grow. Yet, no new sources of low-cost supplies are known.
- Recent optimism about unconventional sources of oil and gas fails to recognise that the additional supplies represent a higher cost.
- Slowing the rate of decrease in oil production can only be achieved by a potential doubling of the price of oil over the next decade.
- Significant falls in oil prices can only occur if there is a major recession or depression, similar to that seen in the second half of 2008.

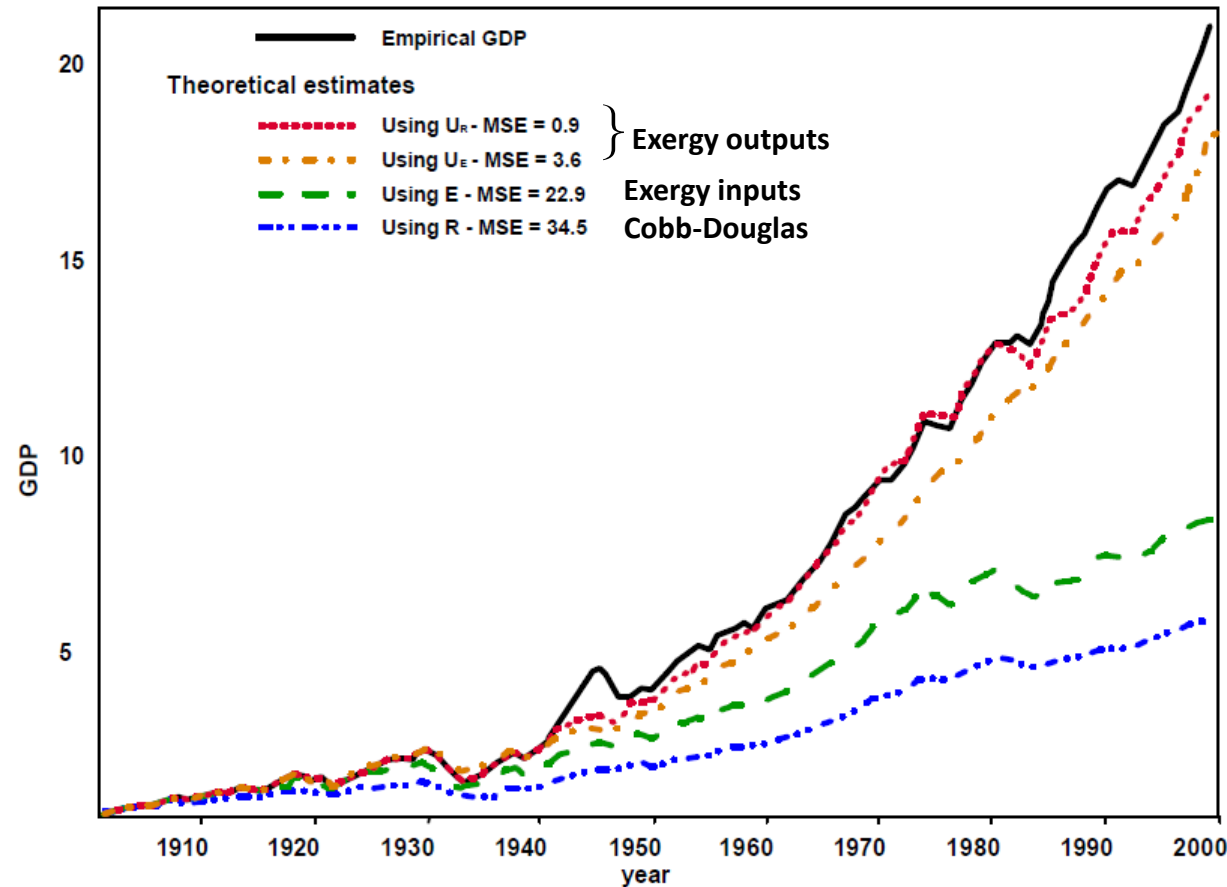
Energy and GDP growth

GDP not explained by
Cobb-Douglas - 'Solow
residual'

Adding **exergy** (energy +
materials) as a third
input with capital and
labour improves
matters

Only when efficiency is
added to model useful
work obtained from
exergy inputs, does a
correlation appear

LINEX production function fits with different "energy" factor inputs
USA 1900-1998

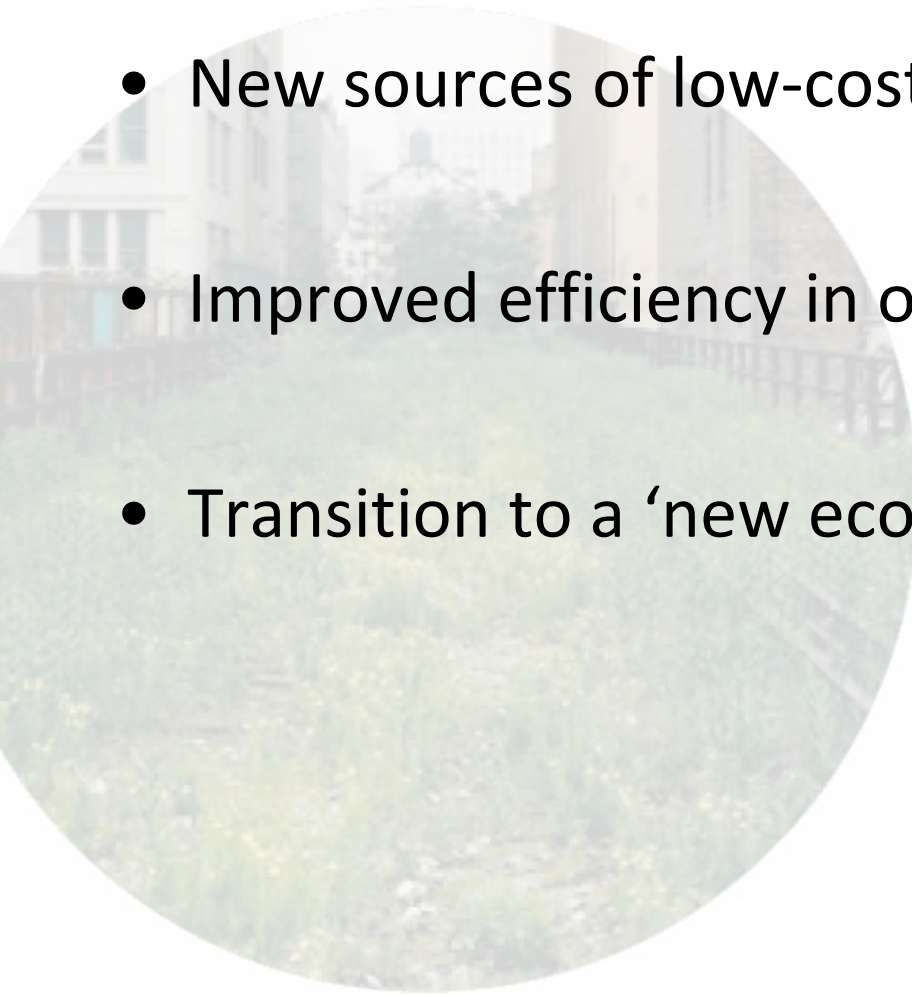


Source: Ayres & Warr, "Accounting for Growth: the role of physical work". INSEAD

Economic peak oil

- Reconciling the geological and economic perspectives
 - Geological perspective – finite nature of reserves, demand outstrips supply
 - Economic perspective – higher prices send a signal to the market
- Economic peak oil: *The point at which the cost of incremental supply exceeds the price economies can pay without significantly disrupting economic activity at a given point in time.*
- While hard to pinpoint, there is an oil price, beyond which economies begin to experience severe negative impacts, depressing economic activity and causing extreme social hardship.
 - Developed economies - \$90 per barrel
 - Industrialising economies – \$100-110 per barrel

Softening the blow

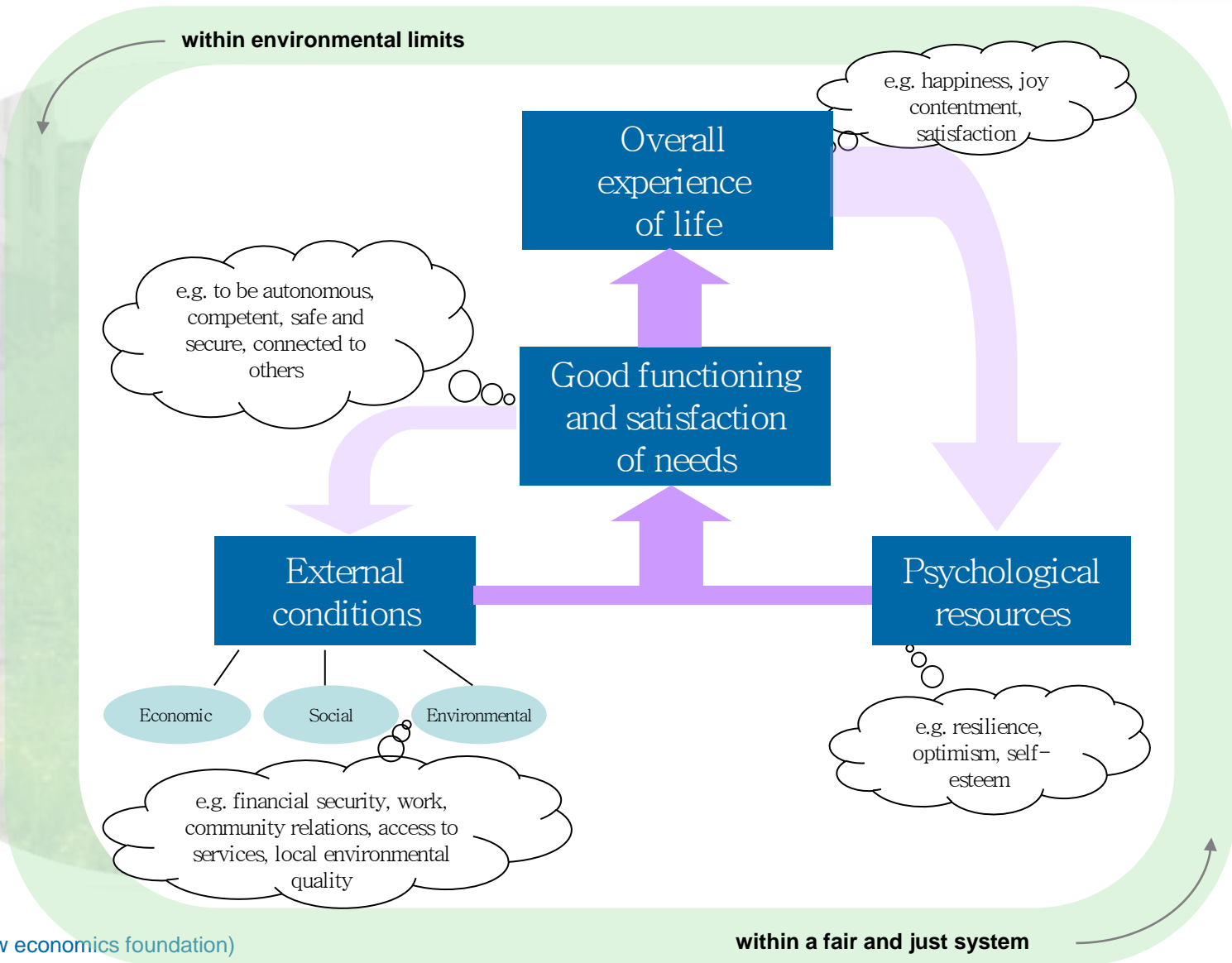
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- New sources of low-cost oil?
 - Improved efficiency in oil use?
 - Transition to a ‘new economy’?



Section 3

**The transition to a low-carbon high
wellbeing economy**

What does a new economy look like?



A Great Transition

- **Revaluing:** making social and environmental value central to decision-making
- **Redistribution:** more equal societies are happier
- **Rebalancing:** rebalancing of the market sphere alongside the public sphere and 'core economy'
- **Relocalisation:** subsidiarity and redefining efficiency
- **Reskilling:** from consumers to producers
- **Economic Irrigation:** using finance to facilitate the change
- **Interdependence:** global emissions cap, transfer of funds for 'climate proof and climate friendly' development.

Reducing our oil dependence

- Transition to low-carbon and cheaper energy alternatives
- Reinforcement of the electricity grid to facilitate decentralised energy technologies, support renewable energy companies and improve control
- Decarbonisation of the built environment
 - Reduce energy demand
 - Sequestration
- Investment into mass public transit systems and more efficient vehicles



Transition to a steady-state

- We can't afford to carry on as we are
 - *In a business as usual scenario, by 2050, the cumulative cost of dealing with climate change will range from £1.6-2.6 trillion*
 - *The cost of addressing social problems related to inequality will reach £4.5 trillion*
- Measures proposed in the Great Transition could create £8.65 trillion of environmental and social value up to 2050
 - *£0.4 – £1.3 trillion in avoided environmental costs*
 - *Progressive redistribution of incomes to reach Danish levels of equality will cut the costs of inequality-related social problems and increase social value by £7.35 trillion.*

Further information

The Great Transition

downloadable from **nef** website www.neweconomics.org

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