



OVERSHOOT DAY

Book & document selection
June - July 2021

Earth Overshoot Day



Earth Overshoot Day marks the date when humanity's demand for natural resources in a given year exceeds what Earth can regenerate in that year.

We maintain this deficit by liquidating stocks of ecological resources and accumulating waste, primarily carbon dioxide in the atmosphere.

Let's calculate Earth Overshoot Day

$$\text{Earth Overshoot Day} = \frac{\text{Earth's Biocapacity}}{\text{Humanity's Ecological Footprint}} \times 365$$

Planet's biocapacity
= amount of ecological resources Earth is able to generate that year

Ecological Footprint
= humanity's demand for that year

Explore and download the data at data.footprintnetwork.org

Biocapacity consumption

1961

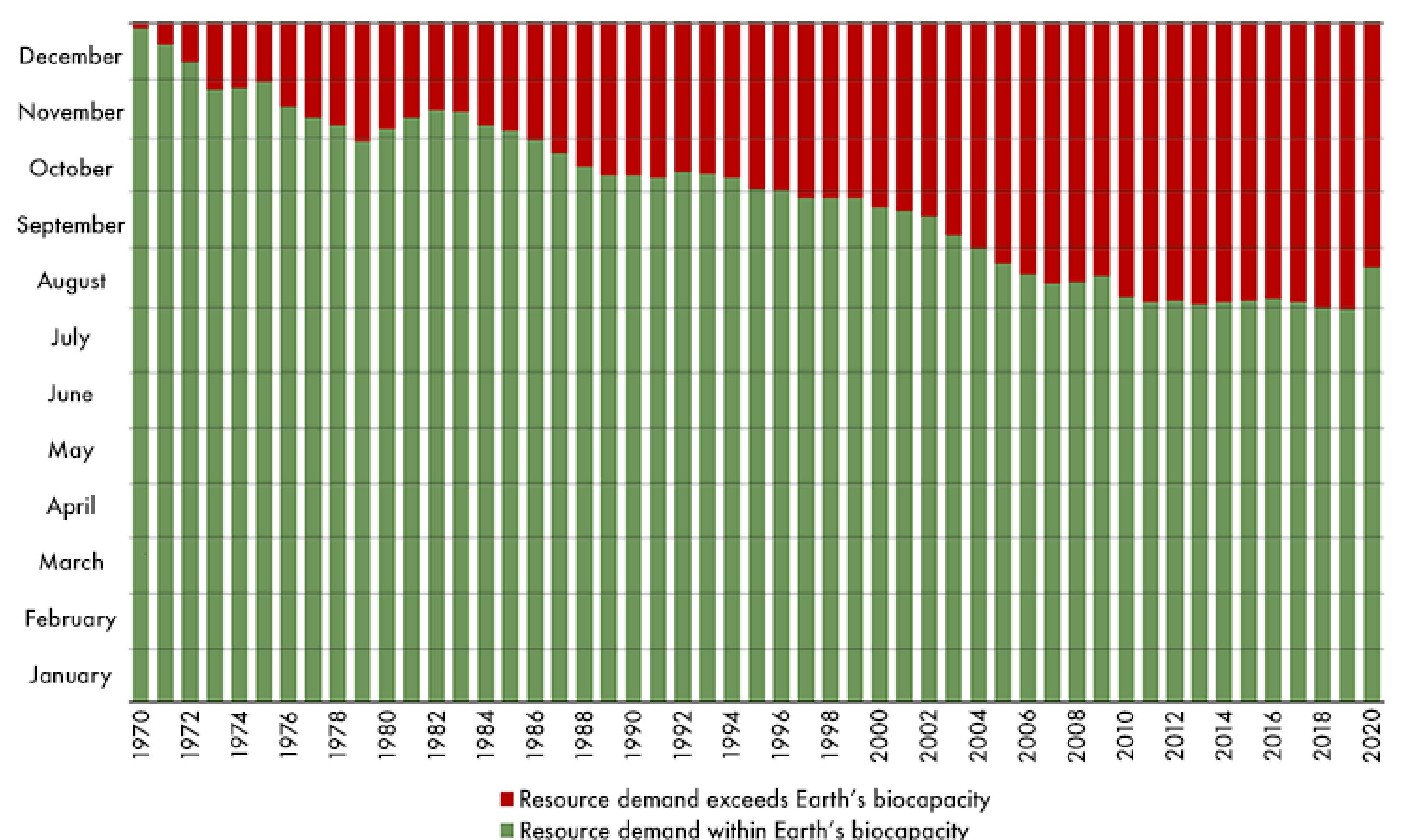


2020



Earth Overshoot Day evolution since 1970

Earth Overshoot Day 2020 landed on August 22. To include the impacts from the coronavirus pandemic in the calculation of Earth Overshoot Day 2020, Global Footprint Network combined the most reliable data and formed the most reasonable assumptions to assess humanity's resource situation.



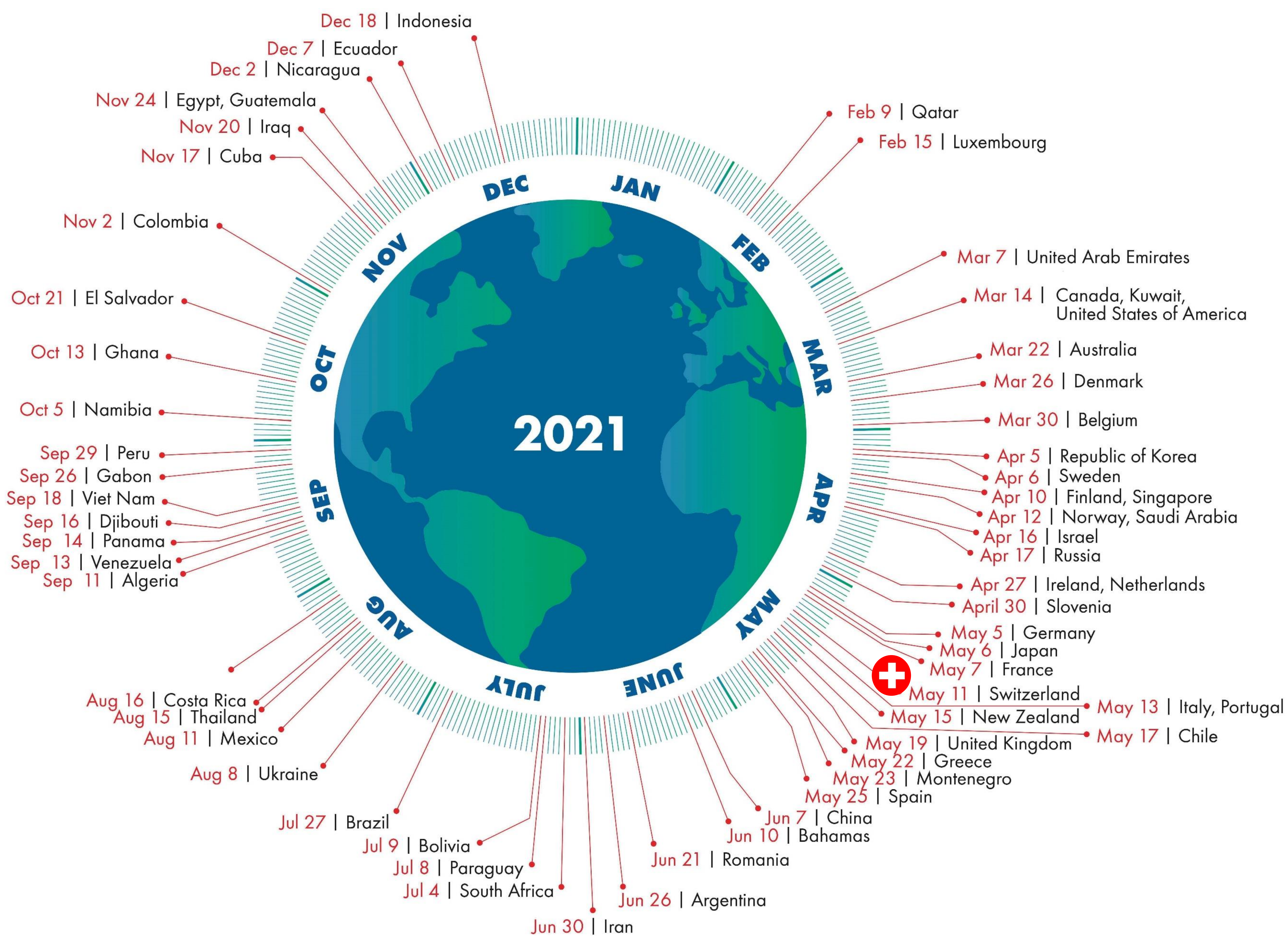
Country Overshoot Days



A Country's Overshoot Day is the date on which Earth Overshoot Day would fall if all of humanity consumed like the people in this country.



When would Earth Overshoot Day land if the world's population lived like...





Switzerland's 2021 Overshoot Day landed on May 11!

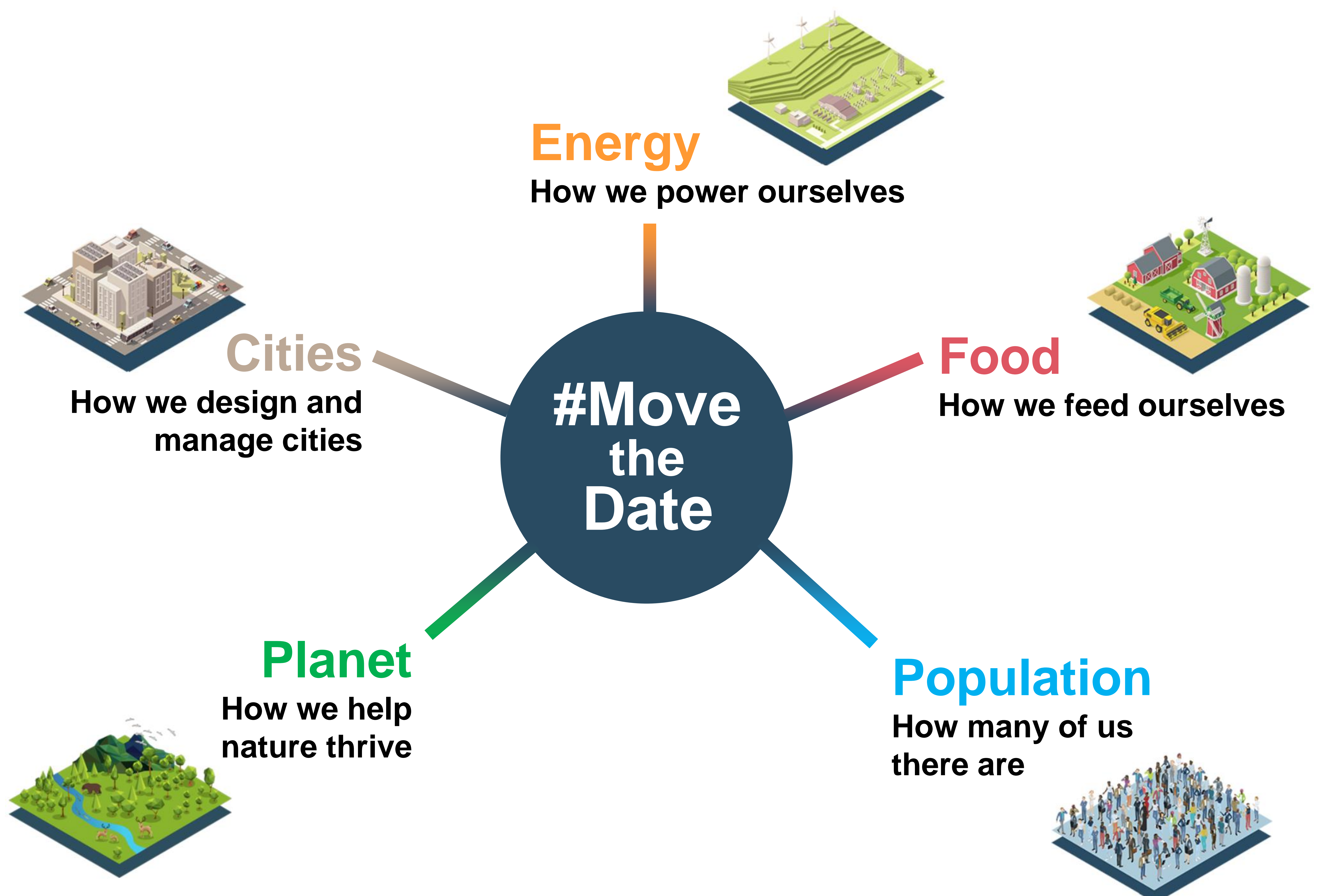
How to move Earth Overshoot Day

Through wise, forward-looking decisions, we can turn around natural resource consumption trends while improving the quality of life for all people.

While our planet is finite, human possibilities are not.

The transformation to a sustainable, carbon-neutral world will succeed if we apply humanity's greatest strengths: **foresight, innovation, and care for each other.**

  **5** key areas to define our long-term trends most forcefully



Energy

The carbon footprint makes up 57% of humanity's ecological footprint. Not only is decarbonizing the economy our best possible chance to address climate change, but it would also vastly **improve the balance between our ecological footprint and the planet's renewable resources.**



Reducing the carbon component of humanity's Ecological Footprint by 50% would move Earth Overshoot Day by 93 days, or more than three months.



Existing off-the-shelf, commercial technologies for buildings, industrial processes, and electricity production could move Overshoot Day at least 21 days, without any loss in productivity or comfort.

Cities

Between 70% and 80% of all people are expected to live in urban areas by 2050. Consequently, **smart city planning and urban development** strategies are instrumental to making sure there is enough natural capital and to avoid excessive human demand that would erode it. Examples include energy-efficient buildings, integrated zoning, compact cities, and effective options for people-powered and public transportation.



If we reduce our Footprint from driving by 50% around the world and assume one-third of car miles are replaced by public transportation and the rest by biking and walking, Earth Overshoot Day would move back 13 days.

Planet

Given the massive overuse of the planet's biological resources, our economies now are limited by the availability of Earth's biocapacity. To ensure we have a healthy planet that can support us now and in the future, requires **reducing human demand and maintaining our planet's life-support system.** To boost the health of our ecosystems, and in turn, the planet's capacity to regenerate biological resources. This is done in three ways:

- **Classical conservation:** Efforts to protect and preserve wild spaces, particularly biodiversity hotspots.
- **Restoration:** Many ecosystems have been overused and need to be restored.
- **Regenerative agriculture and sustainable fishing:** To keep feeding humanity, we need to find ways of farming that maintain soil-productivity, groundwater levels, water cycles, and genetic diversity, while avoiding contamination.



Reforestation of 350 million hectares of forest would move the date of Overshoot Day by 8 days.

Food

Half of the Earth biocapacity is used to feed us. Two major issues when addressing food sufficiency, malnutrition, and are:

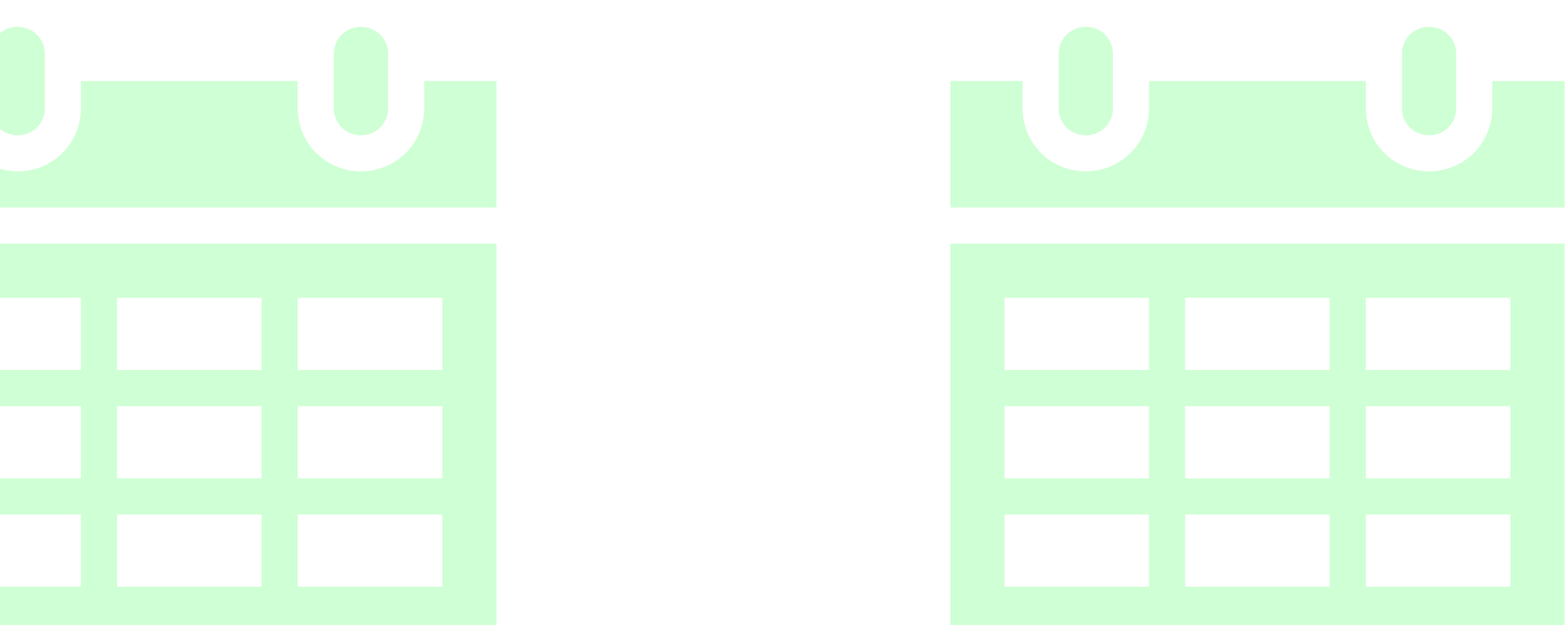
- **Resource inefficiency in food production**
Animal calories are significantly more resource intensive than plant calories to produce. This caused China's government to commit to reducing meat consumption by 50% by 2030. As a result, humanity's Ecological Footprint would shrink by 377 million global hectares and move the date of Earth Overshoot Day back 5 days (including methane emissions). Current agriculture is also fossil fuel intensive. For example, it takes 5 calories of fossil fuel in Belgium to provide one calorie of meat.
- **Food waste**
About one third of the food produced in the world for human consumption — 1.3 billion tonnes every year — gets lost or wasted, with high and low-income countries dissipating roughly the same quantities of food, according to the UN Food and Agriculture Organisation.



If we reduced global meat consumption by 50% and replaced these calories through a vegetarian diet, we would move Overshoot Day 17 days. (Including 10 days from reduction of methane emissions.)



If we cut food waste in half worldwide, we would move Overshoot Day 13 days.



Population

The United Nations projects that between 7.3 to 15.6 billion people will be living on Earth by 2100. Despite unevenness in our respective Footprints, as population increases, so does pressure on the planet. Powerful, people-positive solutions, such as empowering women and girls, are well known and promoted. And the social benefits are immediate and highly valuable in their own right. Ecological benefits manifest more slowly, yet the impact over time is massive.

However, population is a sensitive topic, full of taboos, prejudices, and a tragic, sordid history. The simple act of raising the topic may turn people off from the sustainability conversation altogether. At the same time, avoiding the population conversation does nothing to address one of the most significant contributors to humanity's increasing demand on the planet. So, is it helpful to discuss population? We asked people around the world to share their thoughts on the topic, below.



If every other family had one less child and motherhood was postponed by two years, by 2050 we would move Overshoot Day 49 days. If we continued as now, we would be at 9.7 billion (the UN medium variant estimate). If each mother had on average of 1.8 children, compared to 2.3 currently, and motherhood was delayed by 2 years, we'd be at 7.7 billion. Assuming Ecological Footprint per capita stays at 2020 level (2.47 gha per person), the difference in 2050 would be 49 days.