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“Transgressing one or more of the planetary boundaries could lead to catastrophic change at the continental to global scale.”

Source: Steffen et al. 2015, Science 347 (6223), 1259855.
Evidence for Decoupling

**United States**

- Material Consumption
- GDP
- Material Extraction

**United Kingdom**

- Material Consumption
- GDP
- Material Extraction

**World**

- Material Consumption
- GDP

Source: Wiedmann et al. 2015, *PNAS* 112 (20), 6271-6276
The Rebound Effect
Happiness and GDP in the U.S.

“Americans have been more successful decoupling GDP from happiness than in decoupling it from material and energy”

Source: National Opinion Research Center
Happiness and GDP Across Countries

Source: World Database of Happiness
What Are We Actually Measuring?

- **GDP**
  - Total expenditure on all final goods and services newly produced within a country

- Adds to GDP:

- Also adds to GDP:
Growth Rates Are Declining

Source: Chancel et al. (2013)
Will we ever invent anything this useful again?

The growing debate about dwindling innovation
Transition for Wealthy Nations

- **Growth**
- **Degrowth**
- **SSE**

Carrying Capacity
What Is a Steady-State Economy?

- Sustainable Scale
- Fair Distribution
- Efficient Allocation
- High Quality of Life

Health, happiness, leisure time, and community
Can We Really Do This?

- Model for the Canadian Economy

- Possible to have
  - Full employment
  - More leisure time
  - Balanced budget
  - Virtually no poverty
  - Reduced GHG emissions

- All without the need for economic growth!
Ecological Macroeconomic Models

Analytical Models

1. Fontana & Sawyer 2016
2. Kemp-Benedict 2014a
3. Rosenbaum 2015
20. D’Alessandro et al. 2010

Numerical Models

18. Bastin & Cassiers 2010

The Steady State Economy Conference

Working Towards an Alternative to Economic Growth

Saturday, 19 June 2010 – Leeds, UK

www.steadystate.org/enough-is-enough
1. Limit Resource Use
Tied to difficult topics such as poverty, reproductive health, women's rights, immigration, and religious beliefs.

2. Stabilise Population
3. Limit Inequality

“Growth is a substitute for equality of income. So long as there is growth there is hope, and that makes large income differentials tolerable.” —Henry Wallich
3. Limit Inequality

JUST 8 BILLIONAIRES OWN THE SAME WEALTH AS THE POOREST 3.6 BILLION PEOPLE

DEMAND AN ECONOMY THAT WORKS FOR EVERYONE, NOT JUST THE FEW

EVENITUP.ORG
3. Limit Inequality

Top US Marginal Tax Rate

- WWI Ends
- WWII Ends
- WWII Starts
- Reagan Takes Office
- Stock Market Crash
- WWI Starts

4. Reduce Working Hours
5. Reform the Monetary System

“Banks do not act simply as intermediaries, lending out deposits that savers place with them.

“Whenever a bank makes a loan, it simultaneously creates a matching deposit in the borrower’s bank account, thereby creating new money.”

— Bank of England Quarterly Bulletin 2014 Q1
5. Reform the Monetary System

“This will not happen now. But remember the possibility. When the next crisis comes—and it surely will—we need to be ready.”

Martin Wolf, FT
6. Change How We Measure Progress
The Steady-State Economy Accounts

Ultimate End
- Human well-being

Intermediate Ends
- Health
- Equality
- No poverty
- Social capital
- Participatory democracy
- Decreased working time
- Low unemployment
- Stable prices

Intermediate Means
- Human population
- Livestock numbers
- Built capital

Ultimate Means
- Material use
- Energy use
- CO₂ emissions
- Ecological footprint

Growth and Social Performance

Stability (as measured by the predominant pattern in 7 biophysical indicators)

D – Degrowth (some indicators decreasing)
S – Stable (most indicators stable)
L – Low Growth (some indicators growing)
G – High Growth (most indicators growing)

“It deserves to be remarked, perhaps, that it is in the progressive state, while the society is advancing to the further acquisition, rather than when it has acquired its full complement of riches, that the condition of the labouring poor, of the great body of the people, seems to be the happiest and the most comfortable. It is hard in the stationary, and miserable in the declining state. The progressive state is in reality the cheerful and the hearty state to all the different orders of the society. The stationary is dull; the declining, melancholy.”
Growth and Social Performance

Stability (as measured by the predominant pattern in 7 biophysical indicators)

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Growth = Jobs, Right?

United States

\[ y = -0.365x + 1.200 \]
\[ R^2 = 0.701 \]

Japan

\[ y = -0.028x + 0.171 \]
\[ R^2 = 0.188 \]

Data are for the period 1960-2008.
Can We Live Within ‘The Doughnut’?
Living Well Within Limits [LiLi]

lili.leeds.ac.uk

- 5-year research project at University of Leeds

**BIOPHYSICAL INPUTS**
- Planetary Processes
  - Hydrological cycle, Carbon cycle, Solar radiation, Biodiversity, Nitrogen cycle, Etc.
- Natural Resources

**PROVISIONING SYSTEMS**
- Physical
  - Infrastructure, Technology, Land use, Supply Chains.
  - Social
    - State, Markets, Communities, Institutions, Norms, Culture, Distribution.

**SOCIAL OUTCOMES**
- Need satisfiers
- Well-being
  - Physical & mental health, Autonomy of agency, Cognitive understanding, Social participation, Life satisfaction, Etc.

J. Steinberger, D. O’Neill & W. Lamb

The Leverhulme Trust

European Commission
Will These Changes Ever Happen?

The big issue: Labour’s manifesto proposals could be just what the economy needs

Jeremy Corbyn's party is finally being given the chance to get its message across

On 8 June, voters will go to the polls for perhaps the most important UK general election since 1945. The importance arises in great part from profound differences in economic policy, reflecting different views of the nature and health of the British economy.

The Conservative manifesto calls for continued austerity, which will tend to slow the economy at a crucial juncture, against the backdrop of Brexit negotiations. Their spending cuts have hurt the most vulnerable and failed to achieve their intended debt and deficit reduction targets.

In contrast, Labour’s manifesto proposals are much better designed to strengthen and develop the economy and ensure that its benefits are more fairly shared and sustainable, as well as being fiscally responsible and based on sound estimations.

We point to the proposed increases in investment in the future of the UK and its people, labour market policies geared to decrease inequality and to protect the lower paid and those in insecure work and fair and progressive changes in taxation.
Will These Changes Ever Happen?
Thank you!

Climate Summit

What if it's a big hoax and we create a better world for nothing?

- Energy independence
- Preserve rainforests
- Sustainability
- Green jobs
- Livable cities
- Renewables
- Clean water, air
- Healthy children
- Etc. etc.

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