

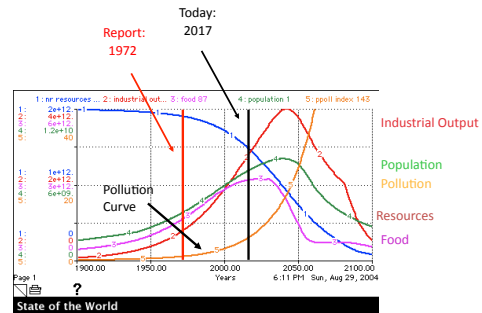
# Presentation to the Club of Vienna

## Three Ways the End of Growth Makes Difficulties for Representative Government

Dennis Meadows  
Vienna, Austria  
12. September, 2017

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## The End of Growth



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## The Time of Greatest Stress

- It is natural, but wrong, to assume that the major global difficulties would occur after the end to growth.
- To stop growth, pressures against it must equal those for it. The strongest promotion of growth occurs before the peak – now.
- We will experience more change over the next 20 years (economic, **political**, environmental, psychological) than occurred during the past 100 years.

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## Some Forms of Government

- Representative
  - Tribal
  - Democracy
- Authoritarian
  - Religious
  - Martial
  - Royal
  - Economic
  - Merit

Within each there must be:

Law making      legislature  
Law enforcement      executive  
Arbitration      court

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## State of Governance - 2016

Type of Regime	% of Countries	% of World Population	Examples
Full Democracy	11.4	4.5	Austria, NZ, Canada, Uruguay
Flawed Democracy	34.1	44.8	Japan, US, Botswana, India
Hybrid Regime	24.0	18.0	Turkey, Liberia, Nigeria, Thailand
Authoritarian Regime	30.5	32.7	Jordan, China, N. Korea, Iran

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## Caveats

- Simplifying a very complex issue
- Assuming that limits will reduce growth in human welfare
- Overlooking differences in timing and form among nations
- Relying heavily on data from the US
- Offering only partial and weak solutions

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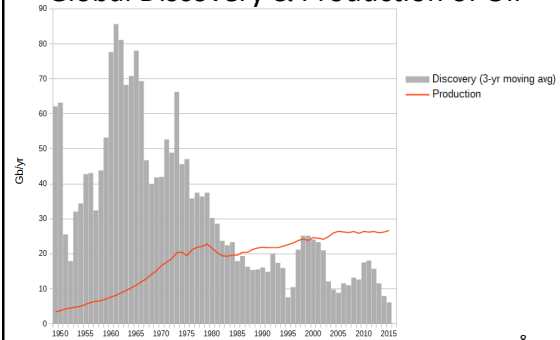
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## Examples of Limits

- Resources
  - Energy
- Environment
  - Climate
- Cultural
  - Trust
- Economic
  - Debt

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## Global Discovery & Production of Oil

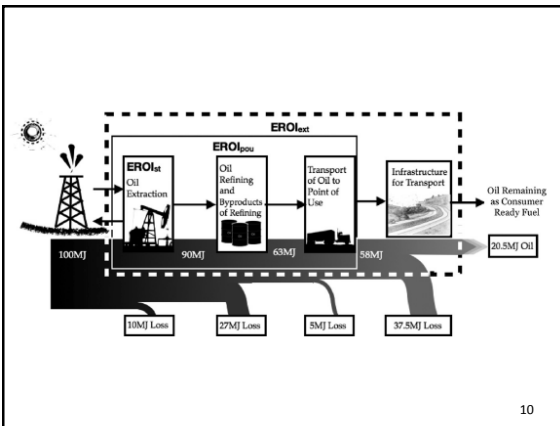


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The capital cost of producing a unit of energy – whether oil, natural gas or power – has doubled since 2000, and continues to rise

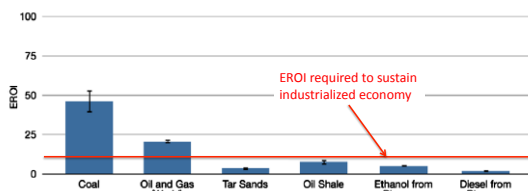
*“Rising costs of production threaten energy profits, IEA warns,” Shawn McCarthy, Global Energy Reporter, The Globe and Mail, Ottawa, June 2, 2014*

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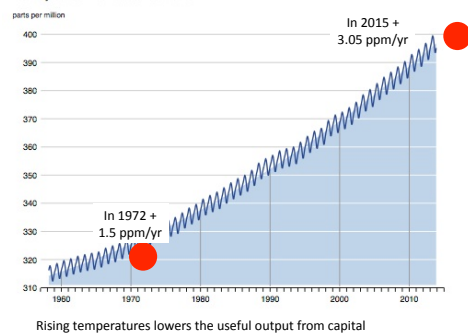
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## EROI for Thermal Fuels



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## Monthly Carbon Dioxide Concentration

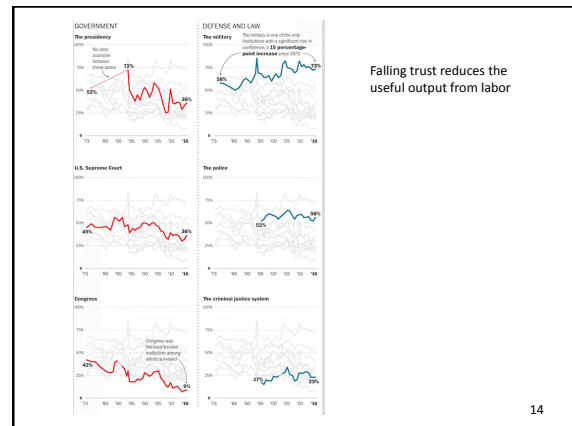


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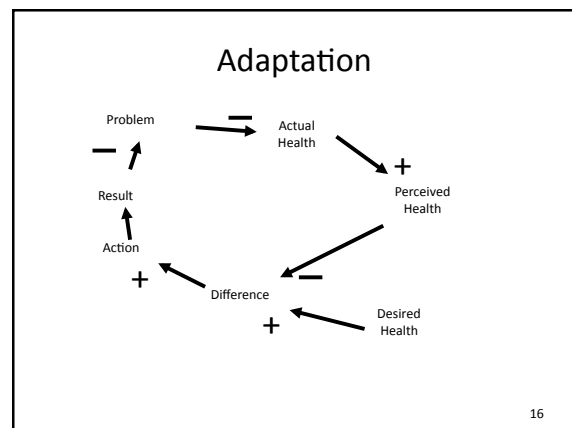
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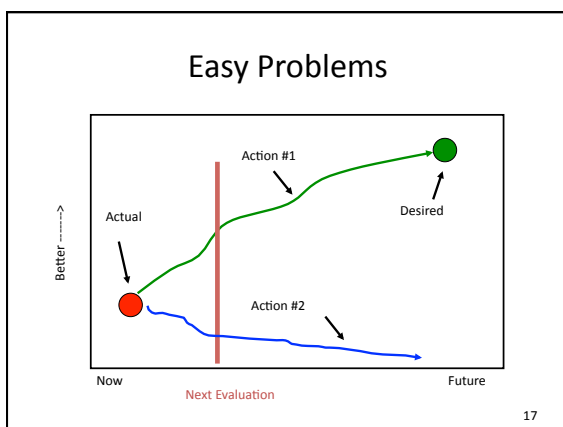
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1. Produce crises that shorten the time horizon for decision making

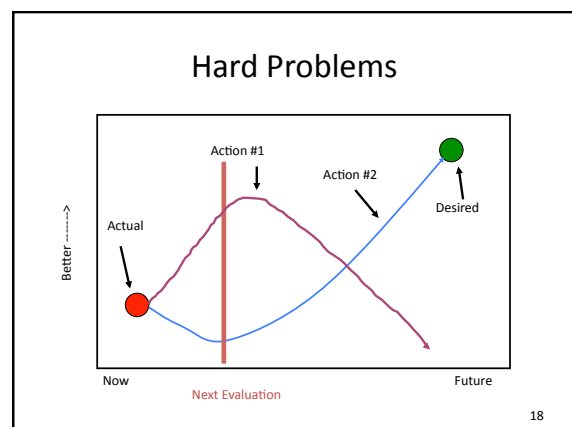
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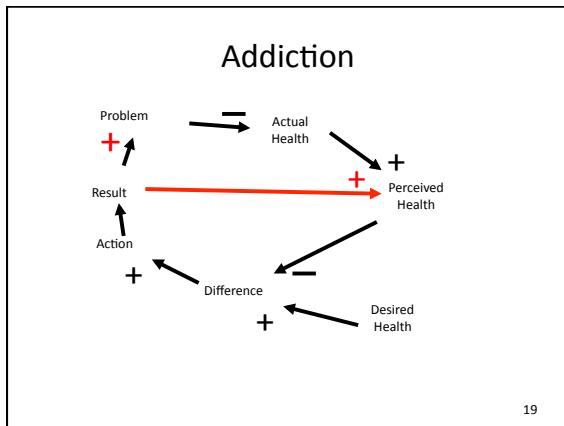


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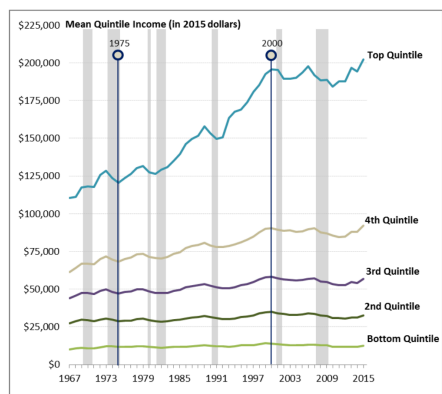
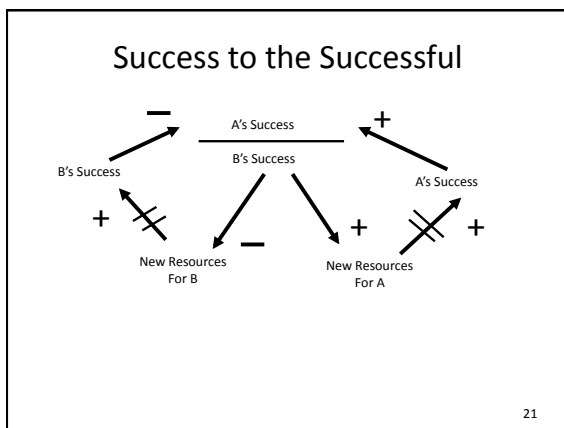
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2. Reduce growth in welfare that leads to increased inequality and thus reduces trust in institutions

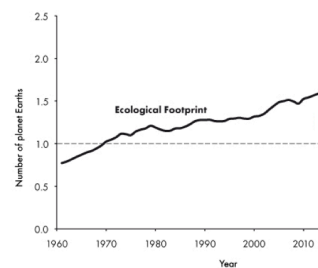
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3. Migration destroys the culture of shared norms

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### Mathis Wackernagel: Global Ecological Footprint 1960 - 2015



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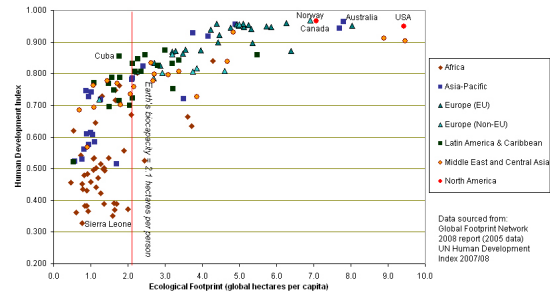
## Symptoms of Overshoot

- Falling resource stocks; rising pollution levels
- Rising costs to obtain resources
- Rising costs to compensate for damage to the environment
- Declining quality of society's capital infrastructure – roads, energy grid, public buildings
- Falling per capita investment in human capital
- Rising debt/output ratio
- Increasing social conflict, growing inequality

Adapted from pp 138-139, Meadows et. al., *Beyond the Limits*, ©1992

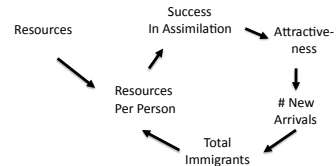
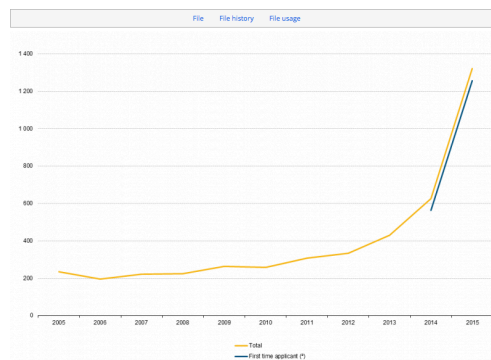
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## Human Welfare and Ecological Footprints compared

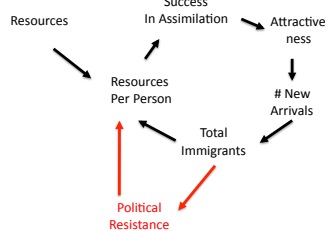


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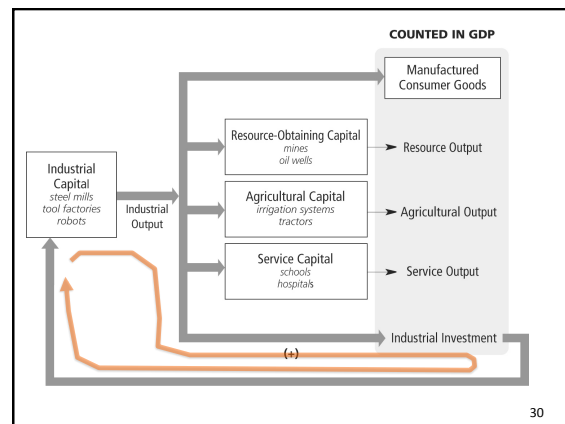
File:Asylum applications (non-EU) in the EU-28 Member States, 2005-15 (!) (thousands) YB16.png



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## Our Conclusion in 1972

If the present growth trends in world population, industrialization, pollution, food production, and resource depletion continue unchanged, the limits to growth on this planet will be reached sometime within the next one hundred years.

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## The message was clear

“We do not need growth. Without growth per capita, that means growth in material-consumption per capita, we can better survive...” [Sicco Mansholt, 4<sup>th</sup> President of the EEC & a founder of the EU](#)

“We have learned that more is not necessarily better, that even our great nation has its recognized limits.” [Jimmy Carter, President of the US](#)

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## But society forgot

“My first priority will be to put policies that create growth and jobs at the centre of the policy agenda of the next Commission.” [Jean Claude-Junker, President of the European Commission](#)

“Promote sustained, inclusive and sustainable economic growth” [8<sup>th</sup> SDG of the United Nations](#)

“..overall U.S. economic growth has significantly outpaced that of every other advanced nation.” [Barack Obama, President of the US](#)

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## Representative Government is More than Voting

- Free and competent media
- Rule of law
- Openness of decision making
- Shared culture of goals and ethics – capacity for trust and compromise
- Possibility for all citizens to be candidates
- Equal access to vote and full participation
- Term limits

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## Useful Actions

- Reduce global population
- Change goals: material growth -> social development
- Increase resilience of important systems
- Preserve a common culture
- Develop welfare indicators not correlated with energy and material flows
- Reduce inequality: transfers, tax policy, minimum wage, inheritance laws
- Create reward systems based on long-term results
- Research and education on non-violent means for resolving conflict
- Strong laws and honest, effective police
- Campaign finance standards to lower the effect of wealth on politics
- Term limits

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