



駕馭複雜世界：實現可持續性



Matthew Agarwala 教授

劍橋大學，貝內特公共政策研究所與丘吉爾學院

耶魯大學，托賓經濟政策中心

蘇格蘭農業學院，名譽教授

2023年9月2日
默勒研究所

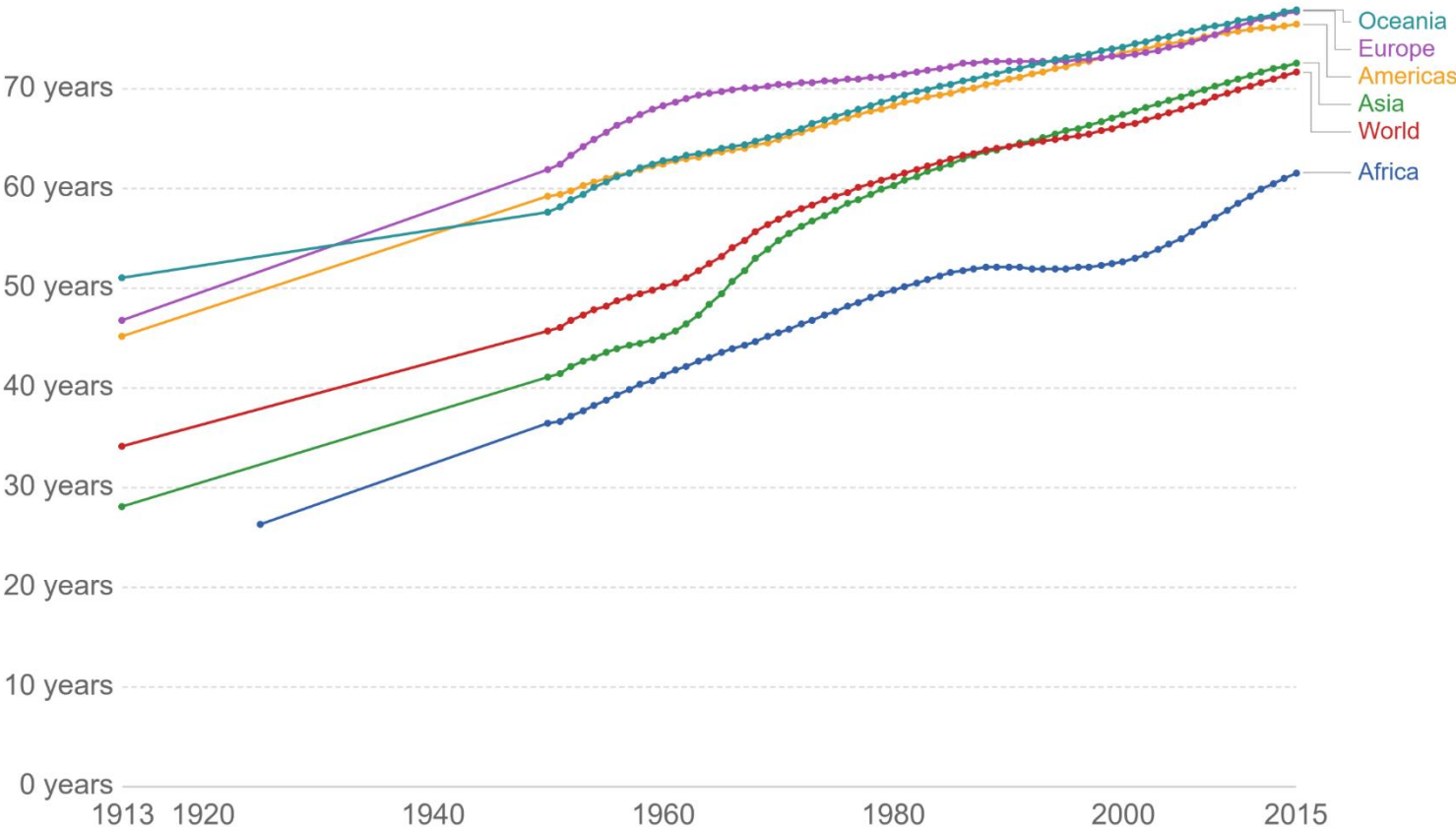


大綱

- ◆ 增長與可持續性
- ◆ 取捨所帶來的代價由誰來承擔？
- ◆ 經得起未來考驗的決策
- ◆ 在面對各種取捨時，讓我們以策略性的方式來進行平衡和優化



Life expectancy

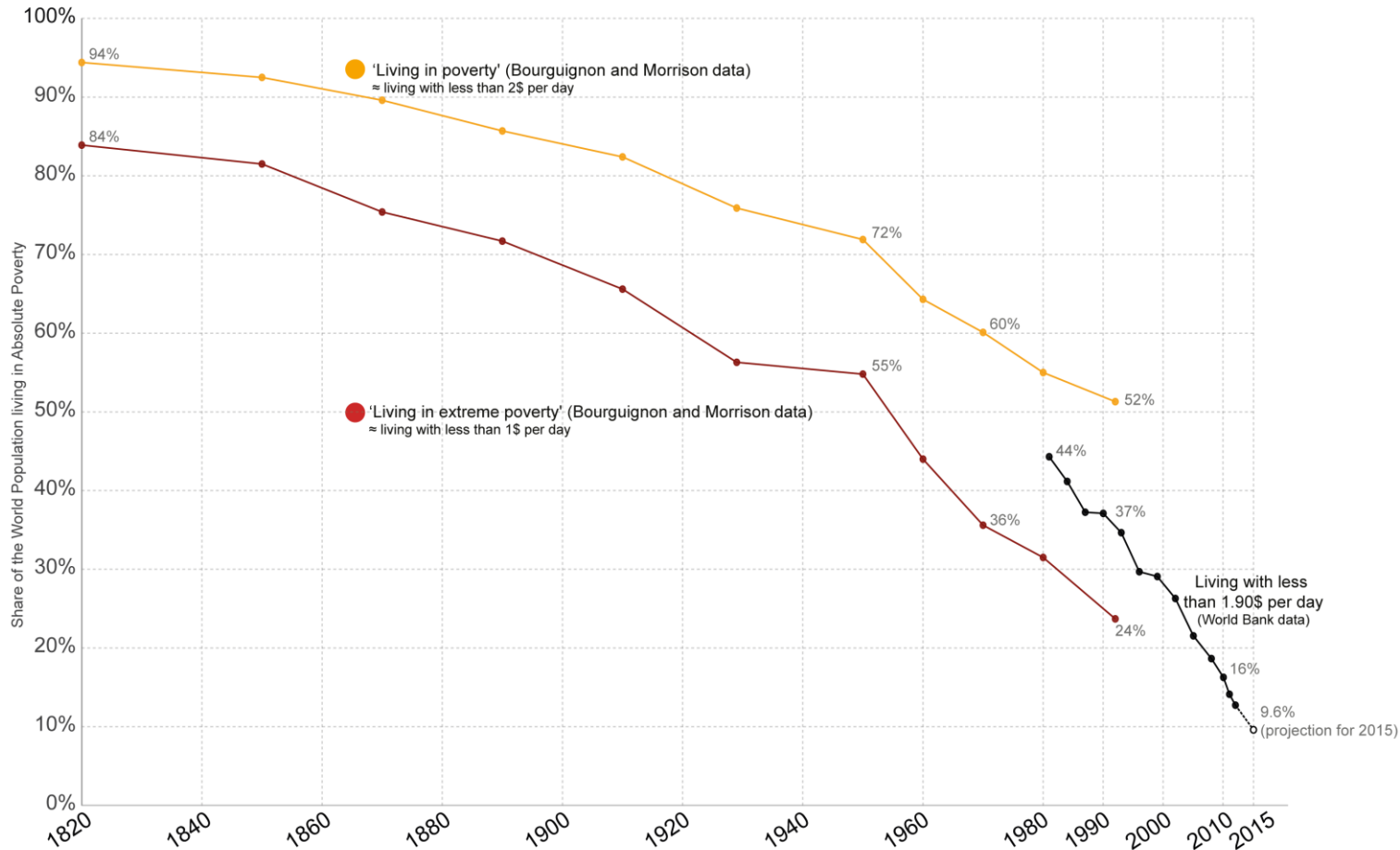


Source: Riley (2005), Clio Infra (2015), and UN Population Division (2019)

Note: Shown is period life expectancy at birth, the average number of years a newborn would live if the pattern of mortality in the given year were to stay the same throughout its life.

Share of the World Population living in Absolute Poverty, 1820-2015

All data are adjusted for inflation over time and for price differences between countries (PPP adjustment).



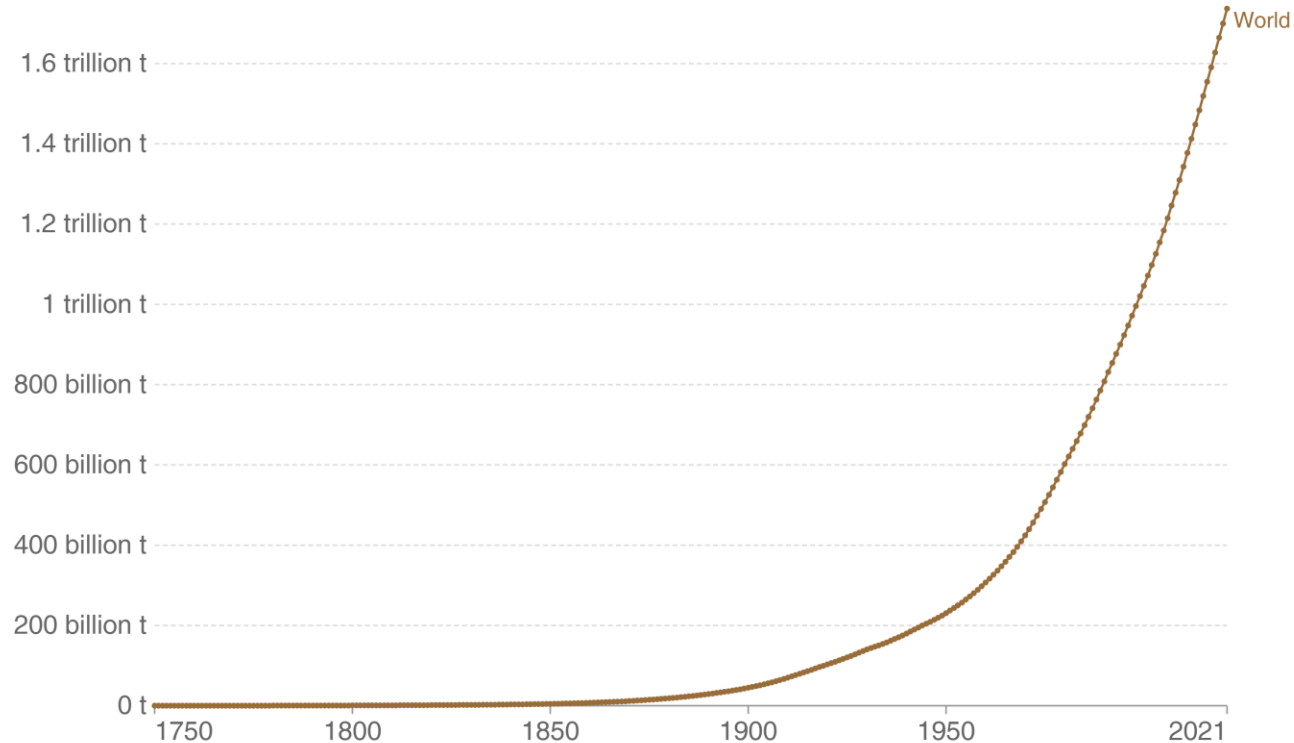
Data sources: 1820-1992 Bourguignon and Morrison (2002) - Inequality among World Citizens, In The American Economic Review; 1981-2015 World Bank (PovcalNet)

The interactive data visualisation is available at OurWorldinData.org. There you find the raw data and more visualisations on this topic.

Licensed under [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) by the author Max Roser.

Cumulative CO₂ emissions

Cumulative emissions are the running sum of CO₂ emissions produced from fossil fuels and industry¹ since 1750. Land use change is not included.

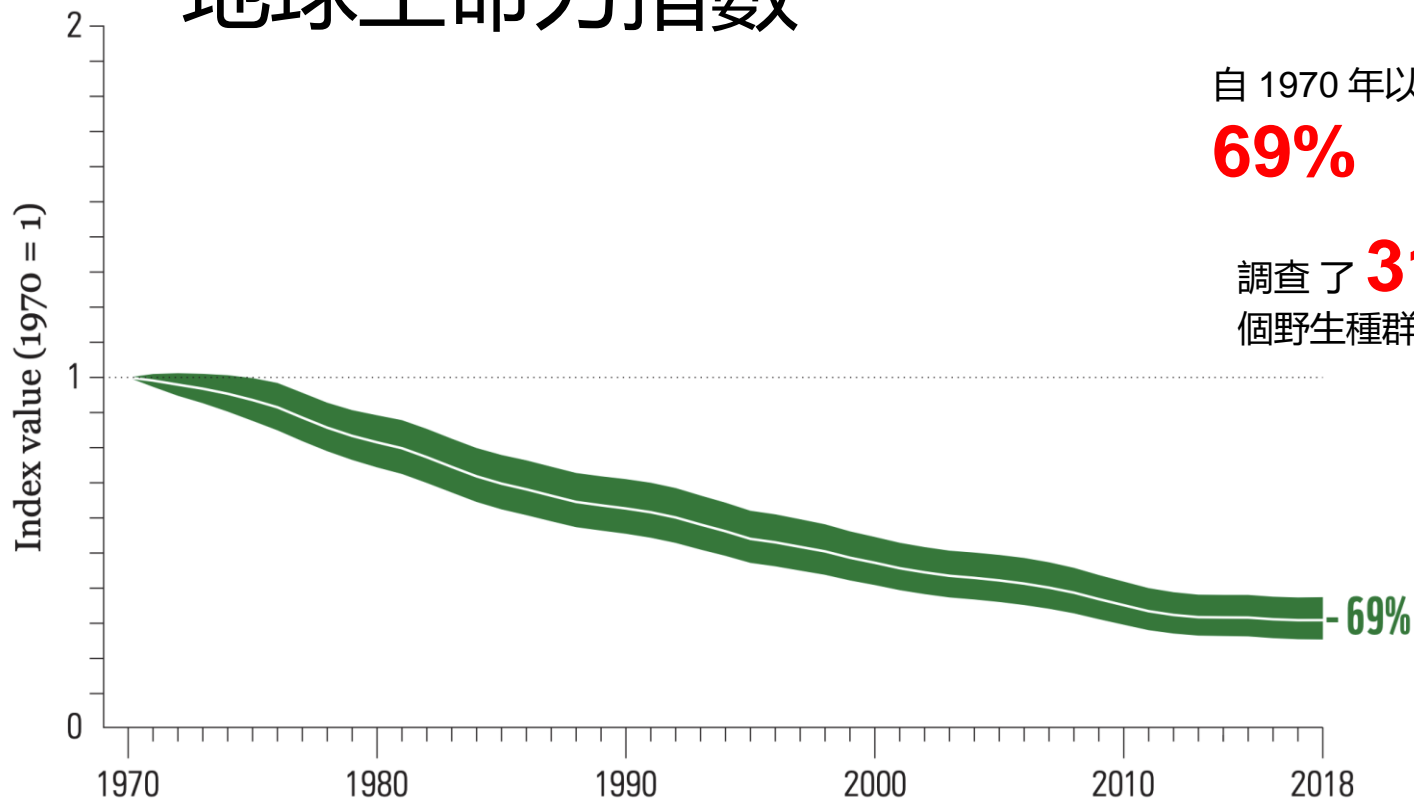


Source: Global Carbon Budget (2022)

OurWorldInData.org/co2-and-greenhouse-gas-emissions • CC BY

1. Fossil emissions: Fossil emissions measure the quantity of carbon dioxide (CO₂) emitted from the burning of fossil fuels, and directly from industrial processes such as cement and steel production. Fossil CO₂ includes emissions from coal, oil, gas, flaring, cement, steel, and other industrial processes. Fossil emissions do not include land use change, deforestation, soils, or vegetation.

地球生命力指數



資料來源：WWF/ZSL (2022) [Living Planet Report 2022](#). (見圖 3)

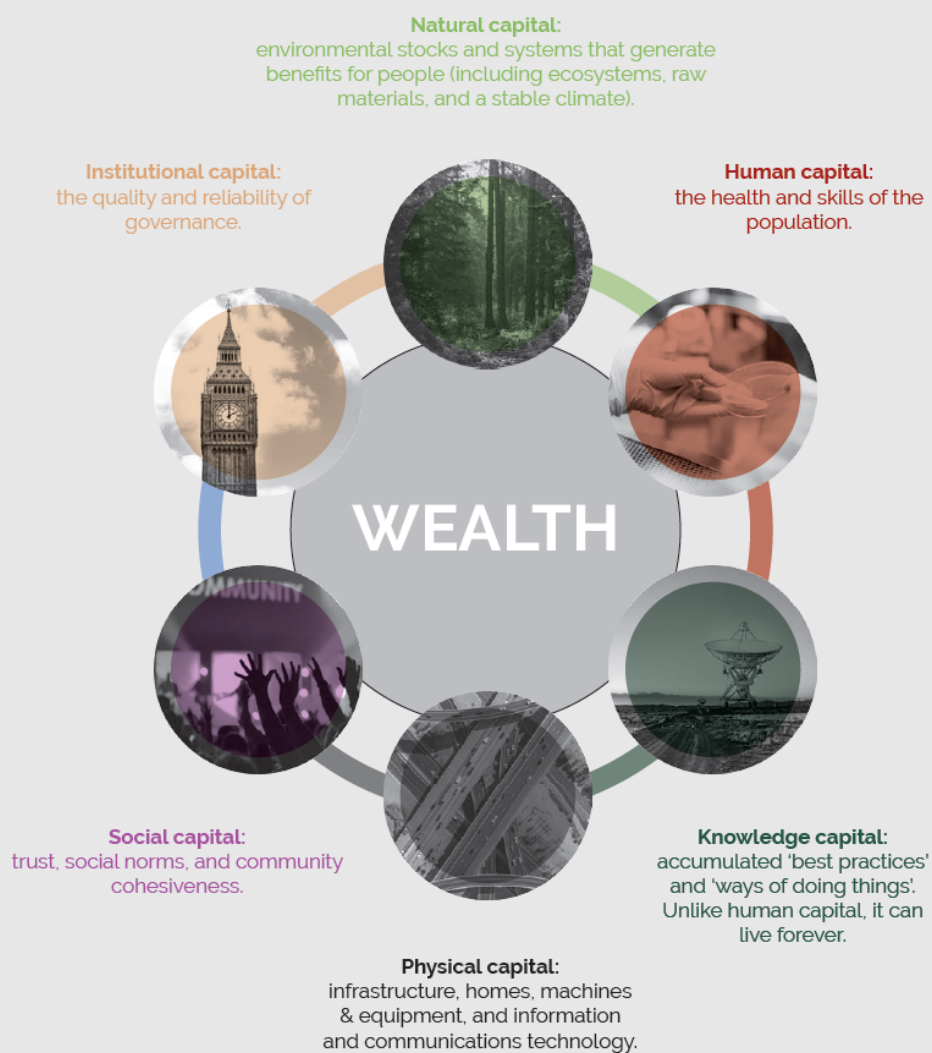


衡量真正重要的事物

- 國內生產總值（GDP）聚焦於餅圖的大小
- 財富凸顯經濟福祉的核心要素

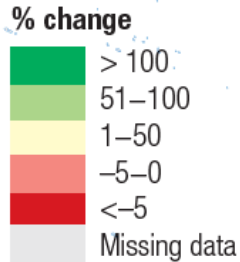


UNIVERSITY OF
CAMBRIDGE



各國人均財富變化 % (1996 – 2018 年)

人均財富持續增長，然而不平等問題也在加劇。

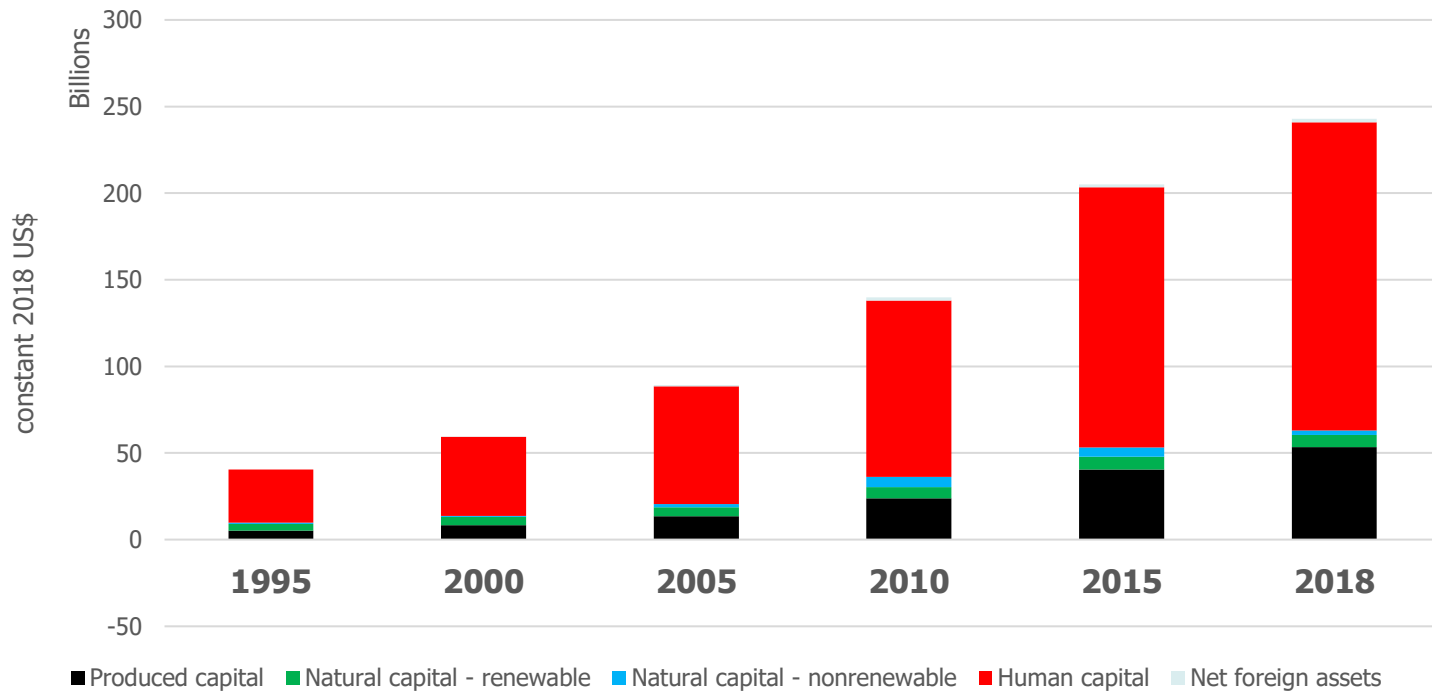


Source: World Bank.

IBRD 45862 | SEPTEMBER 2021



中國財富



后果呢？

自然所產生的經濟價值雖然隱蔽，卻是真實存在的。
越長時間忽視這個價值，我們就會變得越加貧困。

誰來承擔后果，以及如何承擔？



總要有人承擔



假如總要有人來承擔後果，那就讓我們決定誰來承擔

污染者承擔

- 碳稅、石油洩漏罰款或農場污染

受益者承擔

- 透過一般稅收籌集的用於公共產品的公共資金

最大淨收益

- 最佳投資回報

過去不能很好地預測未來

轉型可以很快：但這次要快得多

紐約 1900 年

紐約 1913 年



快速轉型

The
Economist

Finance & economics | Free exchange

Sun, wind and drain

Wind and solar power are even more expensive than is commonly thought

Jul 29th 2014

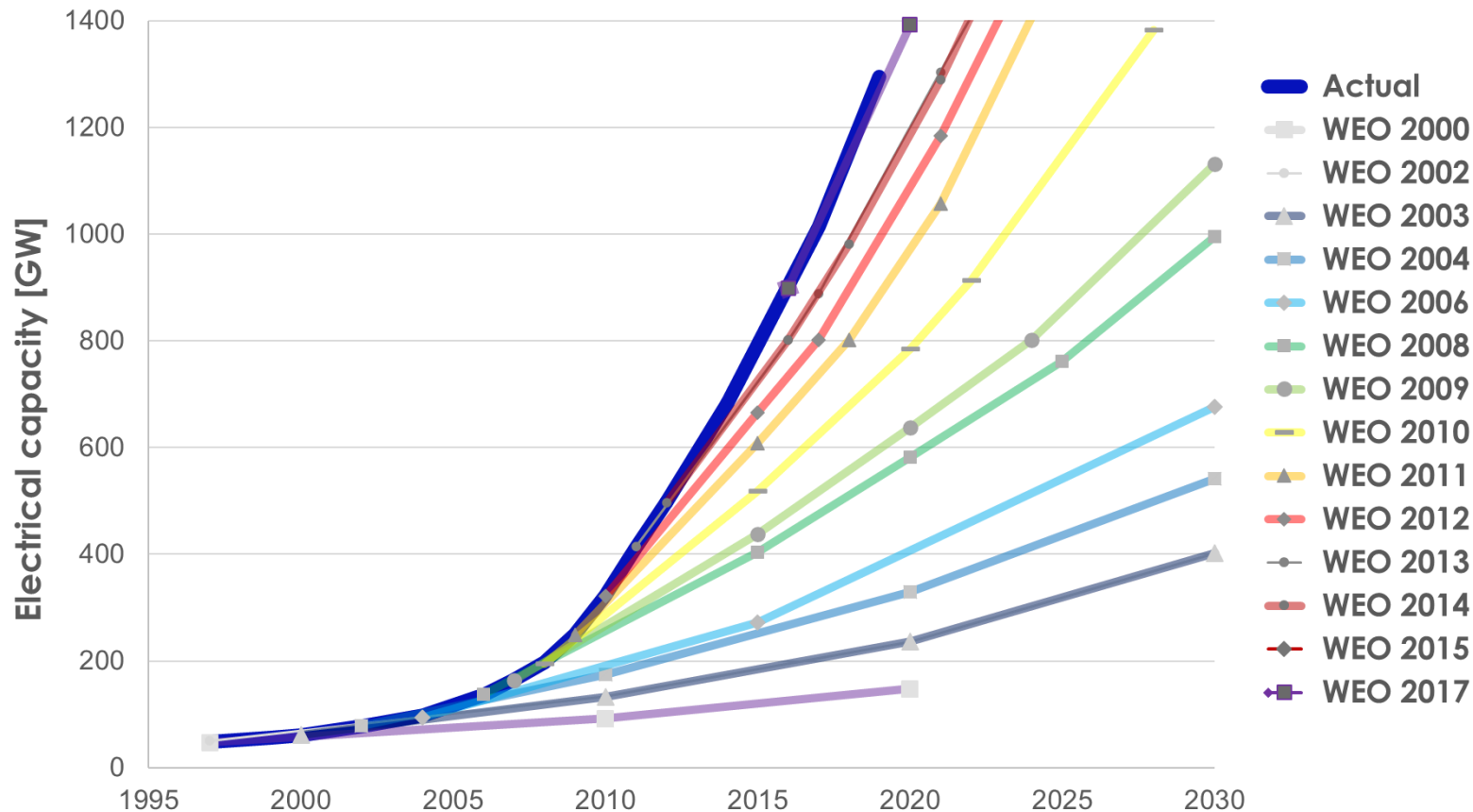
2014 年《经济学家报》，太陽能光伏篇

「減少碳排放的最昂貴方法」

2020 年國際能源署

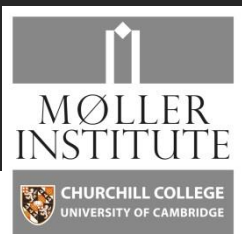
「歷史上最廉價的電力」

新增的可再生能源容量，不含水力發電



資本是前瞻性的。





感謝觀看

@MatthewAgarwala

mka30@cam.ac.uk

Møller Institute Limited
Churchill College, Storey's Way, Cambridge CB3 0DE