

# Optimizing the Science-Policy Interface for Monitoring Sustainable Development Results

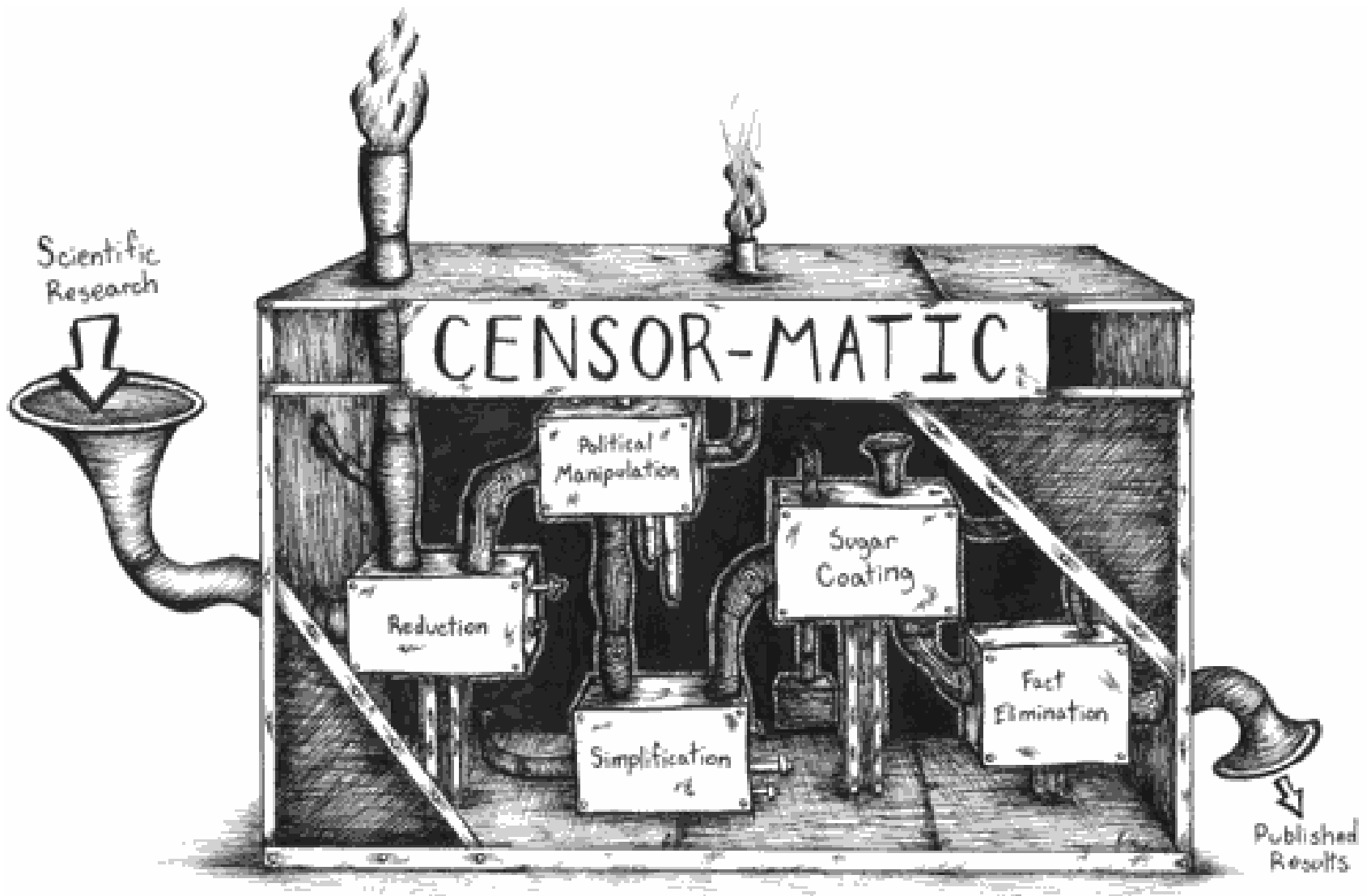
Laszlo Pinter, PhD  
Senior Fellow and Associate, IISD  
Professor, CEU

May 28, 2015

UN DESA Workshop on Integrated Approaches to SD Planning and Implementation  
New York, NY



The facts are coming! The facts are coming!



# Key points

1. Learning from the MDG experience (MDG-7)
2. Establish indicators and baselines early in the process
3. Build on existing goals, indicators and data systems, but also invest in capacity and institution building
4. Get ready to integrate multiple types of data from multiple sources
5. Understand decision-maker information needs and address them throughout the policy cycle
6. Develop integrated assessment capacity that can make sense of SDGs as a system of targets
7. Make access to up-to-date indicators, progress reviews and projections easy, free, relevant, interactive, user friendly, attractive...

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REVIEW OF TARGETS FOR  
THE SUSTAINABLE DEVELOPMENT GOALS  
FROM THE SCIENCE PERSPECTIVE



iisd International Institute for Sustainable Development Institut international du développement durable

SD REPORT

# Global Goals and the Environment: *Progress and prospects*

Laszlo Pinter  
Dora Almassy  
Kate Offerdahl  
Sarah Czunyi

May 2015

## Links to reports:

- [https://www.iisd.org/pdf/2009/brochure\\_bellagiostamp.pdf](https://www.iisd.org/pdf/2009/brochure_bellagiostamp.pdf)
- [http://www.asef.org/images/stories/publications/ebooks/ASEF\\_Report\\_Sustainable-Development-Goals-Indicators\\_01.pdf](http://www.asef.org/images/stories/publications/ebooks/ASEF_Report_Sustainable-Development-Goals-Indicators_01.pdf)
- [http://asef.org/images/stories/publications/documents/ENVforum-Part\\_II-Measuring\\_Sustainability.pdf](http://asef.org/images/stories/publications/documents/ENVforum-Part_II-Measuring_Sustainability.pdf)
- <http://www.icsu.org/publications/reports-and-reviews/review-of-targets-for-the-sustainable-development-goals-the-science-perspective-2015/SDG-Report.pdf>
- <http://www.iisd.org/publications/global-goals-and-environment-progress-and-prospects>



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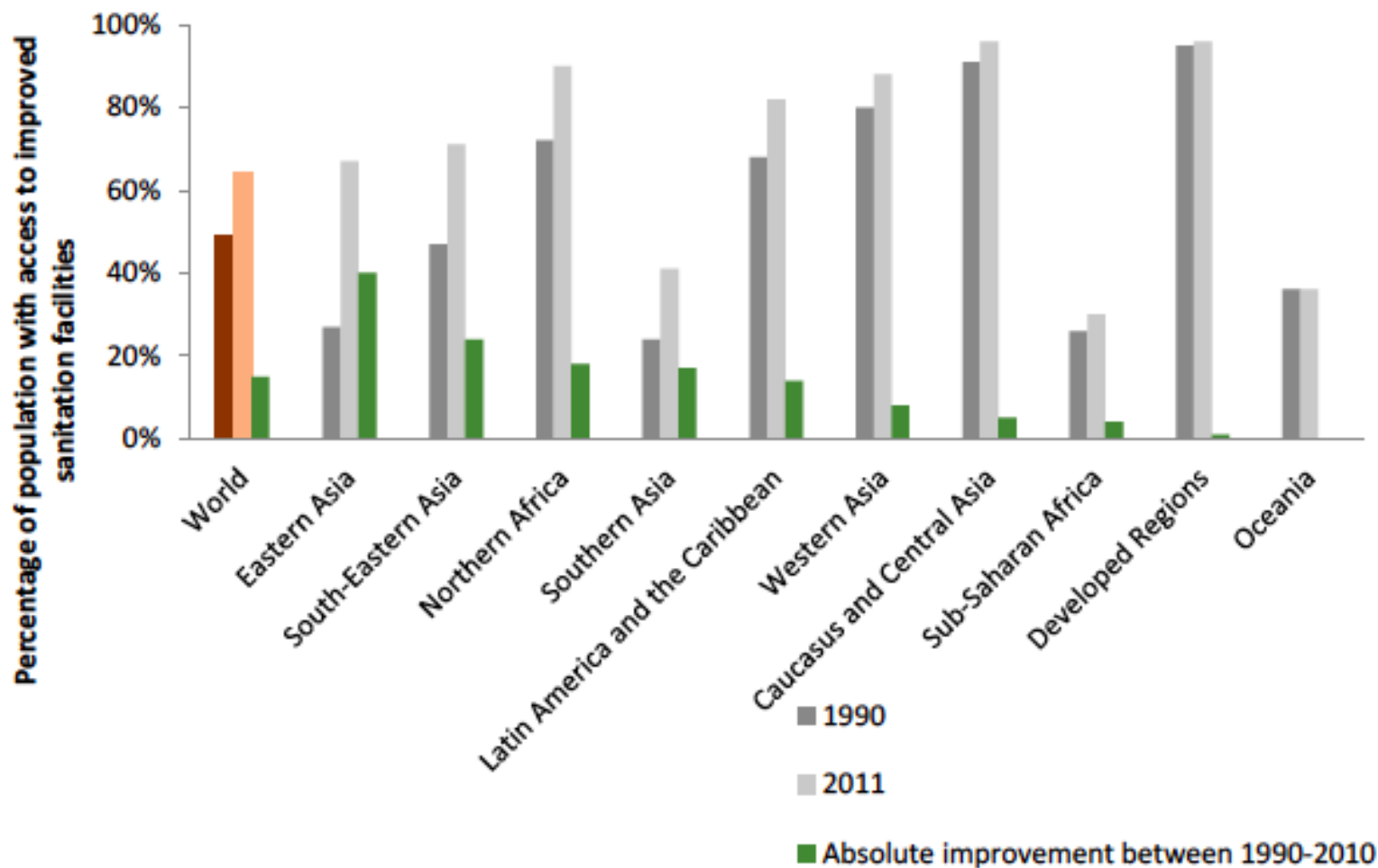
# Lessons from MDG-7

## progress monitoring and review

- Representation of environmental issues in the MDGs (through MDG-7) was symbolic and fragmentary, not based on a whole-system sustainable development framework
- There's been no resource mobilization in support of the *institutional foundations* of monitoring and reporting at the scale needed
- Consequently, consistent reporting is constrained by weaknesses in statistical monitoring and Earth observation systems – and data

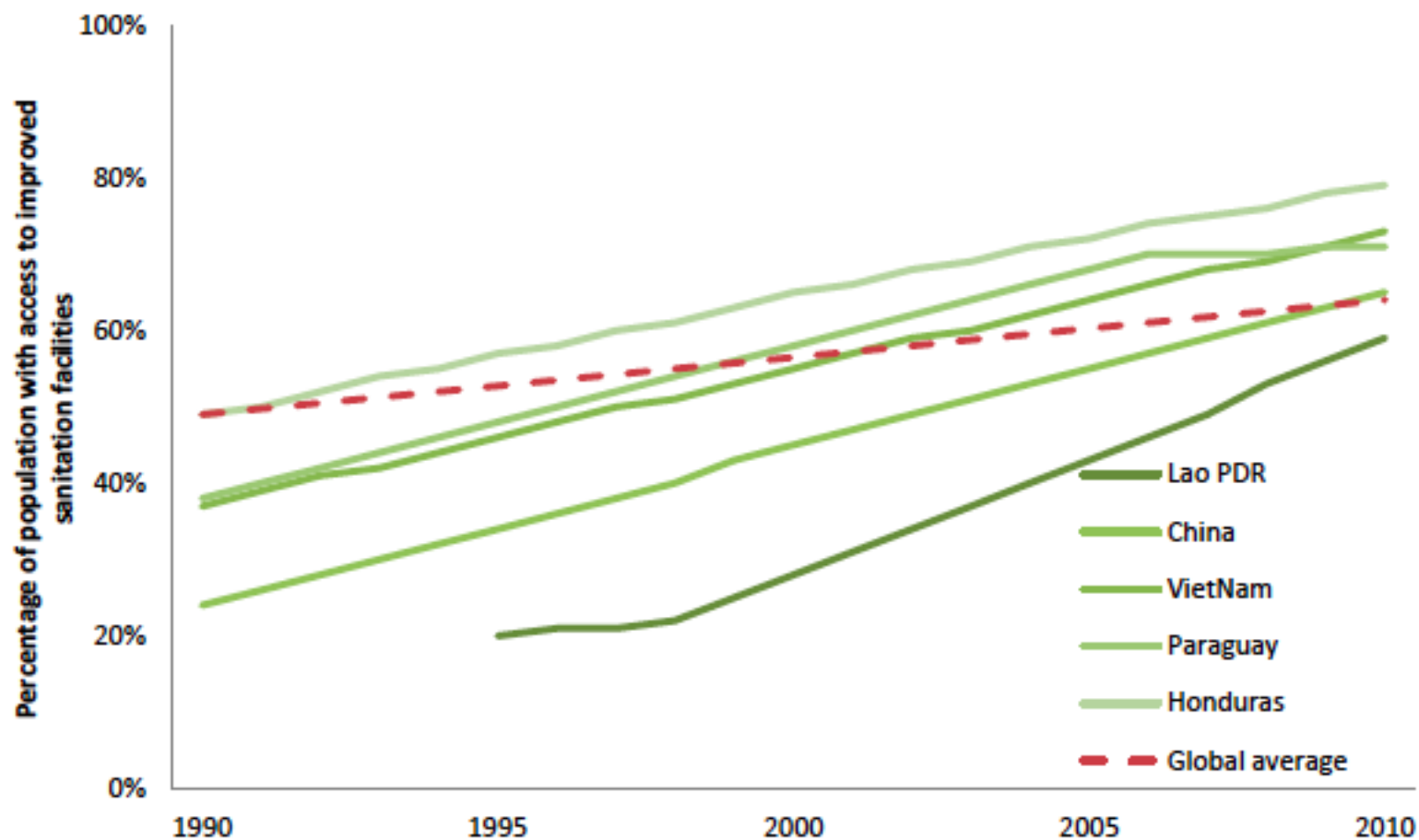
# However...





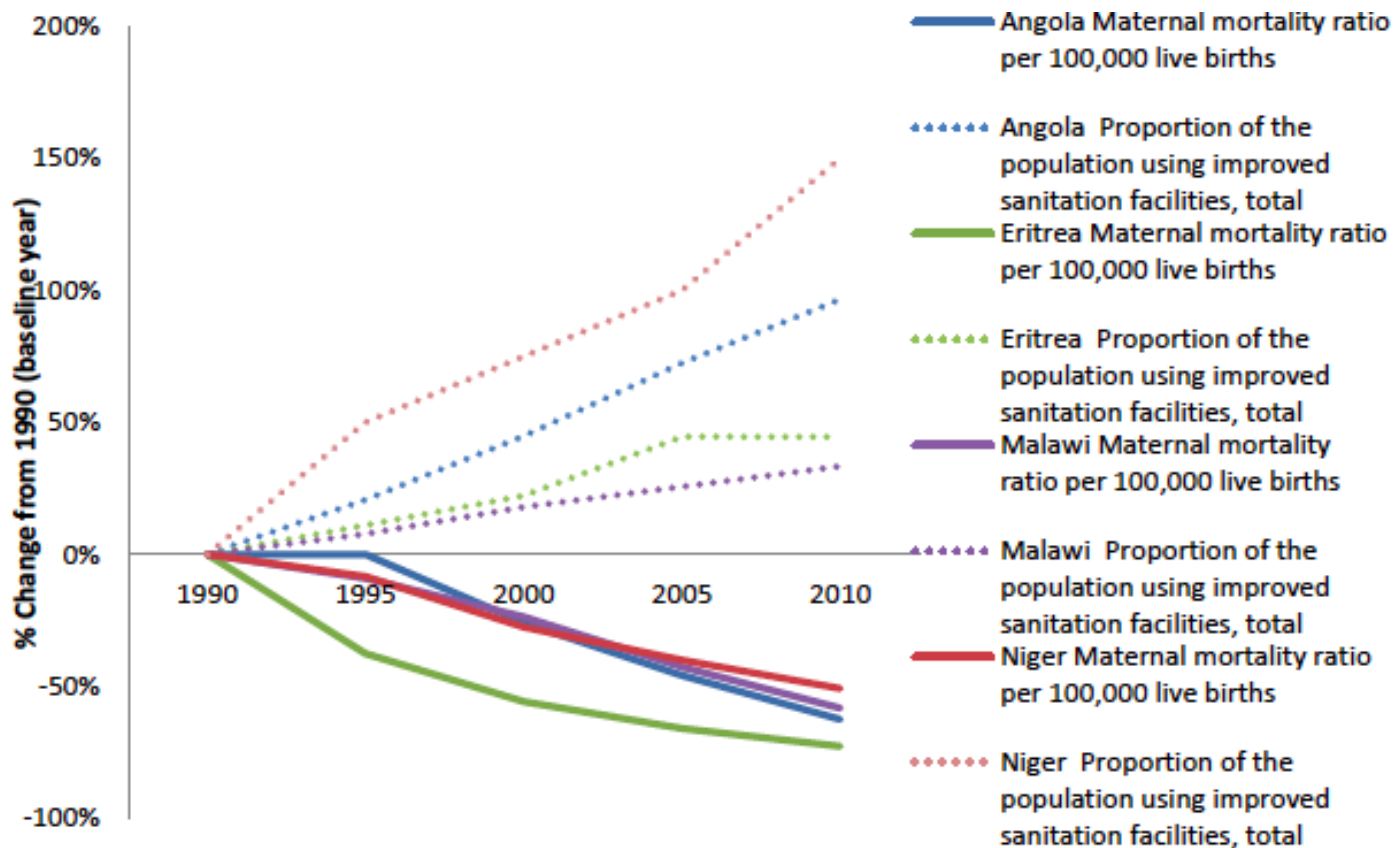
**FIGURE 17. PERCENT OF POPULATION WITH ACCESS TO IMPROVED SANITATION FACILITIES**

Data source: United Nations Statistics Division. (n.d.) Millennium Development Goals Indicators. Data Tables.



**FIGURE 18. COUNTRIES WITH FASTEST IMPROVEMENT IN SANITATION ACCESS**

Data source: United Nations Statistics Division. (n.d.) Millennium Development Goals Indicators. Data Tables.

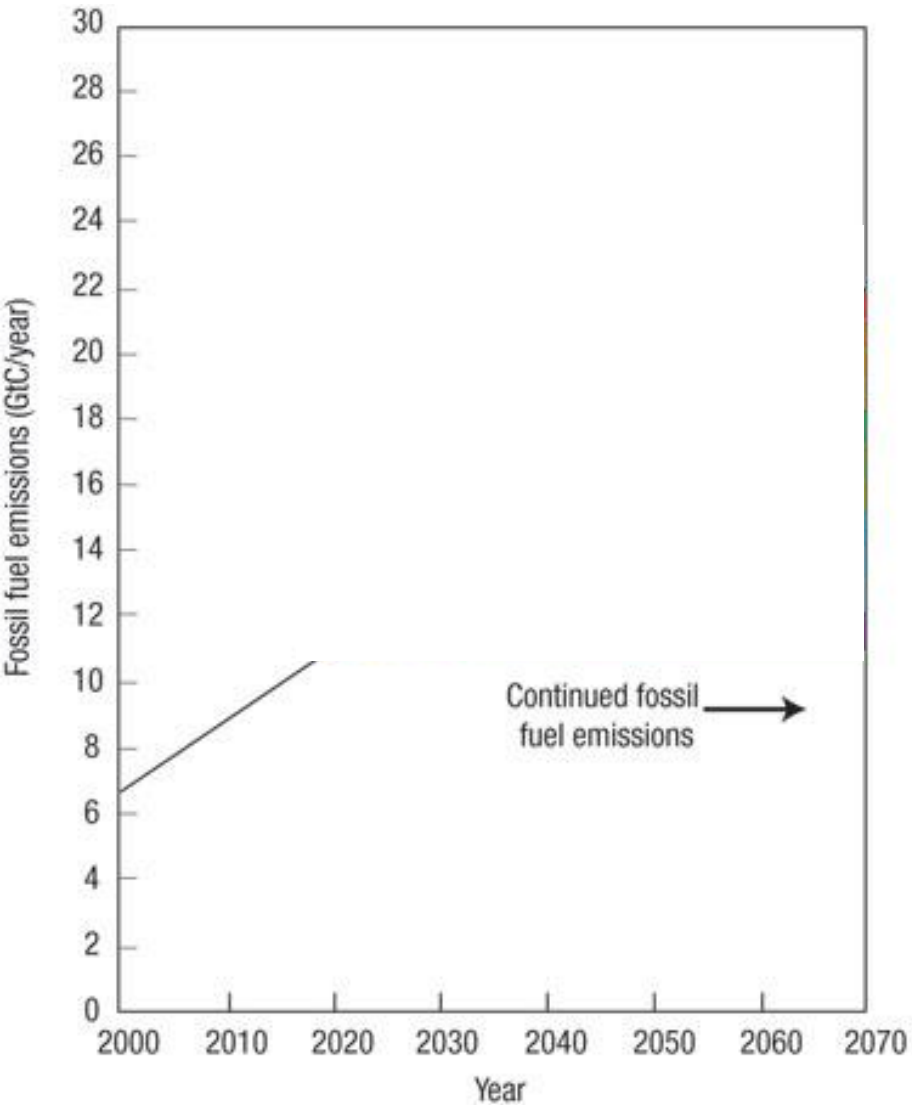


**FIGURE 23. HIGHEST REDUCTIONS IN PERCENTAGE MATERNAL MORTALITY RATE VS. PERCENTAGE IMPROVED SANITATION FACILITIES (SUB-SAHARAN AFRICAN COUNTRIES WITH A POPULATION HIGHER THAN 1 MILLION)**

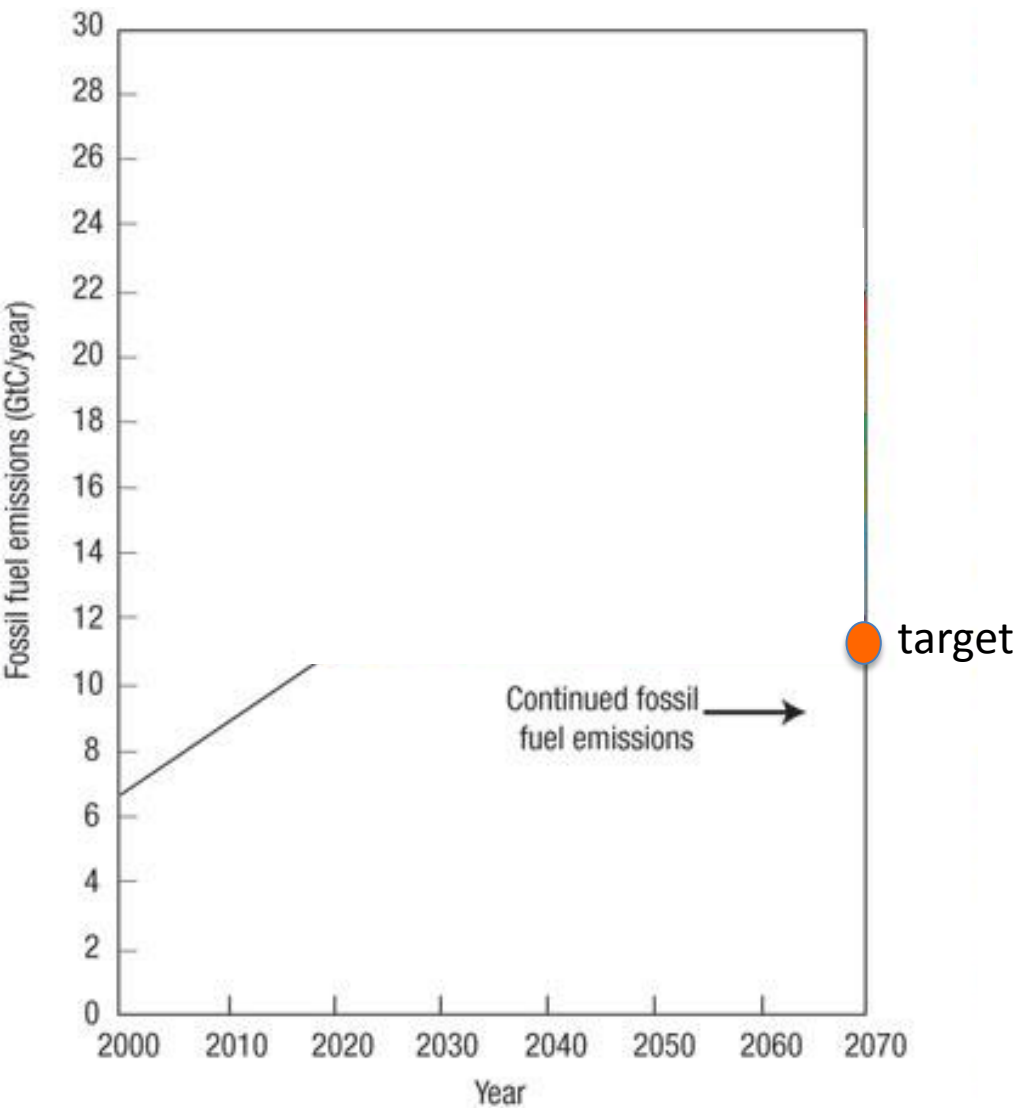
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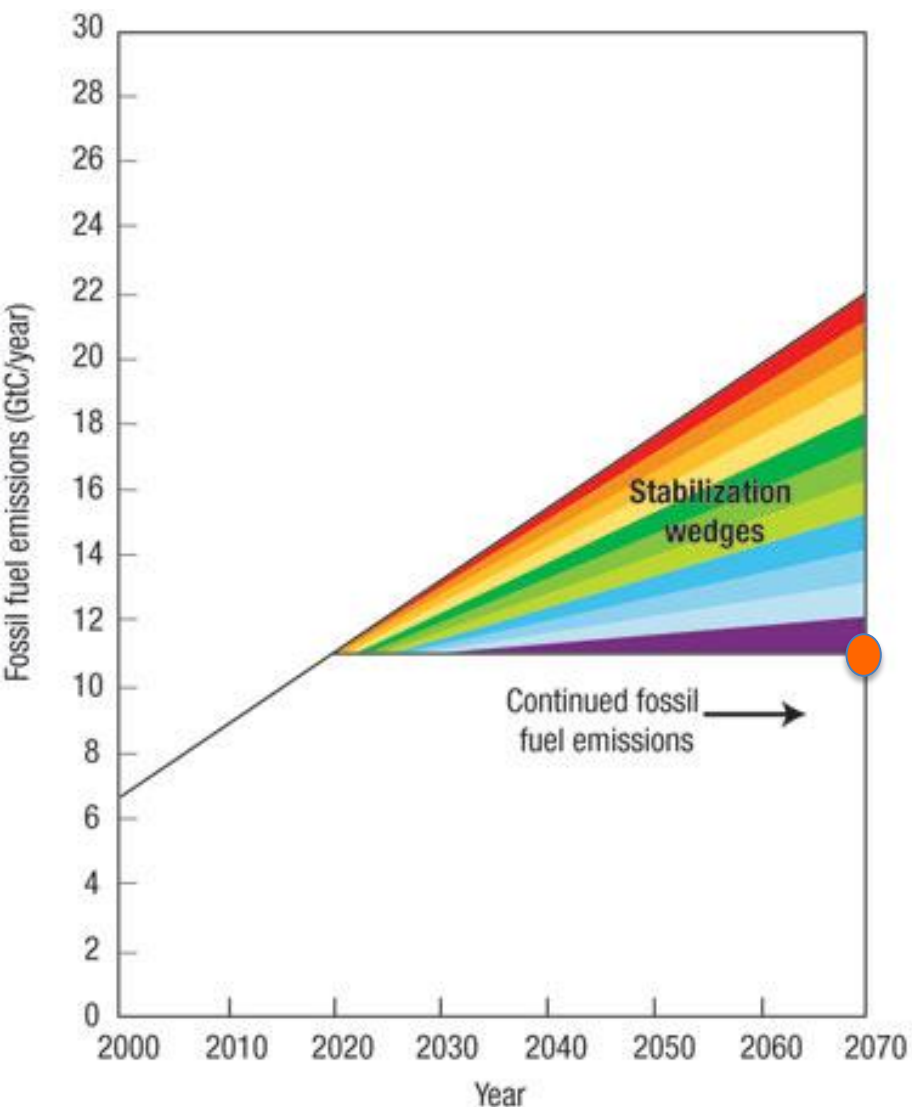
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Source: [http://www.nature.com/climate/2008/0807/fig\\_tab/climate.2008.59\\_F1.html](http://www.nature.com/climate/2008/0807/fig_tab/climate.2008.59_F1.html)



Source: [http://www.nature.com/climate/2008/0807/fig\\_tab/climate.2008.59\\_F1.html](http://www.nature.com/climate/2008/0807/fig_tab/climate.2008.59_F1.html)



- Coal: 800 gigawatt-sized plants with all the carbon captured and permanently sequestered
- Nuclear: 700 new gigawatt-sized plants (plus replacement plants)
- Concentrated solar thermal electric: 1,600 gigawatts peak power
- Solar photovoltaics: 3,000 gigawatts peak power
- Efficient buildings: savings totalling 5 million gigawatt-hours
- Efficient industry: savings totalling 5 million gigawatt-hours, including co-generation and heat recovery
- Wind power: 1 million large wind turbines (2 megawatts peak power)
- Vehicle efficiency: all cars 60 miles per US gallon
- Wind for vehicles: 2,000 gigawatts wind, with most cars plug-in hybrid electric vehicles or pure electric vehicles
- Cellulosic biofuels: using up to one-sixth of the world's cropland
- Forestry: end all tropical deforestation

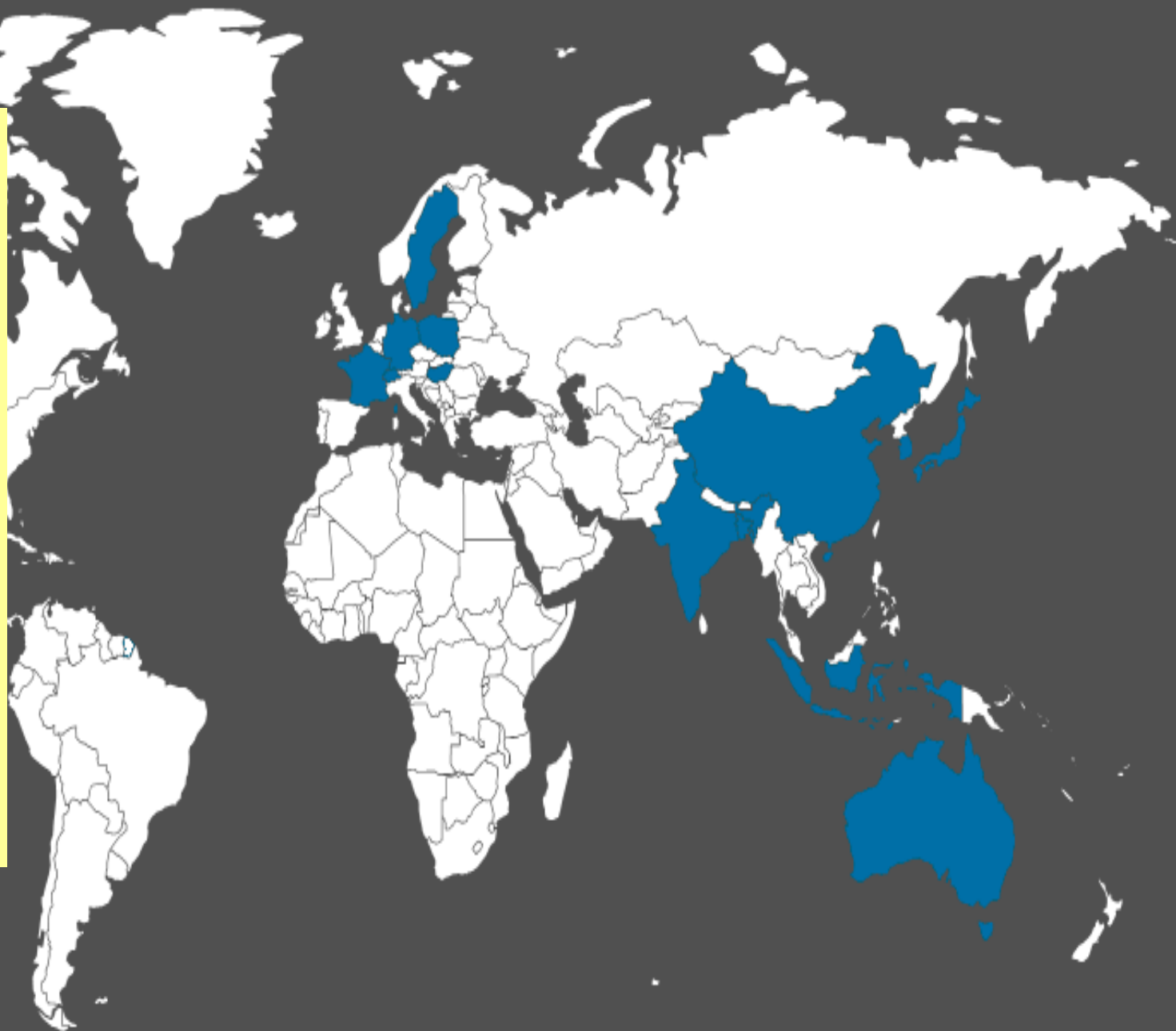
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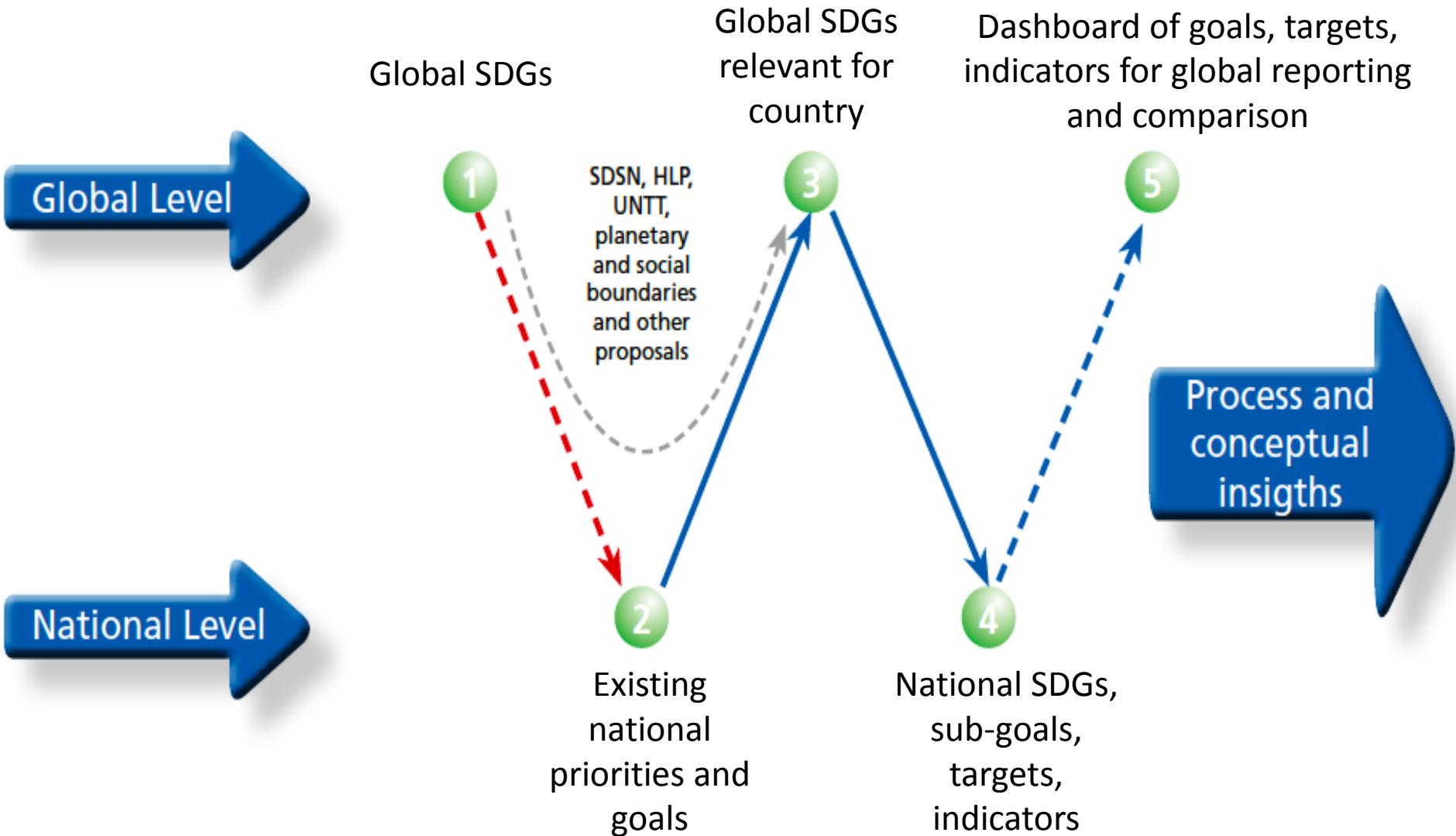
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## The Small Planet

Australia  
Bangladesh  
China  
France  
Germany  
Hungary  
India  
Indonesia  
Japan  
Poland  
Republic of Korea  
Singapore  
Sweden  
Switzerland





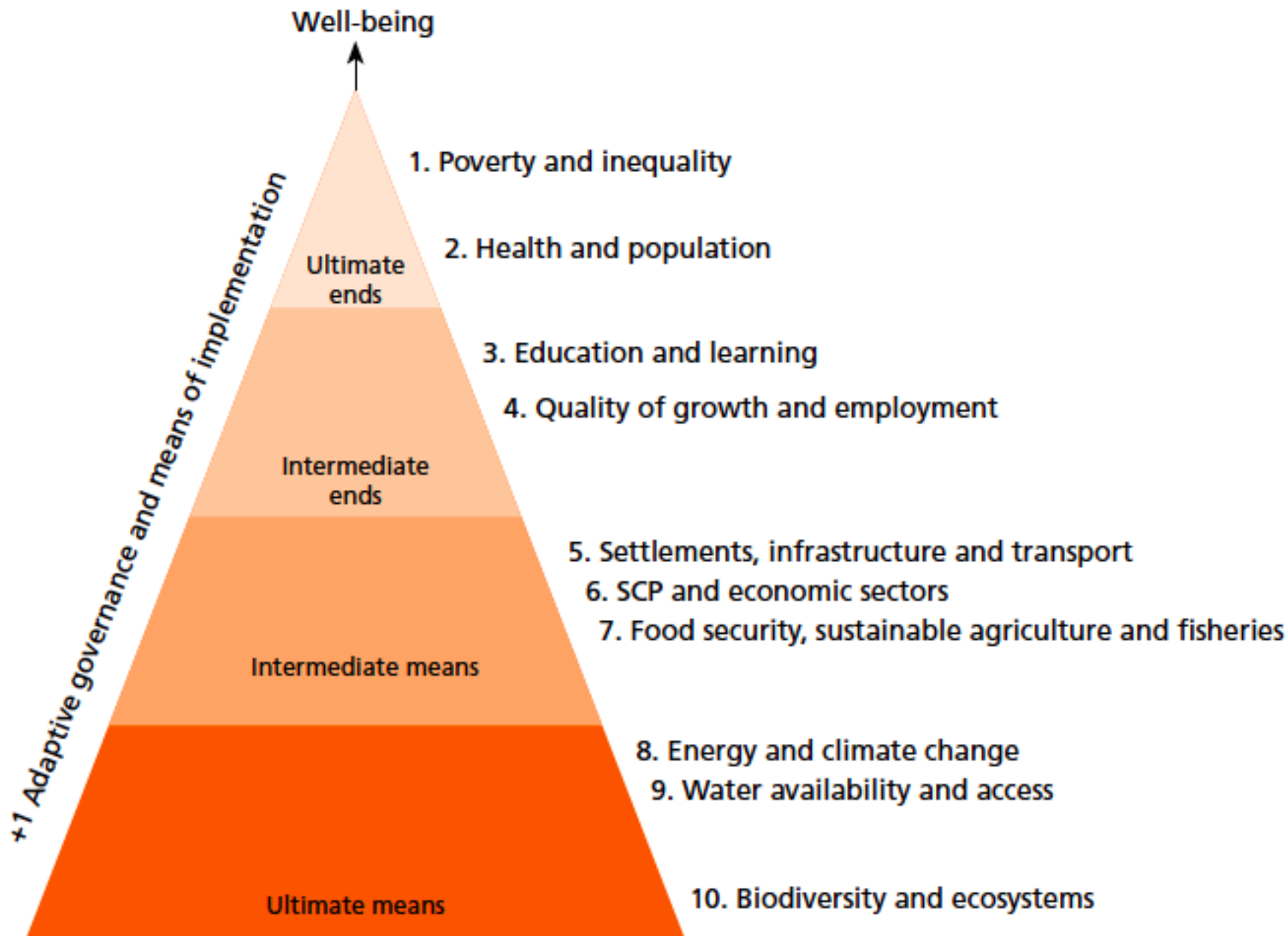
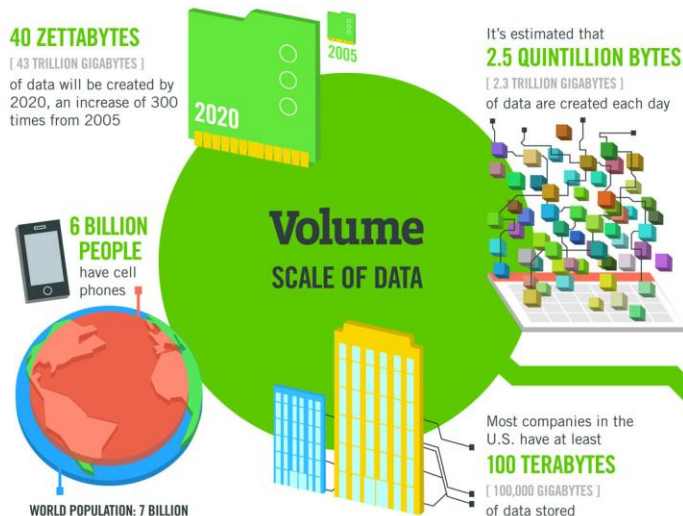


Figure 3.1: The alignment of the 10+1 Small Planet goals with the ultimate means-ends framework

Source: ASEF

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# The FOUR V's of Big Data

From traffic patterns and music downloads to web history and medical records, data is recorded, stored, and analyzed to enable the technology and services that the world relies on every day. But what exactly is big data, and how can these massive amounts of data be used?

As a leader in the sector, IBM data scientists break big data into four dimensions: **Volume, Velocity, Variety and Veracity**

Depending on the industry and organization, big data encompasses information from multiple internal and external sources such as transactions, social media, enterprise content, sensors and mobile devices. Companies can leverage data to adapt their products and services to better meet customer needs, optimize operations and infrastructure, and find new sources of revenue.

By 2015 **4.4 MILLION IT JOBS** will be created globally to support big data, with 1.9 million in the United States

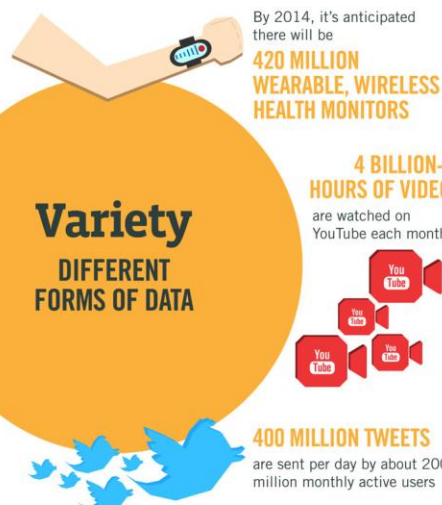


As of 2011, the global size of data in healthcare was estimated to be

**150 EXABYTES**  
[ 161 BILLION GIGABYTES ]



**30 BILLION PIECES OF CONTENT** are shared on Facebook every month



The New York Stock Exchange captures **1 TB OF TRADE INFORMATION** during each trading session

Modern cars have close to **100 SENSORS** that monitor items such as fuel level and tire pressure

### Velocity ANALYSIS OF STREAMING DATA

By 2016, it is projected there will be **18.9 BILLION NETWORK CONNECTIONS** - almost 2.5 connections per person on earth



**1 IN 3 BUSINESS LEADERS** don't trust the information they use to make decisions

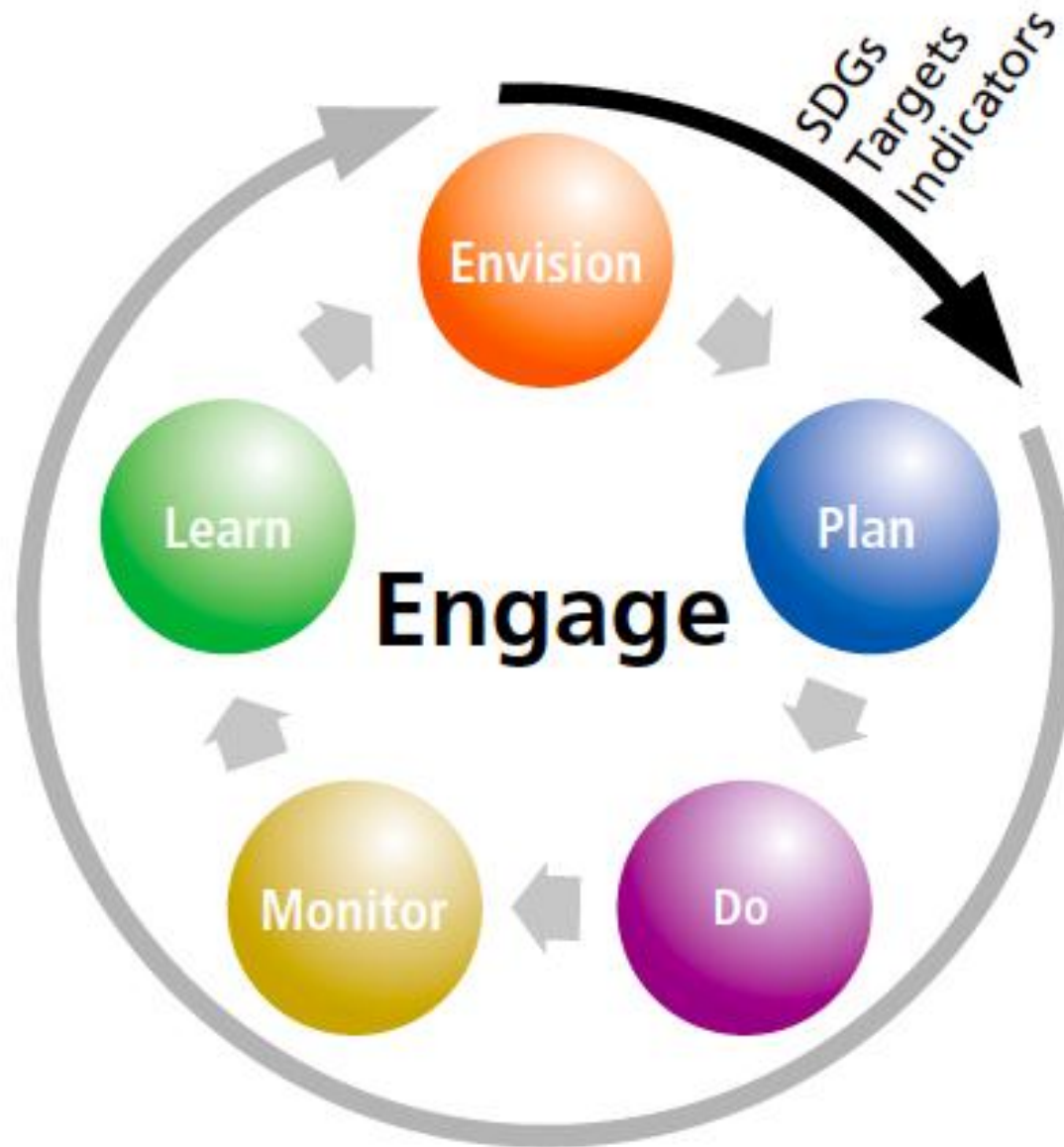


Poor data quality costs the US economy around **\$3.1 TRILLION A YEAR**



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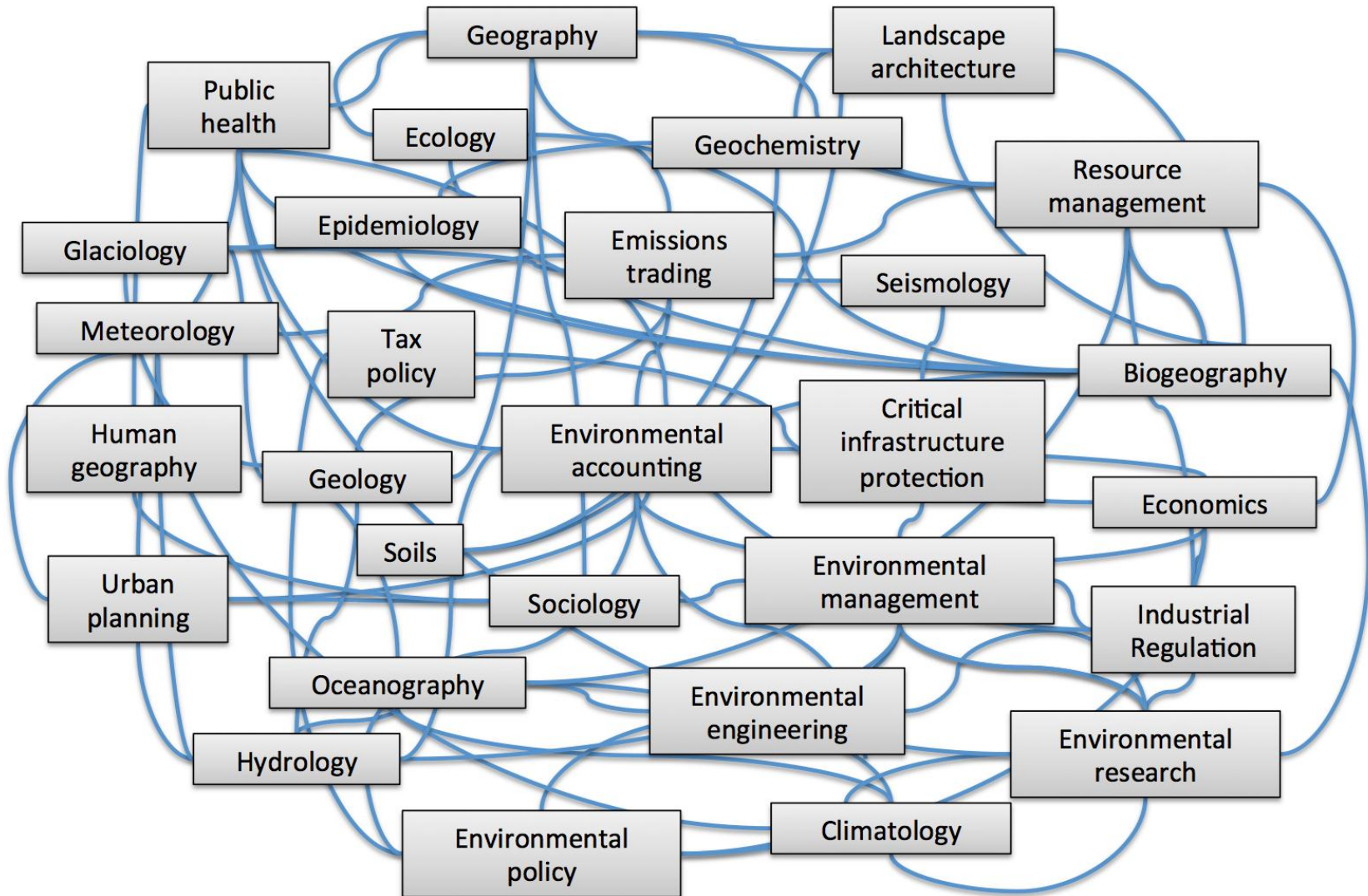
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THANK YOU

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