# From 40 Years Observing Limits to Growth: Perspectives on Growth, Wellbeing, Quality of Life

Dennis Meadows Berlin, Germany October 24, 2011

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#### **Outline of Comments**

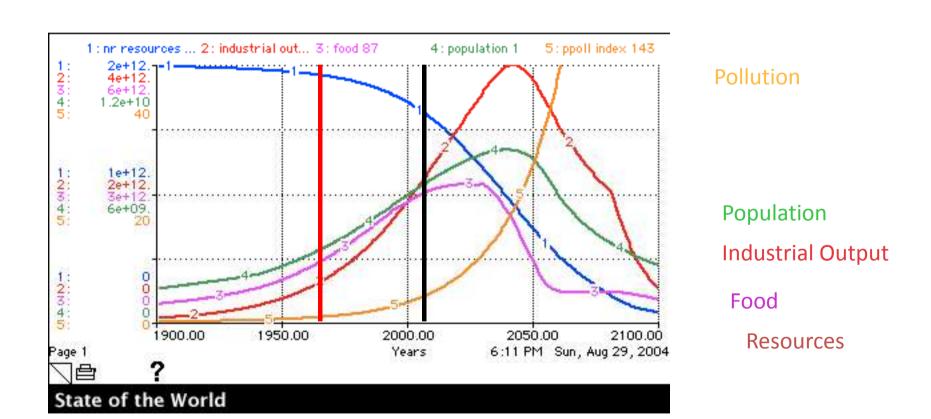
- Lessons from 40 years
- Implications for creating a green economy
- Important limits now

#### Lessons from 40 Years

- Our reference scenario seems to be the most accurate.
- Society has little capacity to make change in advance of the crisis, if short-term costs are significant.
- Now it is too late for sustainable development; our goal should be to increase resilience.
- People pick their desired action in two ways.

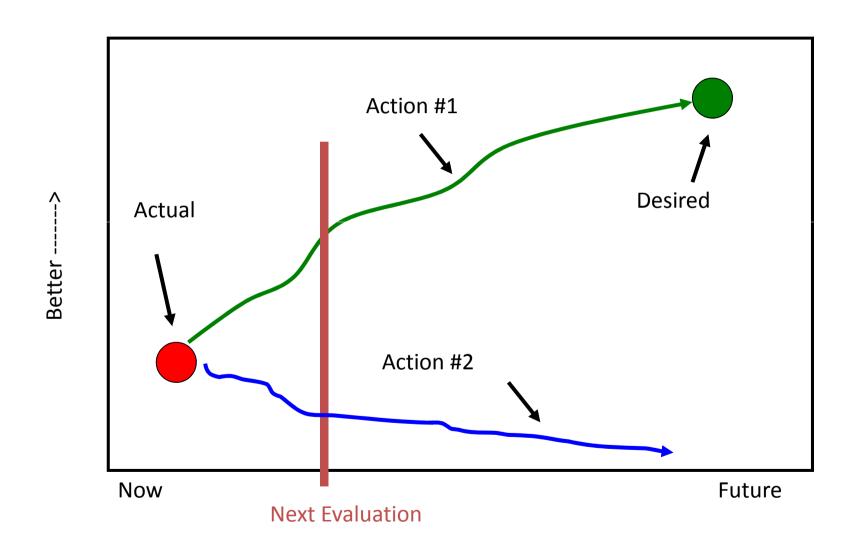
• Our reference scenario seems to be the most accurate.

#### The Reference Scenario

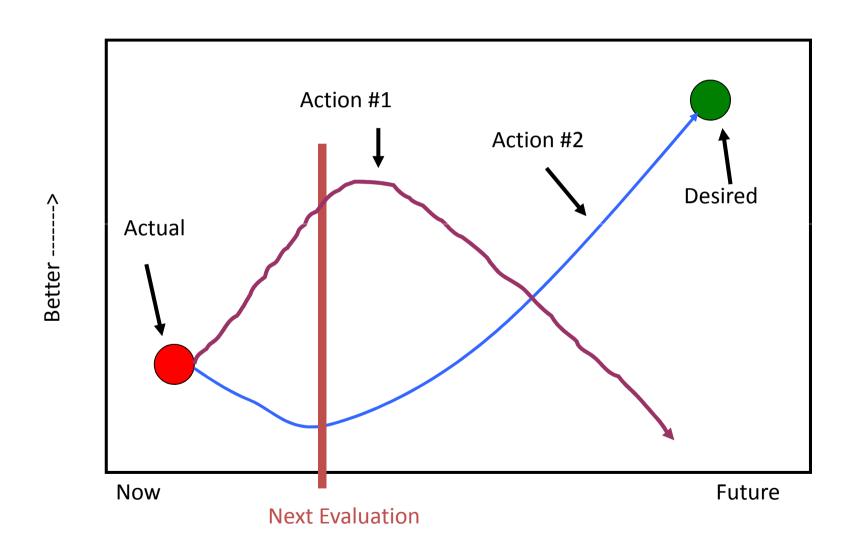


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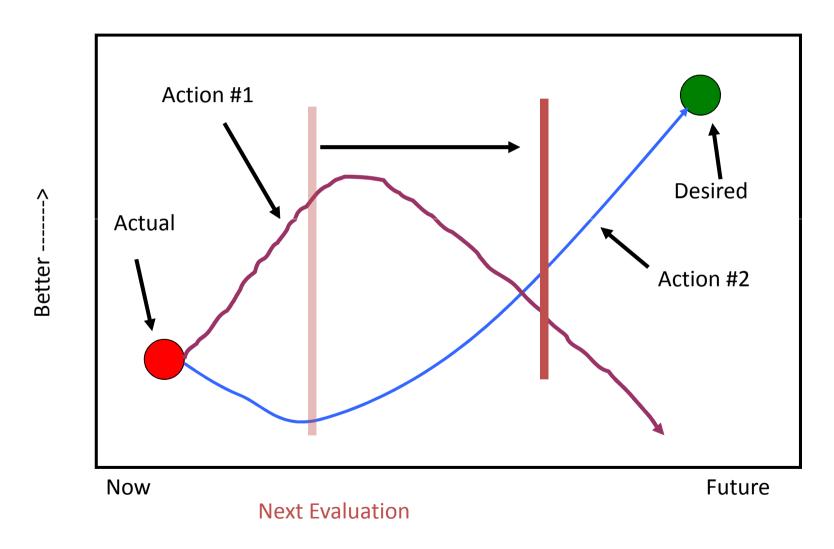
### **Easy Problems**



#### **Hard Problems**

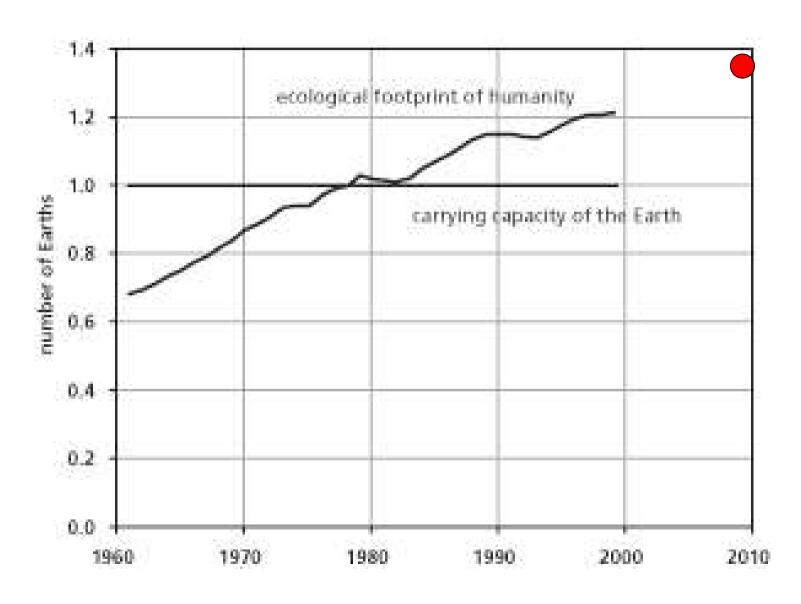


### Hard Problems Become Easy with Greater Time Horizon



 Now it is too late for sustainable development; our goal should be to increase resilience.

#### One Indicator of Overshoot

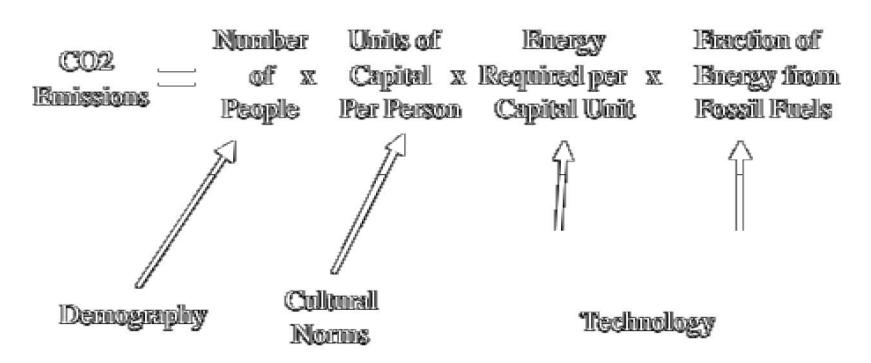


People pick their desired action in two ways.

#### **Implications**

- Technology alone cannot solve the problems
- We need new indicators
- Encourage experimentation

## Implication #1: Technology alone can not solve the problems



**Social Sciences** 

**Physical Sciences** 

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### Implication #2: We need new indicators

- 64 indicators in 8 categories
- Since 1994, GDP has grown 31%; wellbeing has grown 11 %
- Some components of wellbeing have declined
  - leisure, environment, culture
- Where there have been gains, most of them have gone to those in the top 20% of income.

Get Walter Rademacher to help with implementing Indicators for Germany (and the EU)

#### Implication #3:

#### **Encourage experimentation**

- Create new goals and find non-market indicators of success.
- Find ways that a community or region can decide on and attain its desired population. Encourage and learn from local experiments.
- Develop the social values and non-market institutions that will support older people as the population ages.
- Extend society's time horizon.
- Enhance understanding of nonlinearities and delays.
- Imbue the environment with its own rights.
- Raise concern for those far away in space and time.
- Forget about sustainability; understand and promote resilience.

#### **Important Limits Now**

- Governance is too short-sighted
- Governance is too slow
- Capital and energy requirements are rising so far that it is becoming hard to create new wealth