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Can agriculture save the planet?

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The problems
we face are

big, *cOmPleX*,
and *g l o b a l*





Cropland the size
of South America

Pastureland the
size of Africa

An aerial photograph of a river basin. A central river flows from the bottom towards the top, colored a vibrant green. It branches out into a dense network of smaller tributaries. Most of these tributaries are dry, appearing as dark, skeletal lines against the light-colored, textured ground. The overall scene suggests a significant reduction in water flow, particularly in the smaller, more distant branches of the system.

**70% of fresh
water used for
agriculture**

Colorado River runs dry



**25% of all greenhouse
gases from agriculture**

A high-angle, wide shot of a very dense crowd of people, likely at a market or festival in Japan. The crowd is packed closely together, filling the entire frame. In the foreground, several individuals are visible, some wearing face masks. The background shows more people and some commercial signs, including one with '50%' and another with '24'. Two large, semi-transparent circular overlays are positioned in the center of the image. The left overlay is orange and contains the text '8B 2023'. The right overlay is blue and contains the text '9.5B 2050'.

8B
2023

9.5B
2050



According to the FAO,
we will need **25%** more food by 2050.



800 million food insecure



Has innovation *failed?*



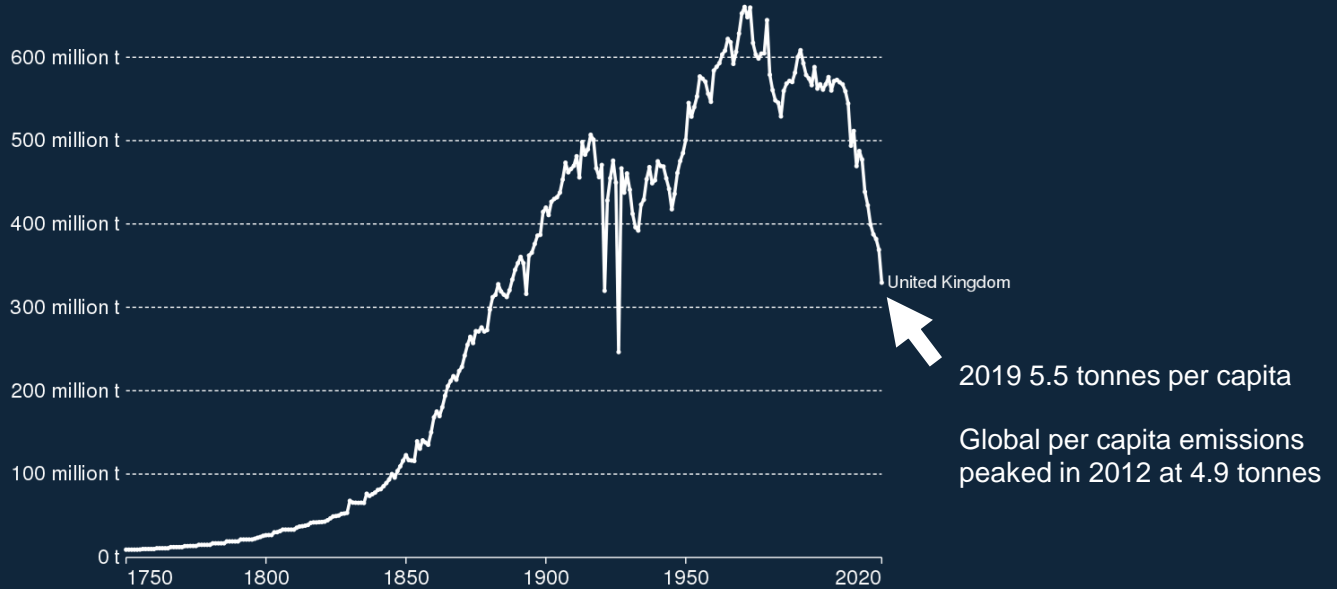
**UK CO2 emissions
5.5 tonnes per capita**



Annual CO₂ emissions

Carbon dioxide (CO₂) emissions from the burning of fossil fuels for energy and cement production. Land use change is not included.

Our World
in Data



Source: Global Carbon Project

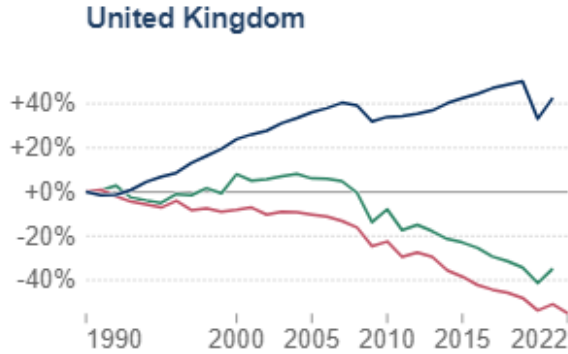


Change in per capita CO₂ emissions and GDP

Our World
in Data

Consumption-based emissions include those from fossil fuels and industry. Land-use change emissions are not included.

■ GDP per capita ■ CO₂ emissions per capita ■ Consumption-based CO₂ emissions per capita



Data source: World Bank (2023); Global Carbon Budget (2023); Population based on various sources (2023)

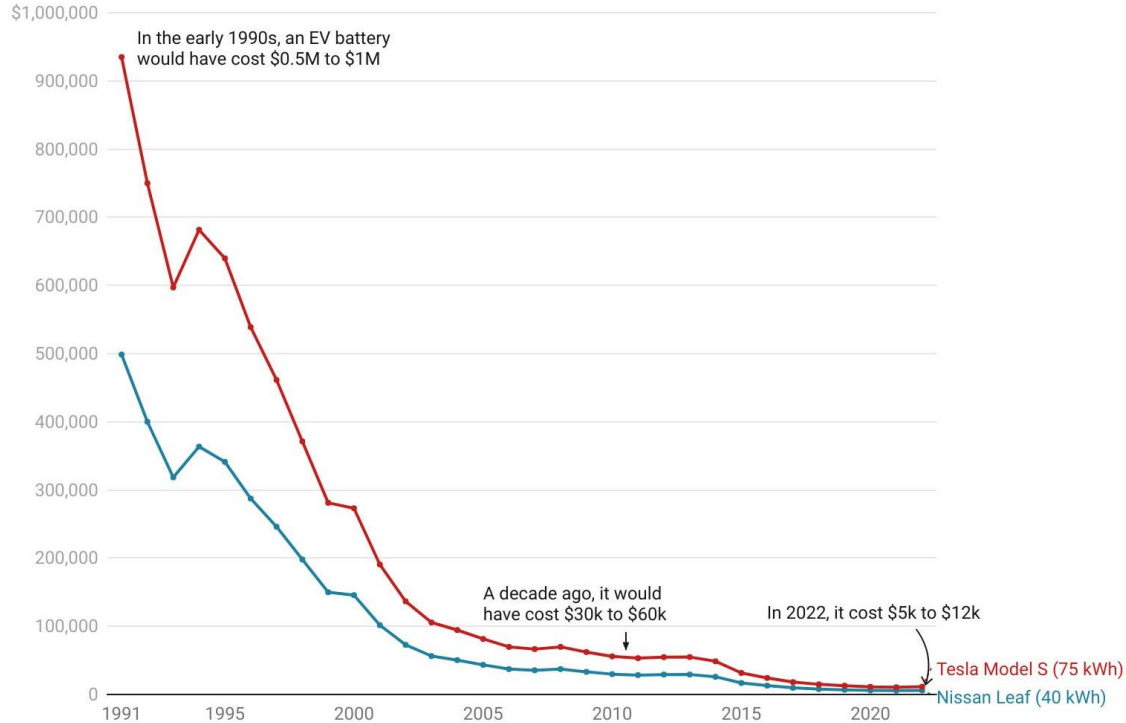
Note: GDP figures are adjusted for inflation.

OurWorldInData.org/co2-and-greenhouse-gas-emissions | [CC BY](https://creativecommons.org/licenses/by/4.0/)

How much would electric vehicle batteries have cost in the past?

Our World
in Data

The unit cost of lithium-ion batteries has fallen by more than 98% since 1991.





What about agriculture?



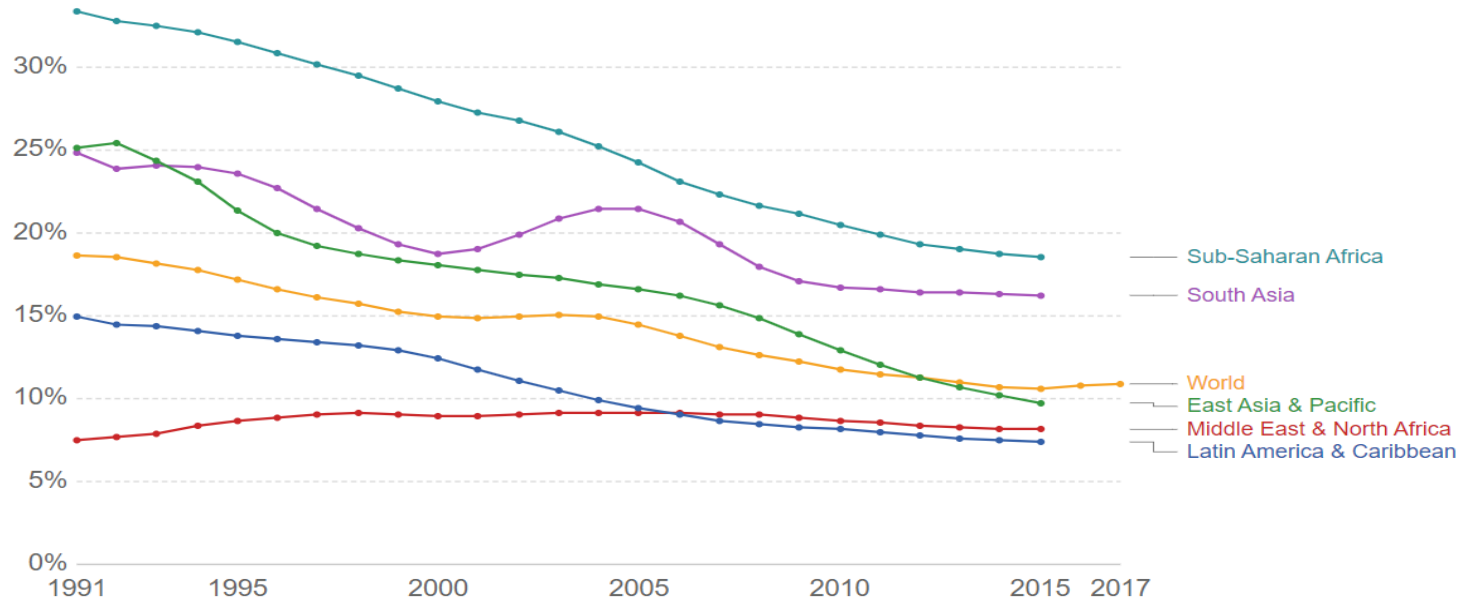
Is our food system broken?



Share of the population that is undernourished

This is the main FAO hunger indicator. It measures the share of the population that has a caloric intake which is insufficient to meet the minimum energy requirements necessary for a given individual. Data showing as 5 may signify a prevalence of undernourishment below 5%. Regional aggregations are based on World Bank regions and exclude high-income countries. They may therefore differ from UN FAO regional figures.

Our World
in Data



Source: UN Food and Agriculture Organization (FAO)

Note: Developed countries are not included in the regional estimates since the prevalence is below 5%.

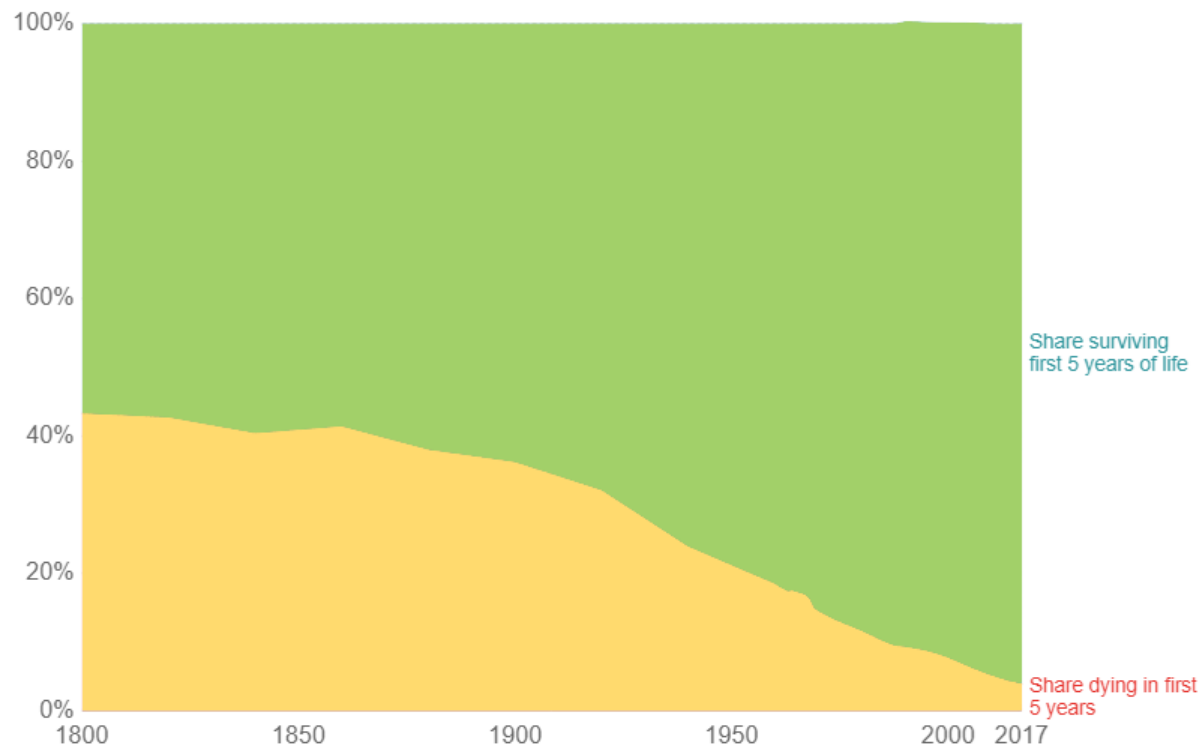
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Global child mortality

Share of the world population dying and surviving the first 5 years of life.

Our World
in Data



Source: Gapminder and the World Bank

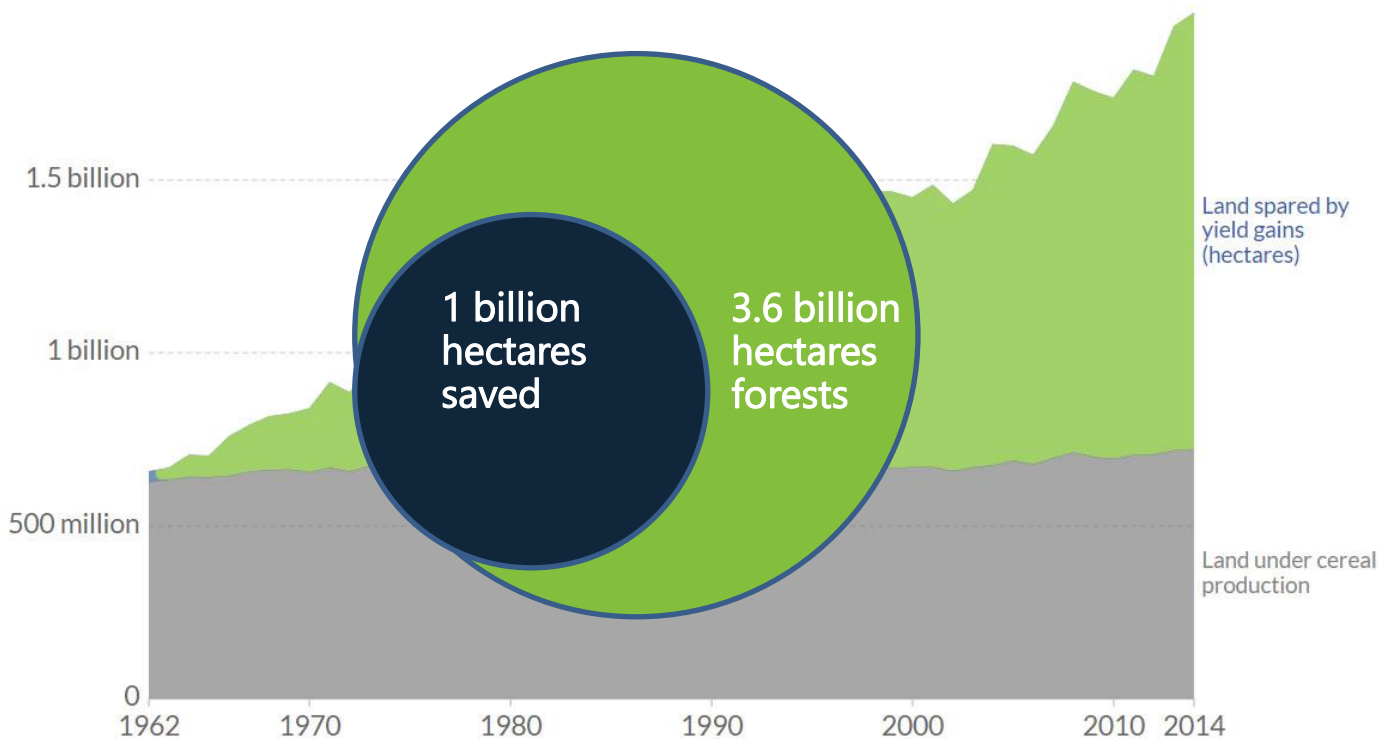
OurWorldInData.org/a-history-of-global-living-conditions-in-5-charts/ • CC BY-SA



Global land spared as a result of cereal yield improvements

Our World
in Data

Global area of land spared from agricultural production as a result of improvements in cereal yield, measured in hectares. This has been calculated as the area of land which would have been necessary to maintain global cereal production at actual output rates, assuming average cereal yields had remained constant since 1961.



Source: OWID based on UN Food and Agriculture Organization

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Resources Per Bushel of Corn 1980 – 2011

35% Fewer Greenhouse Gases



60% Less Erosion



40% Less Land



50% Less Water



40% Less Energy





Things are not bad and getting worse.

**They are good and getting better...
but not fast enough.**



How we communicate matters.

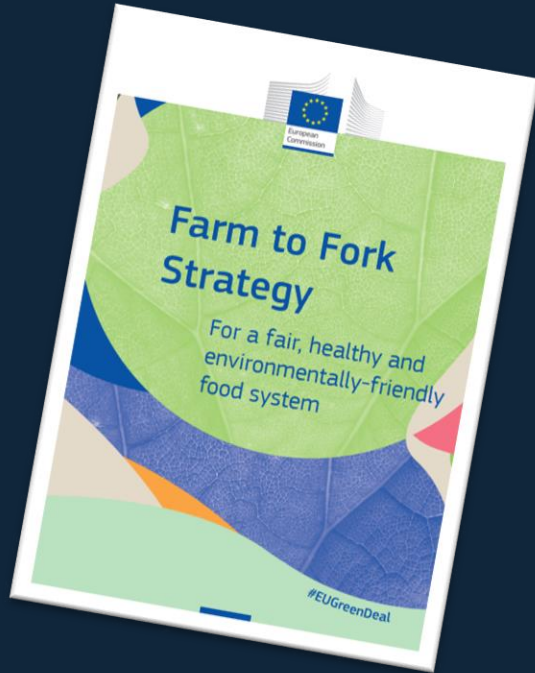


Sharing vs Sparing

Local vs Global



It's really about tradeoffs



**Reduce pesticide
risk by 50%**

**Reduce fertilizer
use by 20%**

**Expand organic production
to 25%**



Words Matter

We need to move
from *should* to could.



**Sustainability is a journey,
not a destination.**



A Better Future



How do people think about the future?

What do I think will happen?

How can I prepare for it?



Strategic Planning



Strategic planning is
about preparing
for the place you
expect to go.

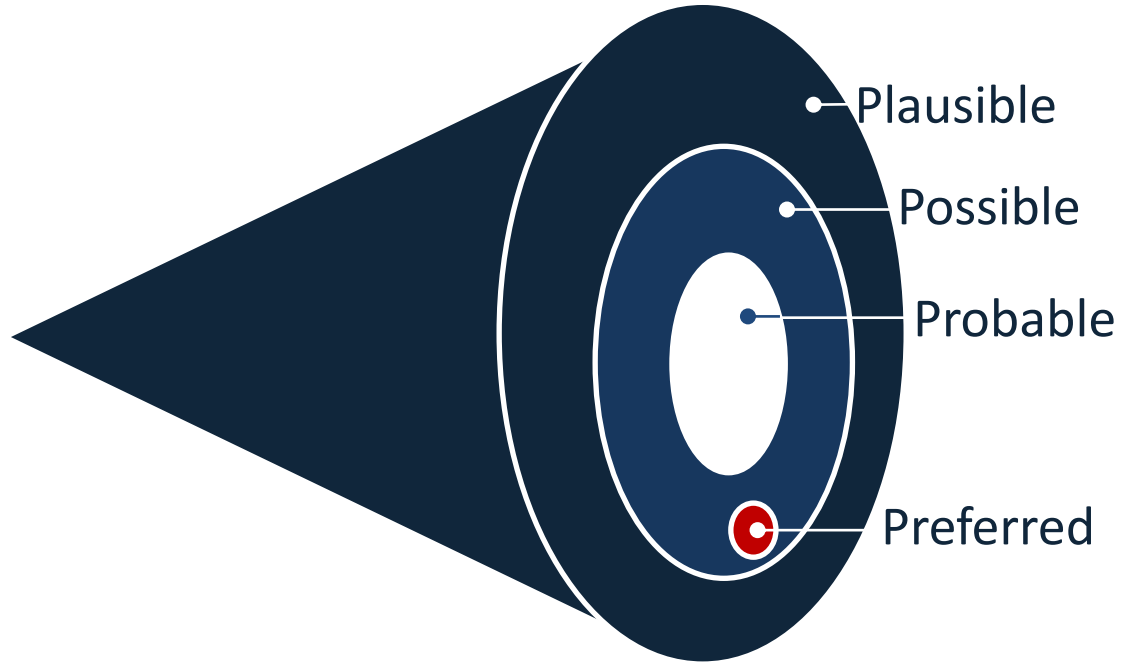




Strategic Foresight



Futures Cone



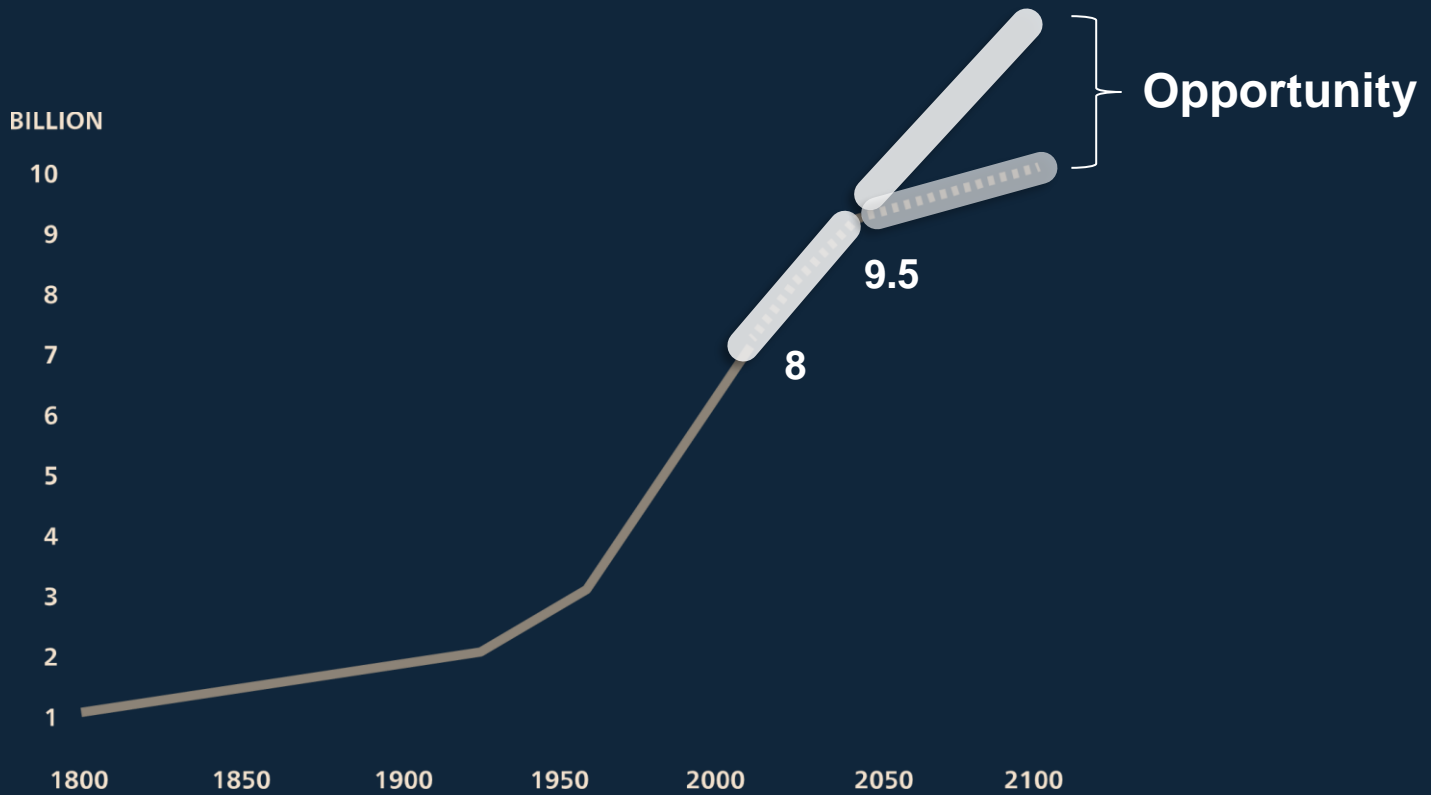


Stop preparing for the
future you expect.

**Start creating the
future you want!**



Why now matters





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Thank you!

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