

The SDSN Analysis of Prospective SDGs

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Humanity Has Entered A New Era
Of Both Risk and Possibility

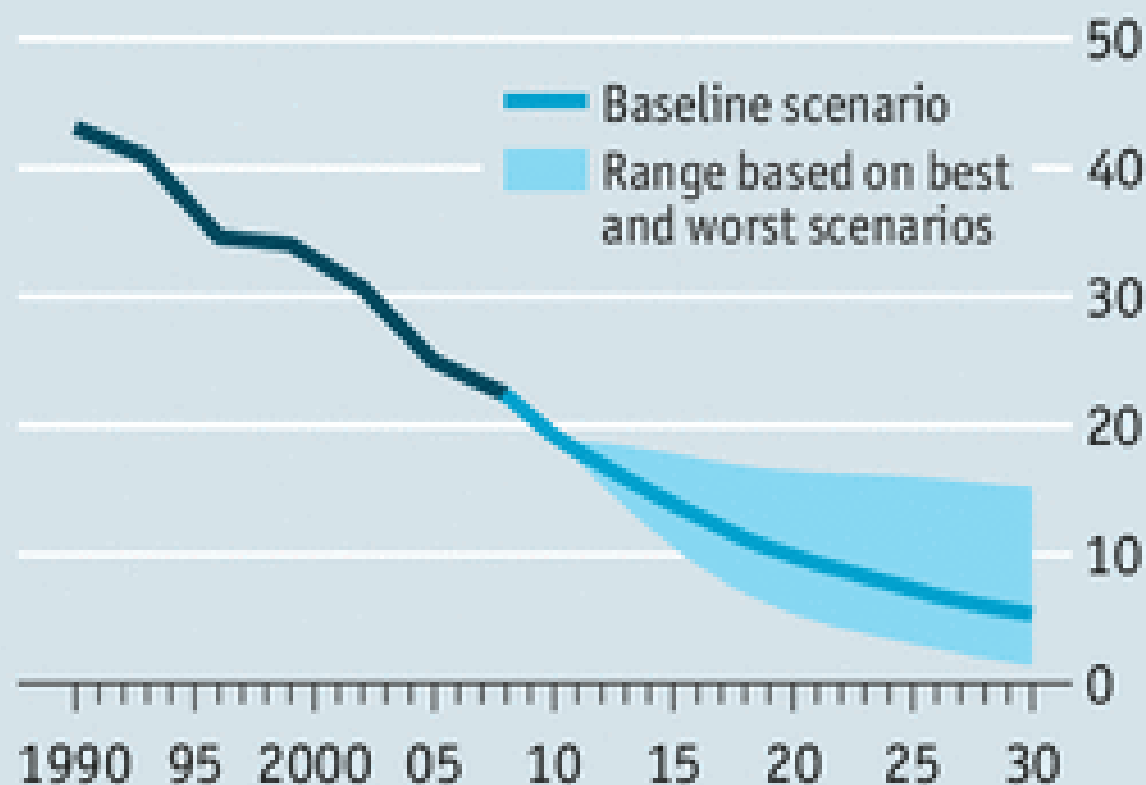
“For man holds in his mortal hands
the power to abolish all forms of human
poverty and all forms of human life.”

-JFK Inaugural Address
January 20, 1963

Hooray!

1

Global poverty rate, %



Source: Laurence Chandy, Natasha Ledlie and Veronika Penciakova

The IT Revolution:

Microprocessor Transistor Count

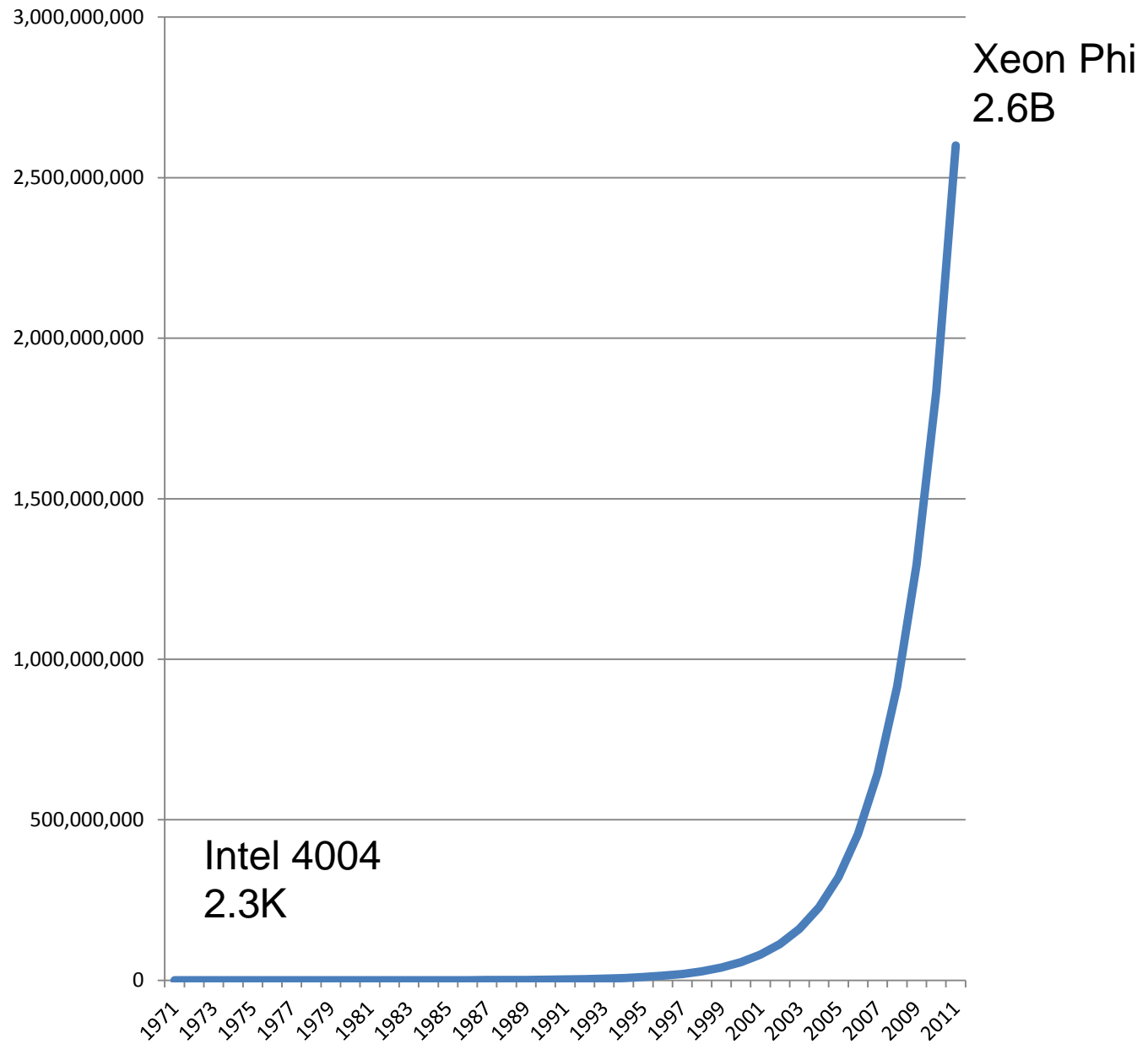
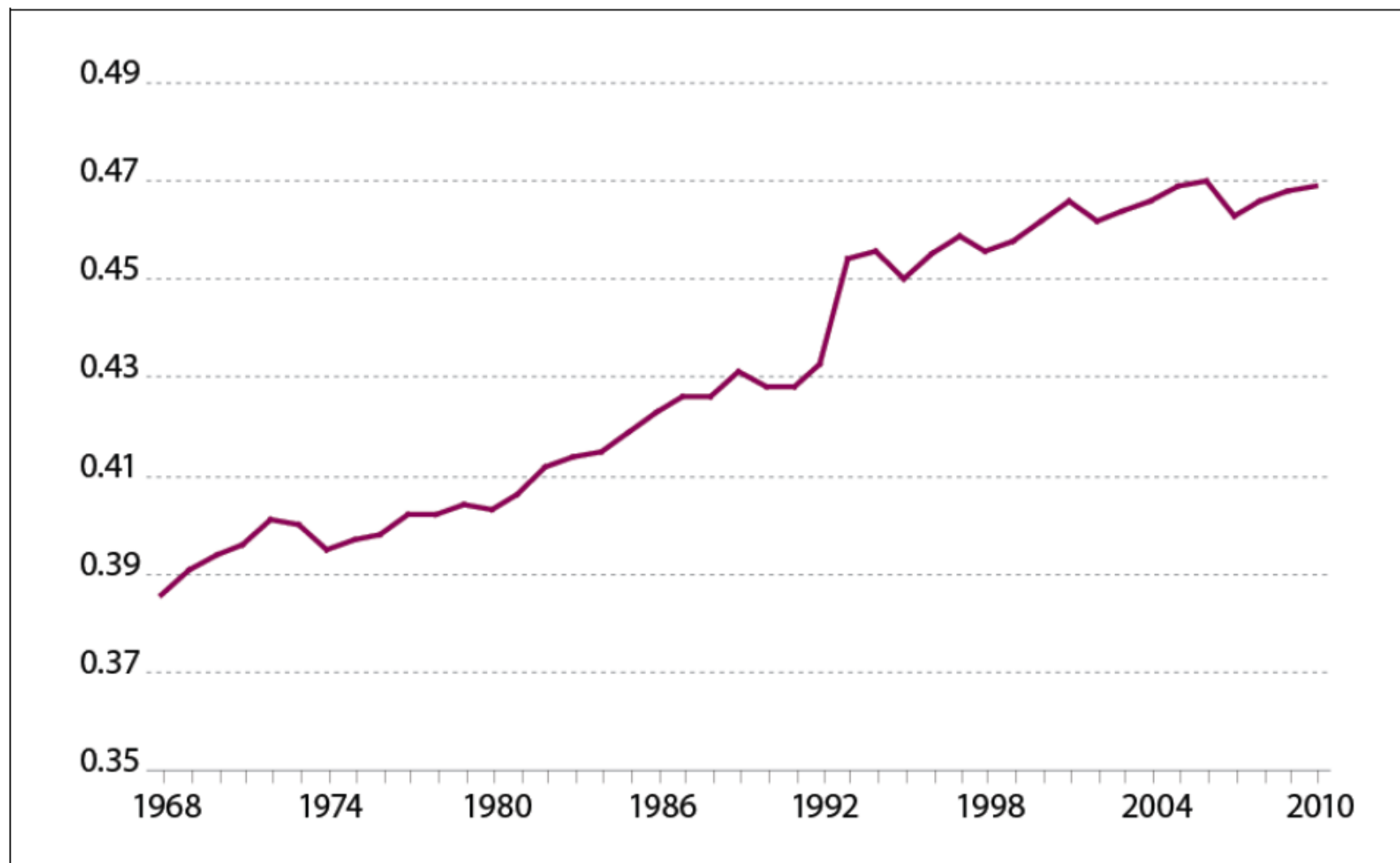
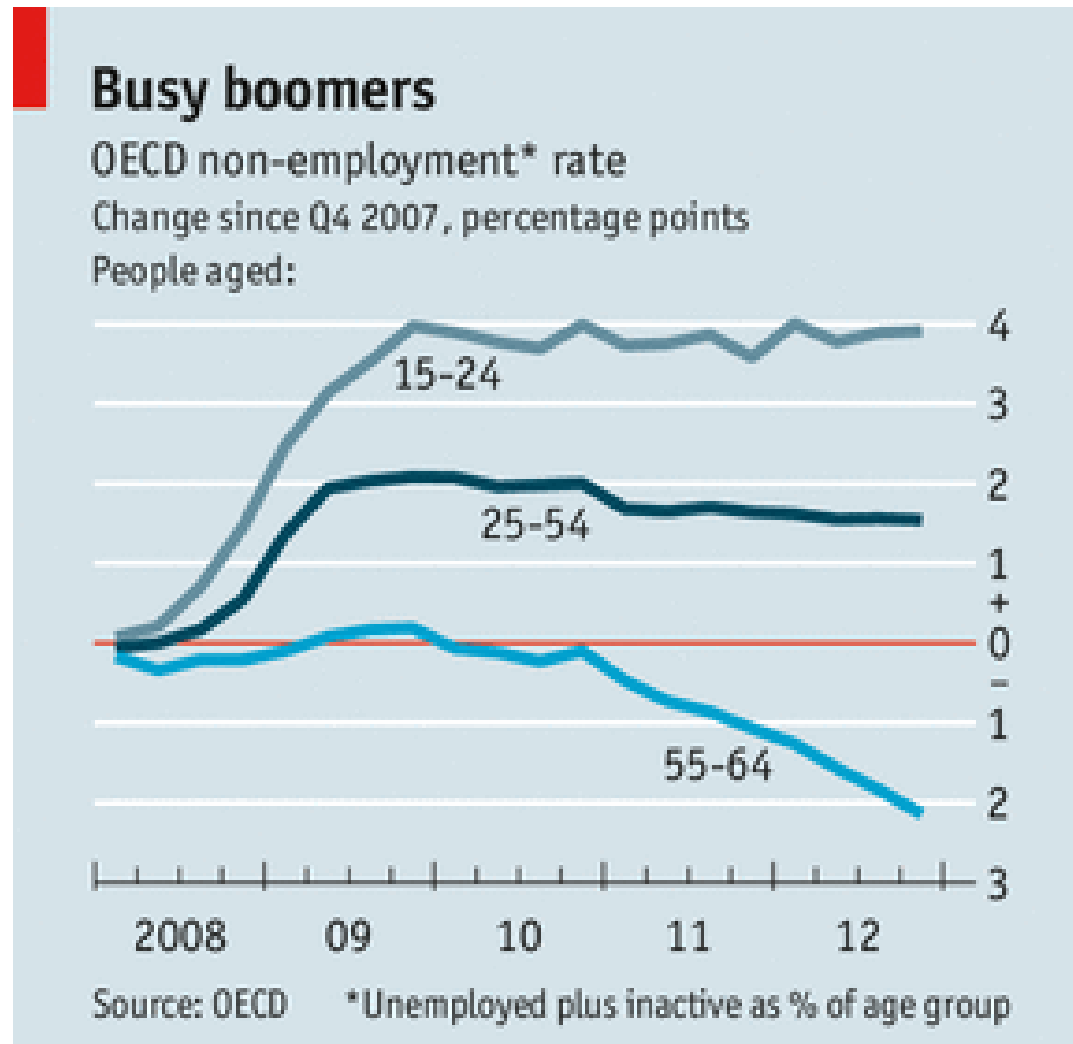


Figure 1. Gini Coefficients for U.S. Households, 1968-2010



Source: Created by CRS from data from the U.S. Census Bureau's Annual Social and Economic Supplements to the Current Population Survey (CPS).

RISING UNEMPLOYMENT RATE OF YOUTH





Tunis, January 2011



Cairo, January 2011



Athens July 2011



Tel Aviv, August 2011



Chile, August 2011



New York City, November 2011



Madrid, September 2012



Istanbul, June 2013



Rio de Janeiro, June 2013

We have also arrived

in the

ANTHROPOCENE



TYPHOON HAIYAN, Village of Mariboth, November 14, 2013

By some preliminary measurements, Typhoon Haiyan was the most intense storm ever to make landfall





BEICHUAN, SICHUAN PROVINCE, JULY 2013

MANHATTAN, HURRICANE SANDY, OCTOBER 29, 2012



INDIANA MAIZE AUGUST 2012



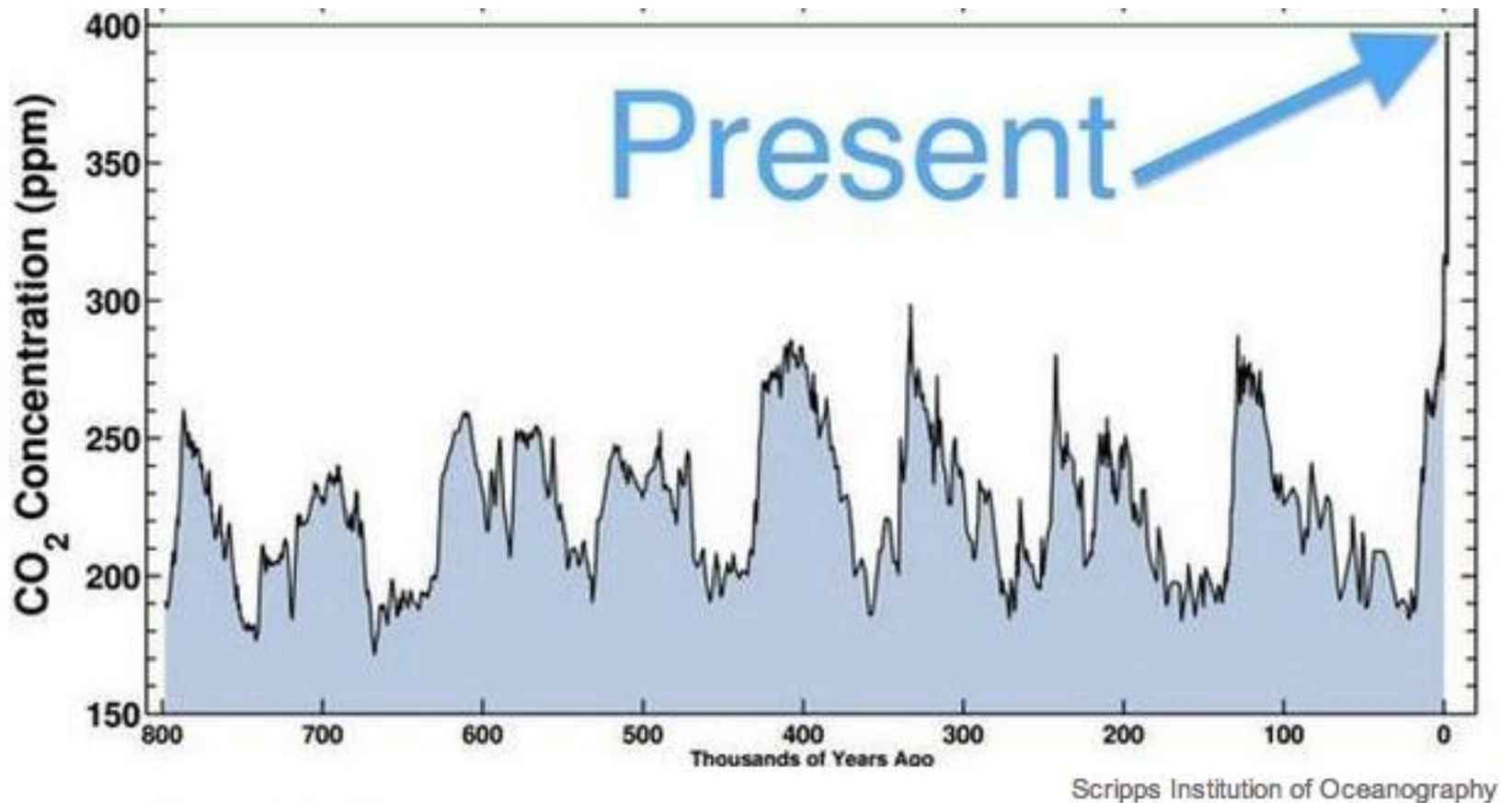
Forest Fires, Arizona, June 30, 2013





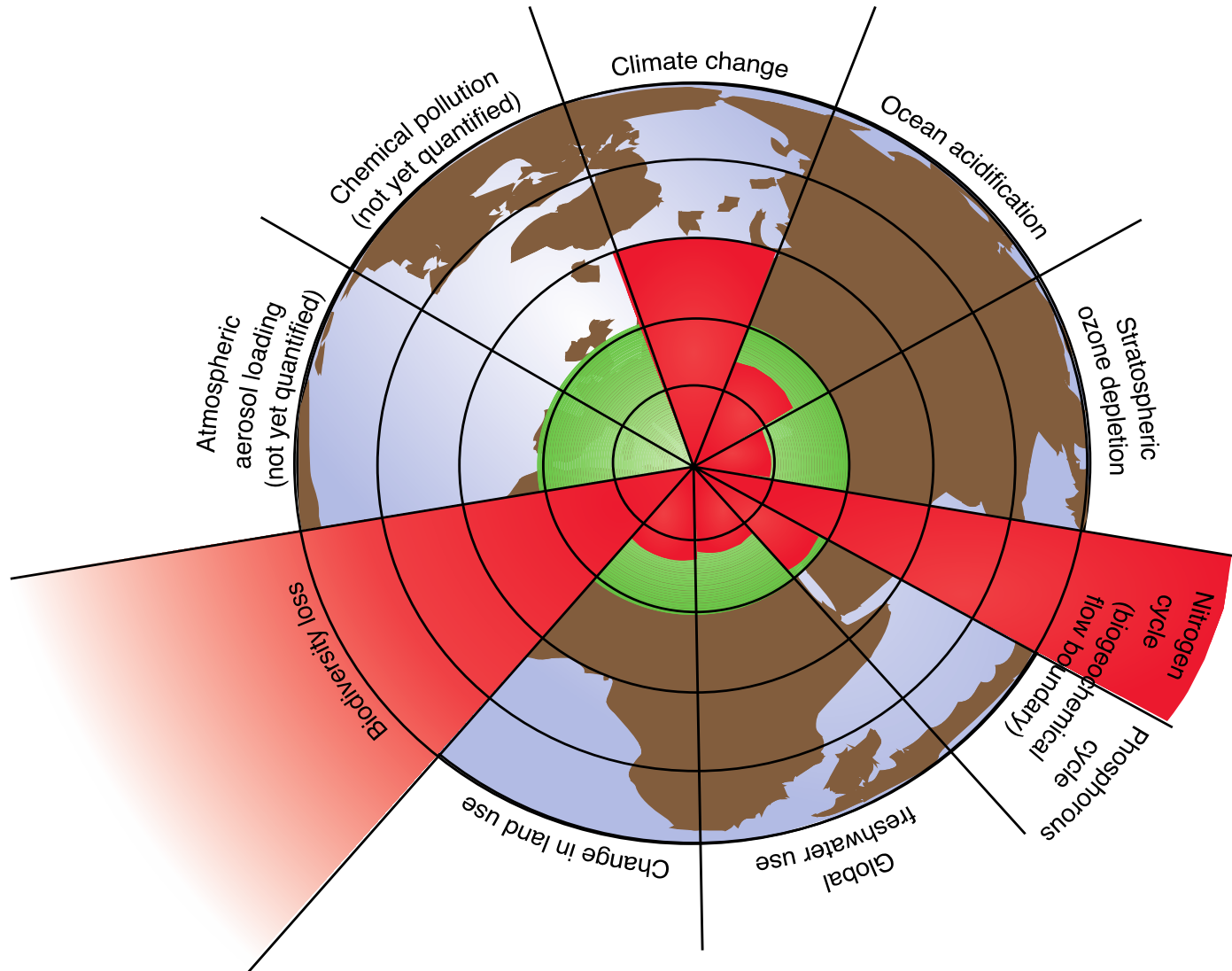
Algal Bloom, Qindao, Shandong Province, 2013

IN APRIL, 2013, CO₂ CONCENTRATION REACHES
400 PPM FOR FIRST TIME IN 3 MILLION YEARS



Ice core data before 1958

“PLANETARY BOUNDARIES”



Source: Rockström et al 2009a)

Illustrative SDGs (SDSN Action Plan)

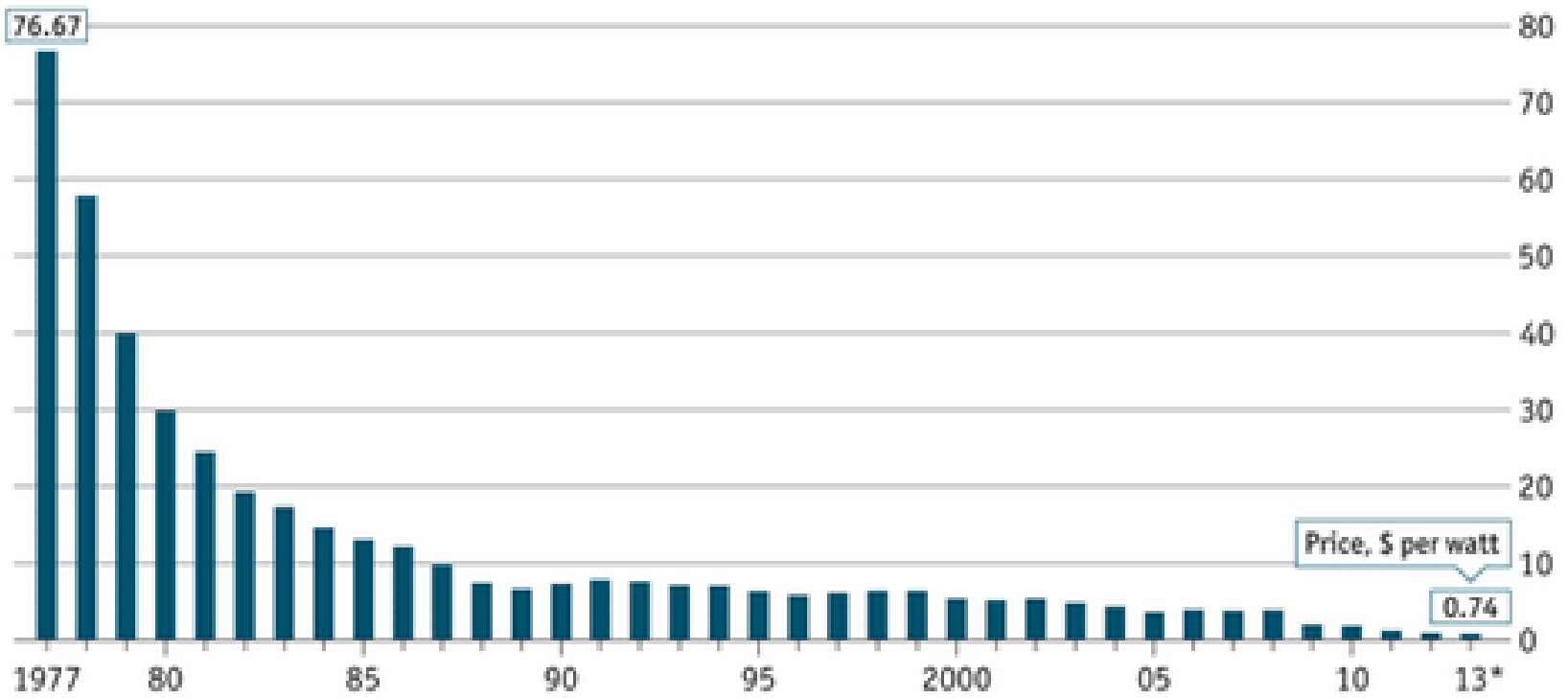
1. End Extreme Poverty Including Hunger **POVERTY**
2. Achieve Development within Planetary Boundaries **ECONOMY**
3. Effective Learning for All Children and Youth for Life and Livelihood **EDUCATION**
4. Achieve Gender Equality, Social Inclusion, and Human Rights for All **INCLUSION**
5. Achieve Health and Wellbeing at All Ages **HEALTH**
6. Improve Agricultural Systems and Rural Productivity **FOOD**
7. Empower Inclusive, Productive, and Resilient Cities **CITIES**
8. Curb Climate Change and Ensure Sustainable Energy **ENERGY/CLIMATE**
9. Secure Ecosystem Services, Biodiversity, Water, Natural Resources **BIODIVERSITY**
10. Transform Government for Sustainable Development **GOVERNANCE**

THE NEW POTENTIAL OF RENEWABLE ENERGY

COST OF SOLAR POWER DOWN BY 100X

The Swanson effect

Price of crystalline silicon photovoltaic cells, \$ per watt



Source: Bloomberg New Energy Finance

* Forecast



Field of solar panels



DEMONSTRATION PROJECT ON POST-COMBUSTION CARBON CAPTURE

BUT . . . TECHNOLOGY ADVANCES CAN ALSO ENDANGER THE PLANET

SHELL PRELUDE FLNG FACILITY


Boeing 747 (71m long)


Queen Mary 2 (345m)


Shell Prelude FLNG (488m)

KEY FACTS

- The Prelude facility will be 488m long and 74m wide
- It will stay moored in water 250m deep for 25 years
- First production in 2017 of at least 3.6 million tonnes of LNG per year
- It will create 1000 jobs and add \$45 billion to the economy



Hydrotracking well in Pennsylvania



JAPANESE EXTRACTION OF METHANE HYDRATES



Sustainable Development: The Choice is Ours

The Pluses

Technological Advances
Political and Corporate Leadership
Global Common Interests
Sustainable Development
Goals



The Minuses

Population Pressures
Environmental Threats
Energy System Inertia
Lawlessness and
Corruption



So let us not be blind to our differences, but let us also direct attention to our common interests and the means by which those differences can be resolved. And if we cannot end now our differences, at least we can help make the world safe for diversity. For in the final analysis, our most basic common link is that we all inhabit this small planet. We all breathe the same air. We all cherish our children's futures. And we are all mortal.

John F. Kennedy, June 10, 1963