CLEAN COOKING ALLIANCE

Clean Cooking: A critical tool for energy security and development

WTO Fossil Fuel Subsidy Reform Initiative

15 February 2023

Agenda

1. An overview of CCA
2. The global clean cooking gap
3. Sector evolution and trends
4. Discussion

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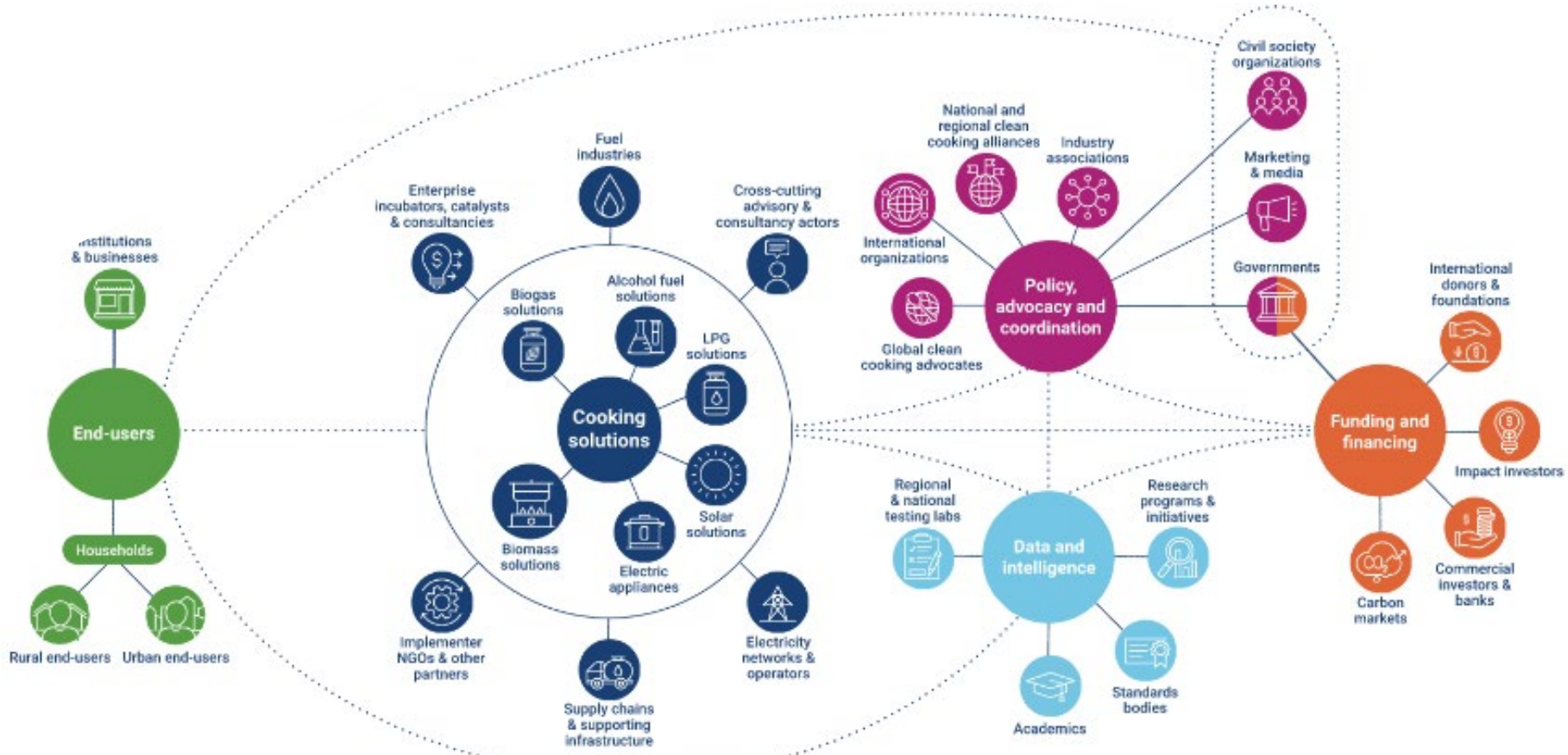
AN OVERVIEW OF CCA

The Clean Cooking Alliance works with a global network of partners to build an inclusive industry that makes clean cooking accessible to the 2.4 billion people who live each day without it.

CCA is a global organization with a focus on local transformations

CCA is committed to advancing the **agency of local stakeholders** and their visions for change through a **portfolio of global and country-level workstreams**.

CCA fosters transformative change across the whole of a diverse and complex ecosystem



The relationships indicated here are meant to be representative of the general interactions across the ecosystem. We acknowledge there are more nuanced engagements between actors and subsystems that are not shown above.

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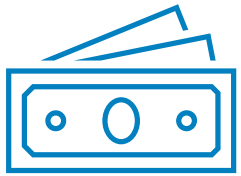
CCA generates significant impact for the sector



$75+M

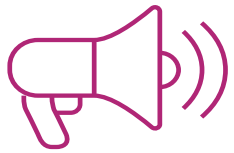
Deployed or raised to support enterprises

60+

Enterprises received technical assistance

$18M

Invested in research and evidence



100M+

People engaged via advocacy & communications

2,000+

Women entrepreneurs trained

100+

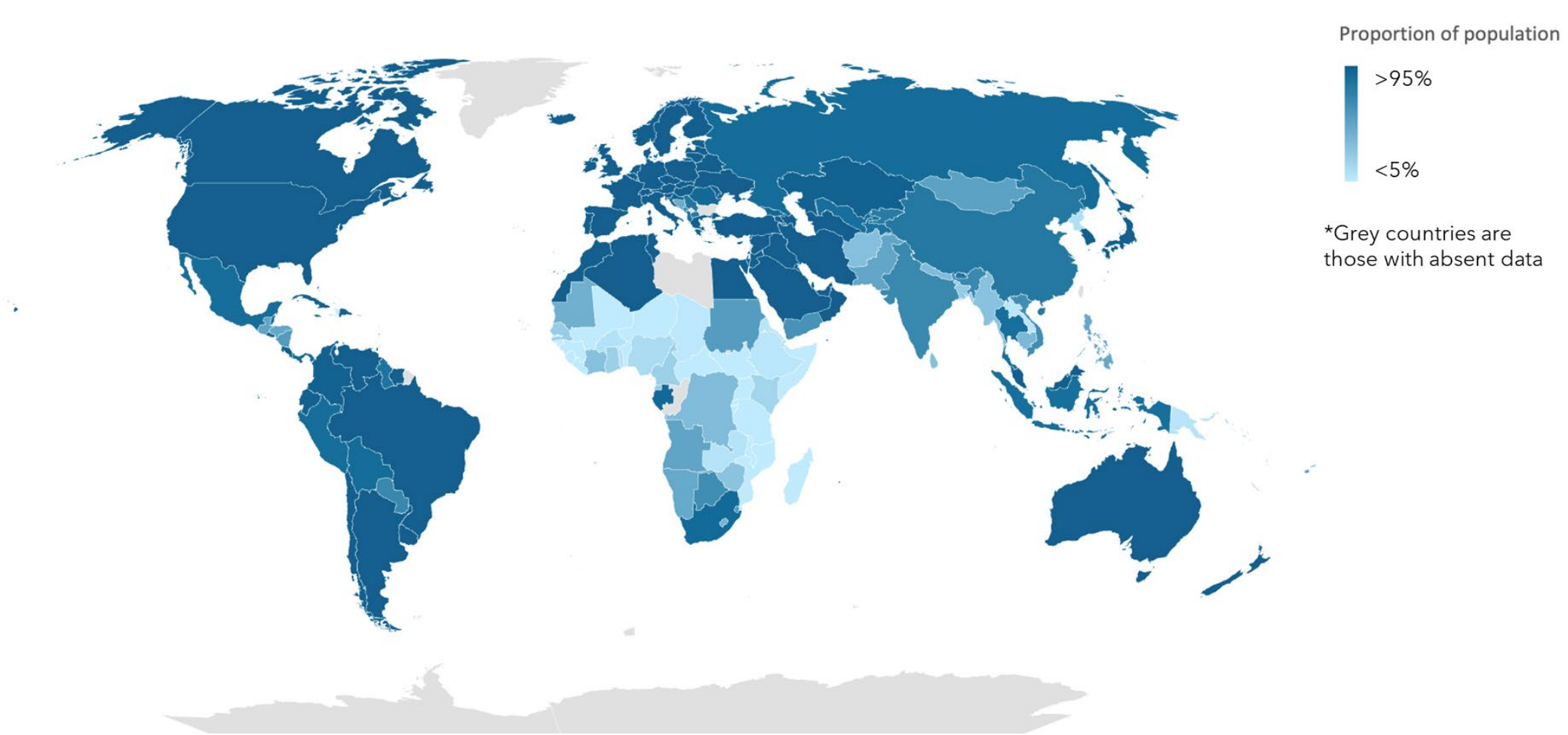
Events, workshops, and convenings globally

2

THE GLOBAL CLEAN COOKING GAP

2.4 billion people globally lack access to clean cooking

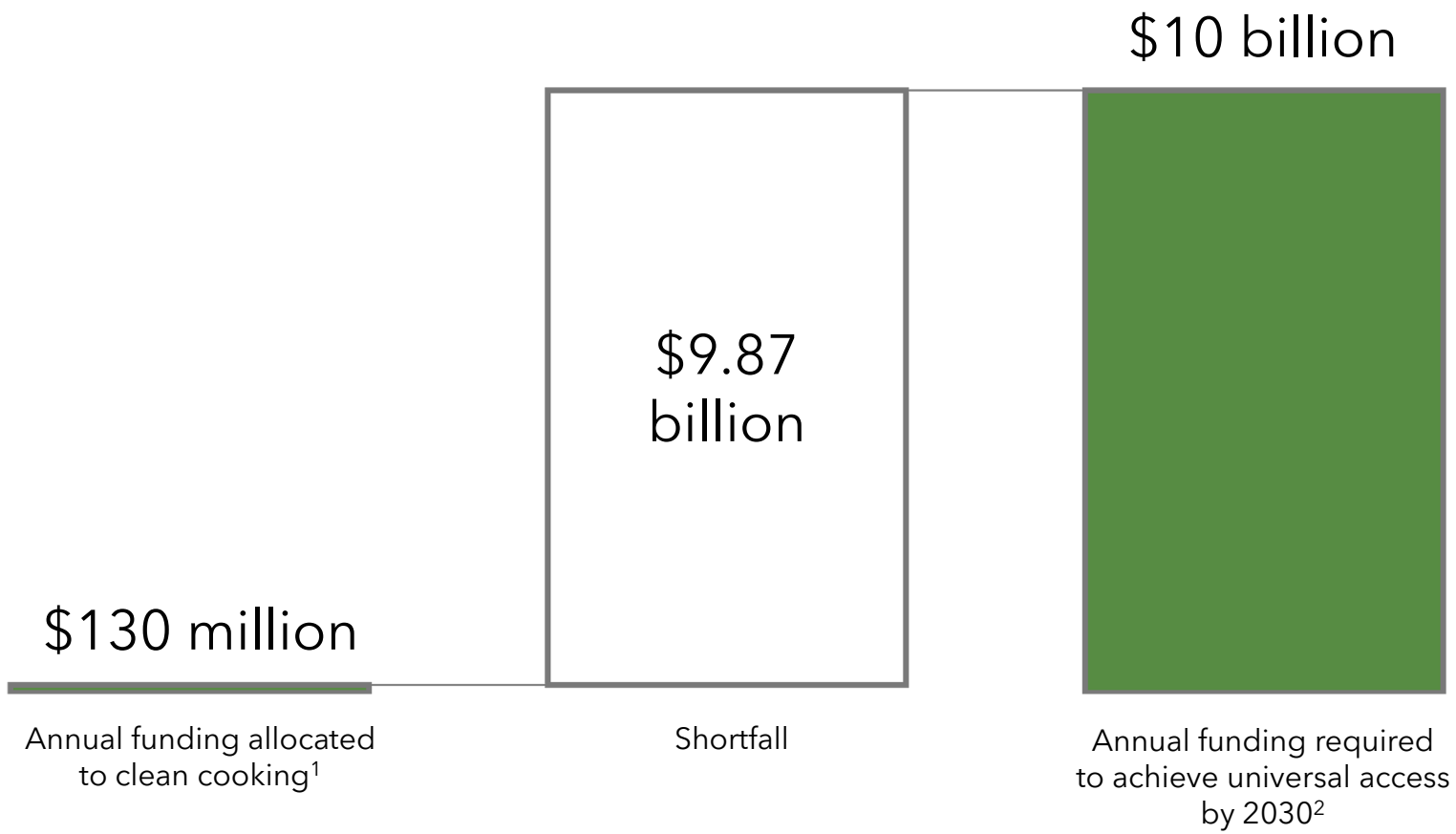
The proportion of population with primary reliance on clean cooking fuels and technologies is about 30% in Sub-Saharan Africa and about 63% in Developing Asia, as of 2020.



World Health Organization, Global Health Observatory .

Clean cooking remains one of the most under-invested development challenges in the world

Clean cooking receives about 1% of the US$10 billion a year required to achieve universal access by 2030.

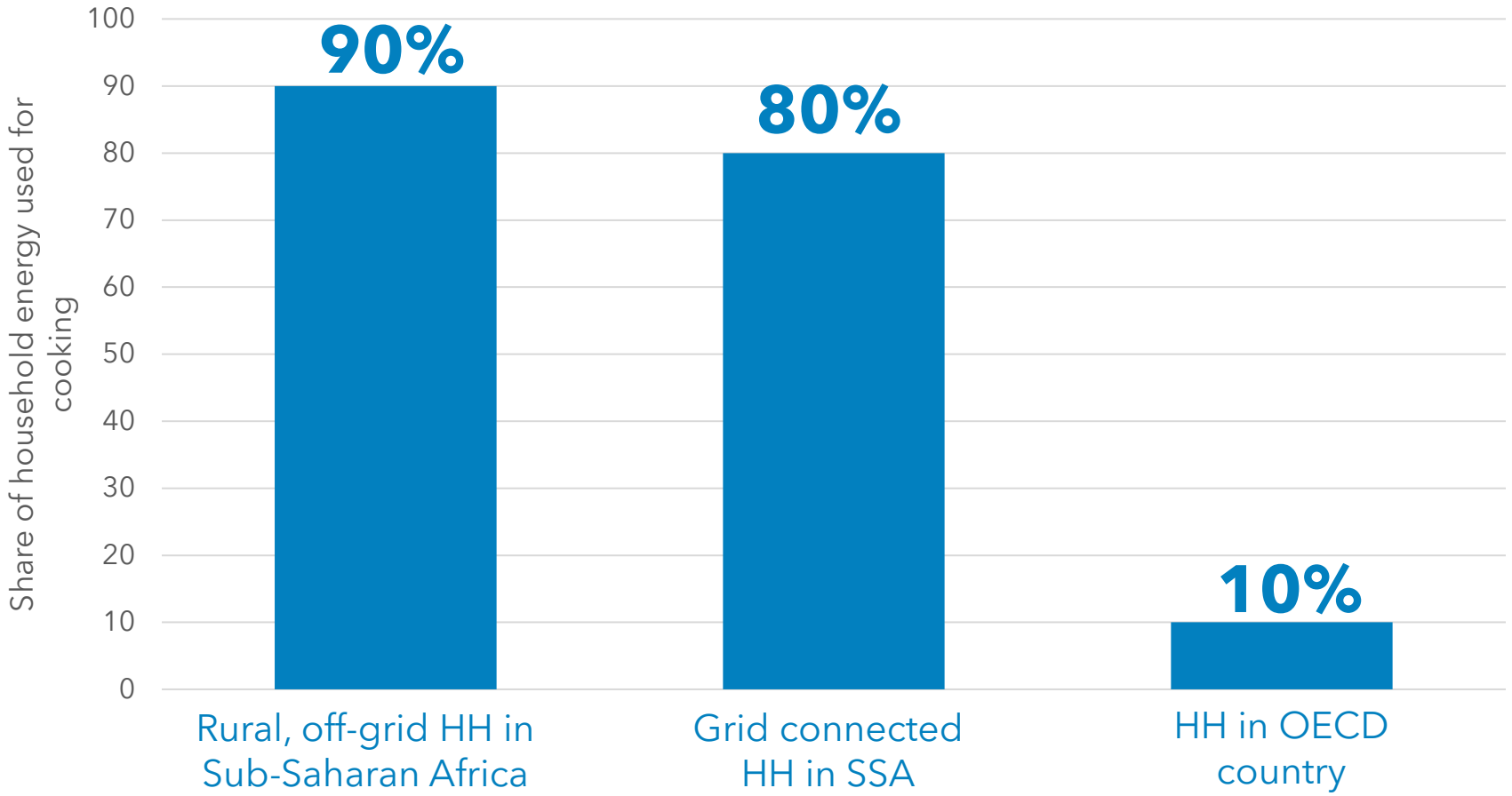


[1]"Energyizing Finance: Understanding the Landscape 2021, SE4All; [2] Based on the IEA World Energy Outlook Model, in which the annual investment required to achieve universal access to clean cooking accounting for Net Zero Emissions by 2050 (NZE) scenario is $8 billion. This amount does not include fuel costs to the user or technology replacement costs (in other words, only first time access is included).

Clean cooking sits at the nexus of several development challenges

There can be no just energy transition without addressing the clean cooking gap

The share of household energy used for cooking can be as high as 90% for low-income households compared to 10% in wealthy and developed countries



Universal access to clean cooking can help achieve global climate goals

Clean cooking mitigates greenhouse gas emissions

1 gigaton of CO_2e is produced every year from burning woodfuels, around 2% of global emissions[1]

Clean cooking reduces black carbon emissions

>50% of man-made black carbon emissions come from household fuel combustion[2]

Clean cooking reduces forest degradation

34% of woodfuel harvesting is unsustainable[3]

[1,3] Bailis, R., Drigo, R., Ghilardi, A. & Masera, O. The Carbon Footprint of Traditional Woodfuels. Nature Climate Change, (2015). [2] Black Carbon. Climate & Clean Air Coalition http://www.ccacoalition.org/en/slcps/black-carbon.

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Clean cooking access can deliver health, air quality and gender & livelihood benefits

HEALTH

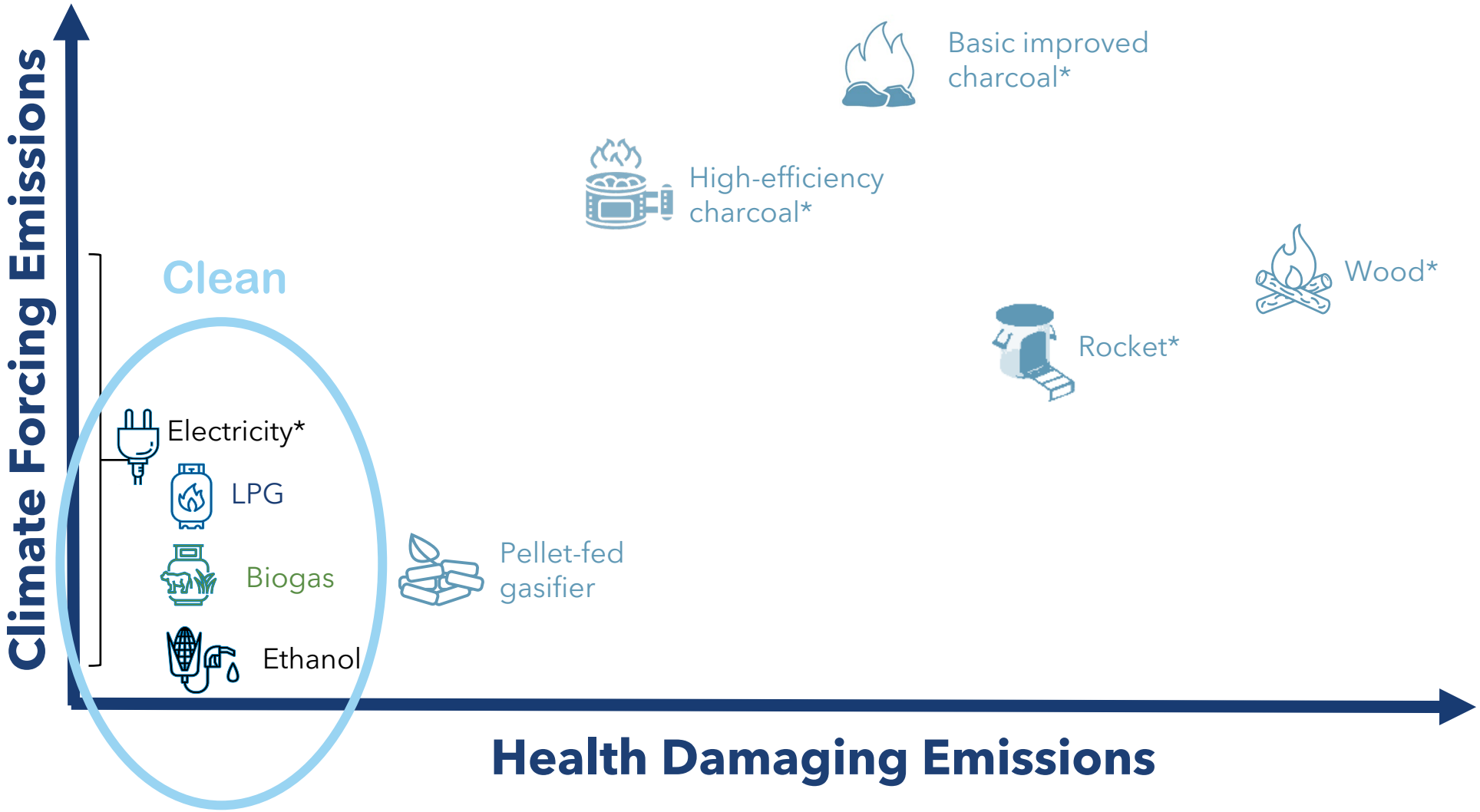
Up to **3.2 million people die** prematurely every year from illnesses associated with exposure to smoke from open fires or inefficient stoves (WHO, 2022)

AIR POLLUTION

Household air pollution from solid biomass fuel use accounts for **16% of ambient air pollution** globally and upwards of 30% of ambient air pollution in India, Nepal and other parts of Asia (McDuffie EE et al., 2021)

GENDER & LIVELIHOODS

Women and children spend **4 to 20 hours per week** gathering fuel or spend significant household income purchasing it (WHO, 2016); **60% of deaths from household air pollution** are women and children (IHME, 2020)



*Climate impact depends on renewability

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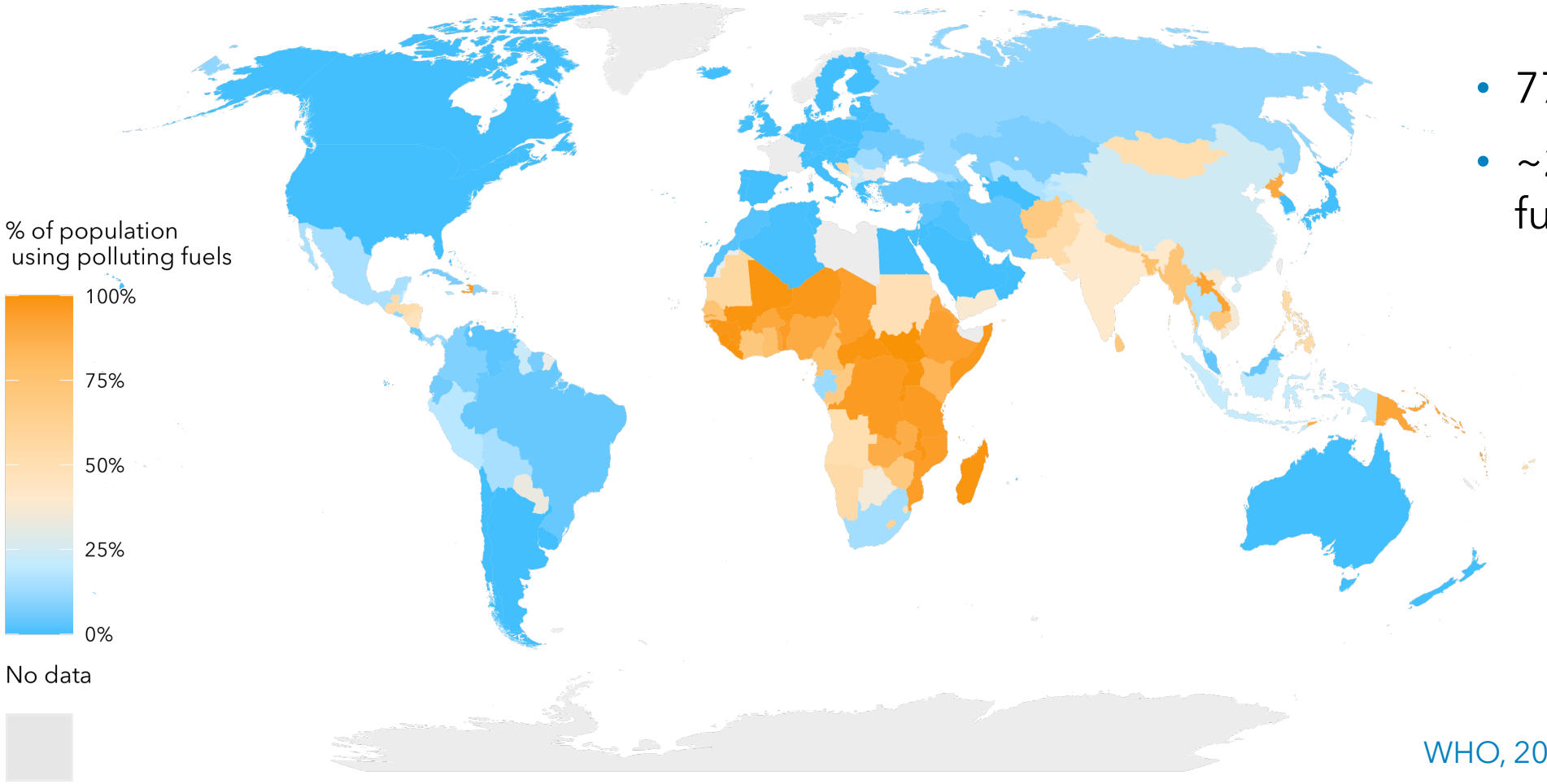
What if all LMIC countries with >1 million polluting fuel users transitioned to clean cooking?

Percentage of the population with primary reliance on polluting cooking technologies



- 77 countries
- ~2.5 billion polluting fuel users

WHO, 2018

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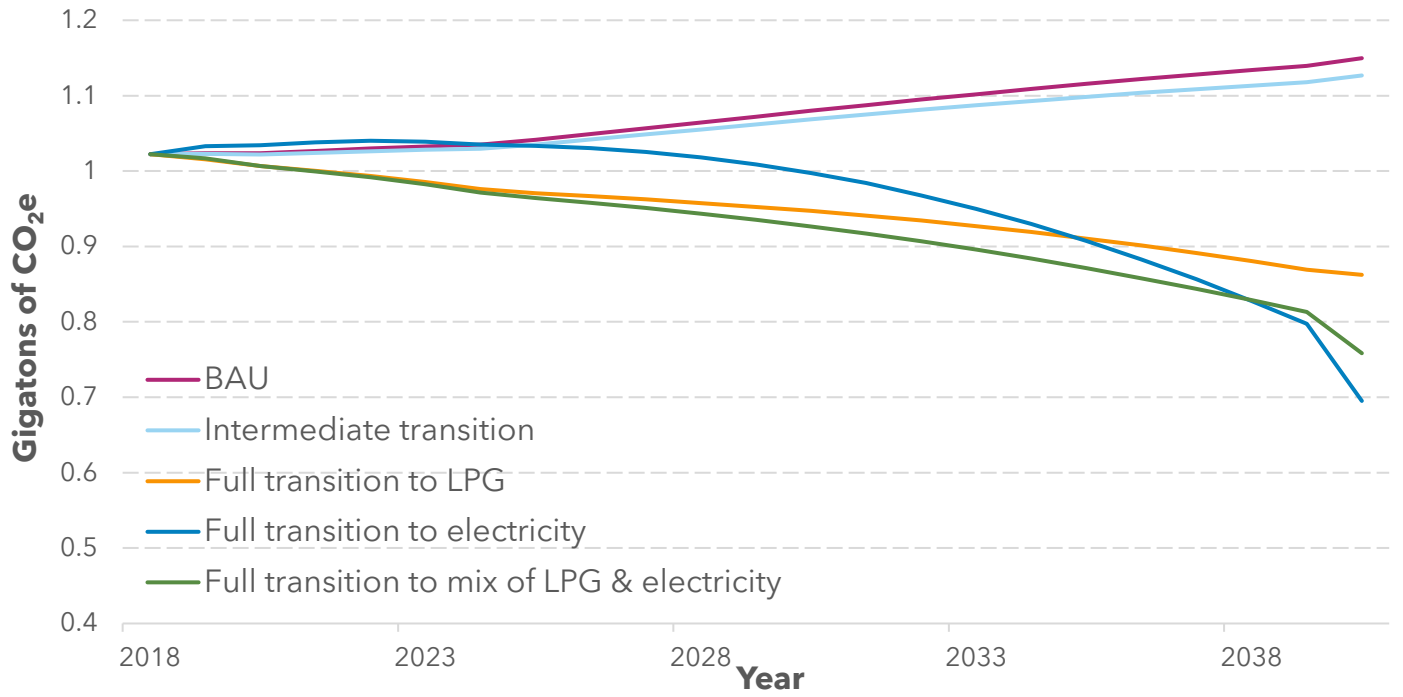
A large-scale clean cooking transition would lead to significantly lower greenhouse gas emissions by 2040

CO_2e increases 12% from 2018-2040 in BAU

Full transitions result in ~15% lower cumulative CO_2e by 2040

CO_2e emissions trajectory across all scenarios



*1 gigaton = 1 billion tons

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CO_2e increases 1
2018-2040 in BA

Full transitions re
~15% lower cu
CO_2e by 2040

s all scenarios

2033 2038

A full transition to clean cooking by 2040 results in cumulative emissions reductions of **~3 Gt CO_2e**

CO_2e sequestered by nearly **50 billion tree seedlings** growing for 10 years!

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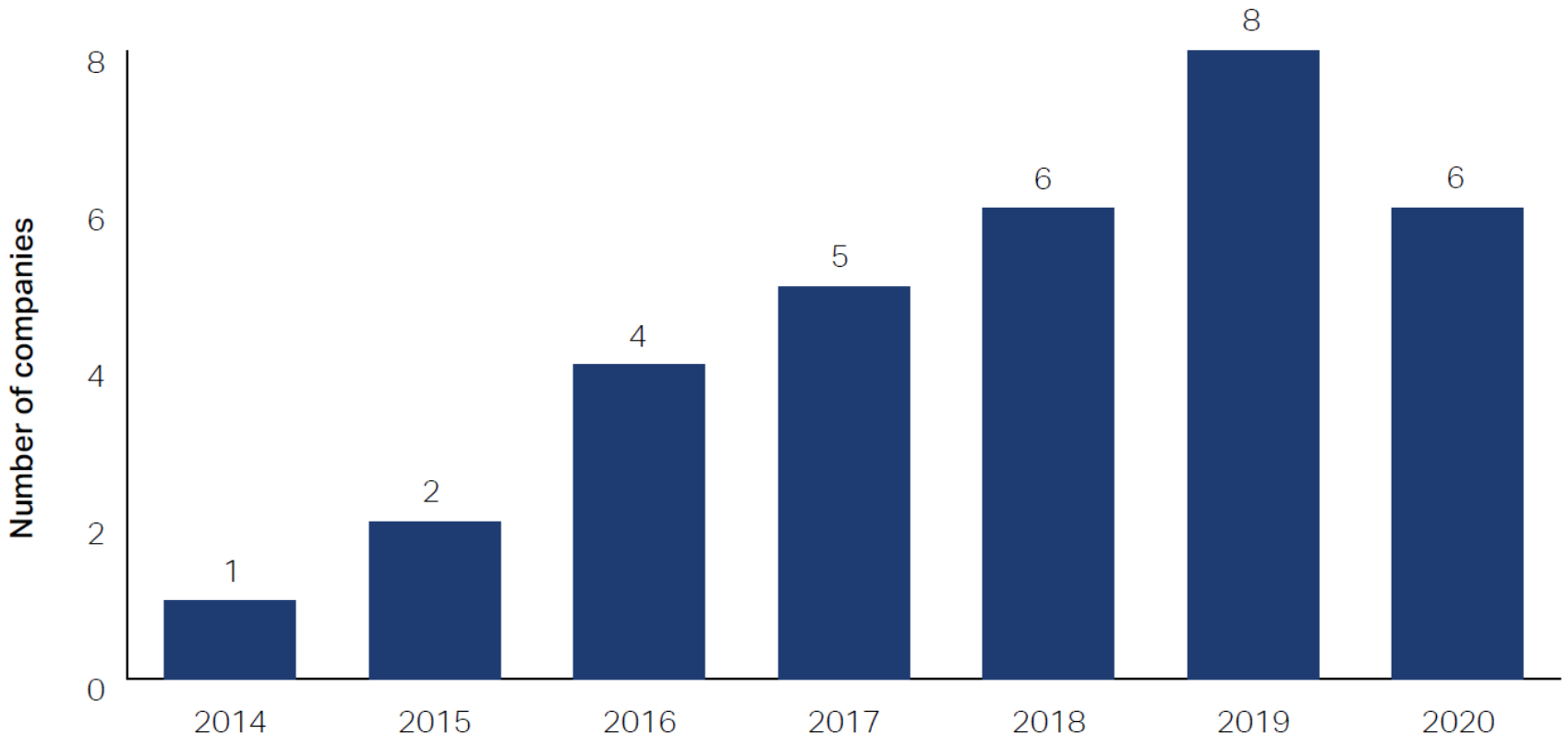
SECTOR EVOLUTION AND TRENDS

More enterprises are getting to economies of scale

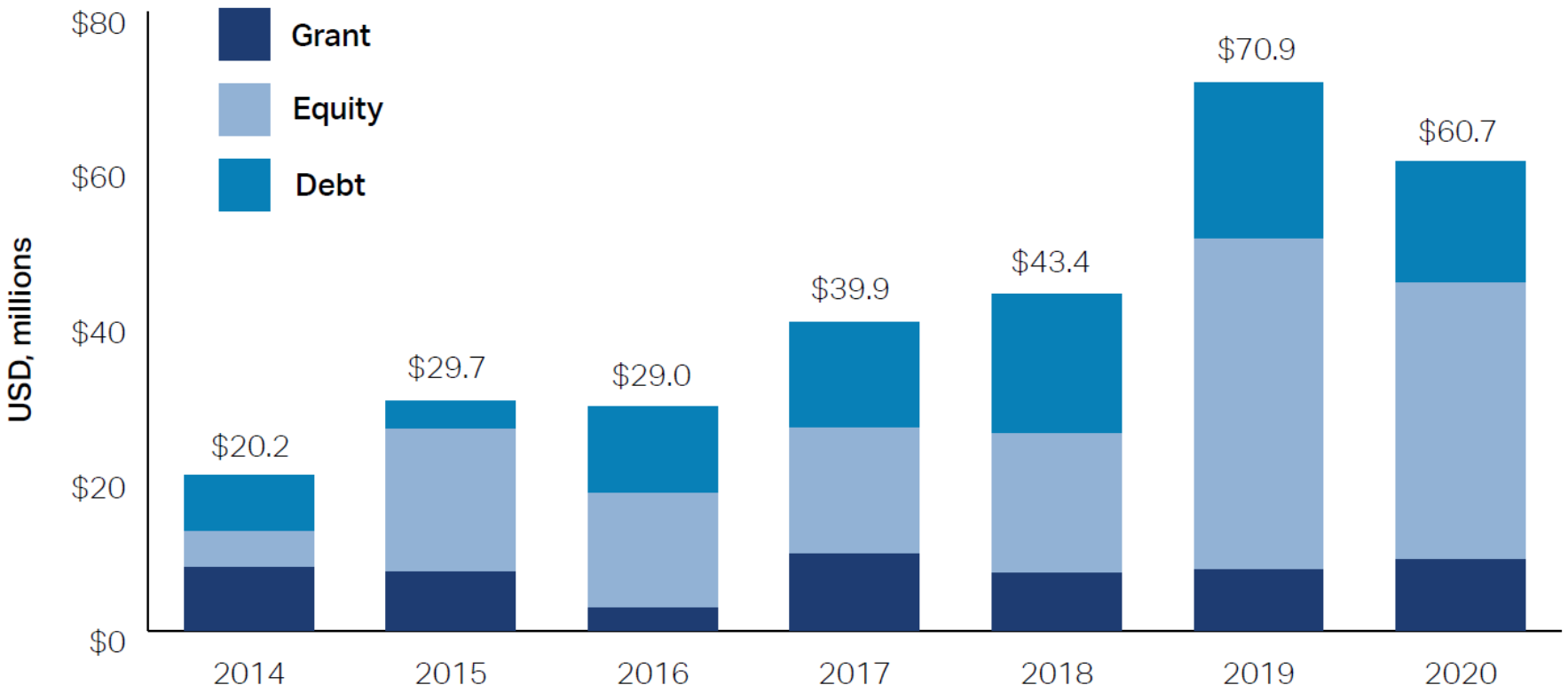
Number of companies reporting revenue from clean cooking sales of $1 million or higher



Source: *Clean Cooking Industry Snapshot 2022*, Clean Cooking Alliance

More capital raised by the industry

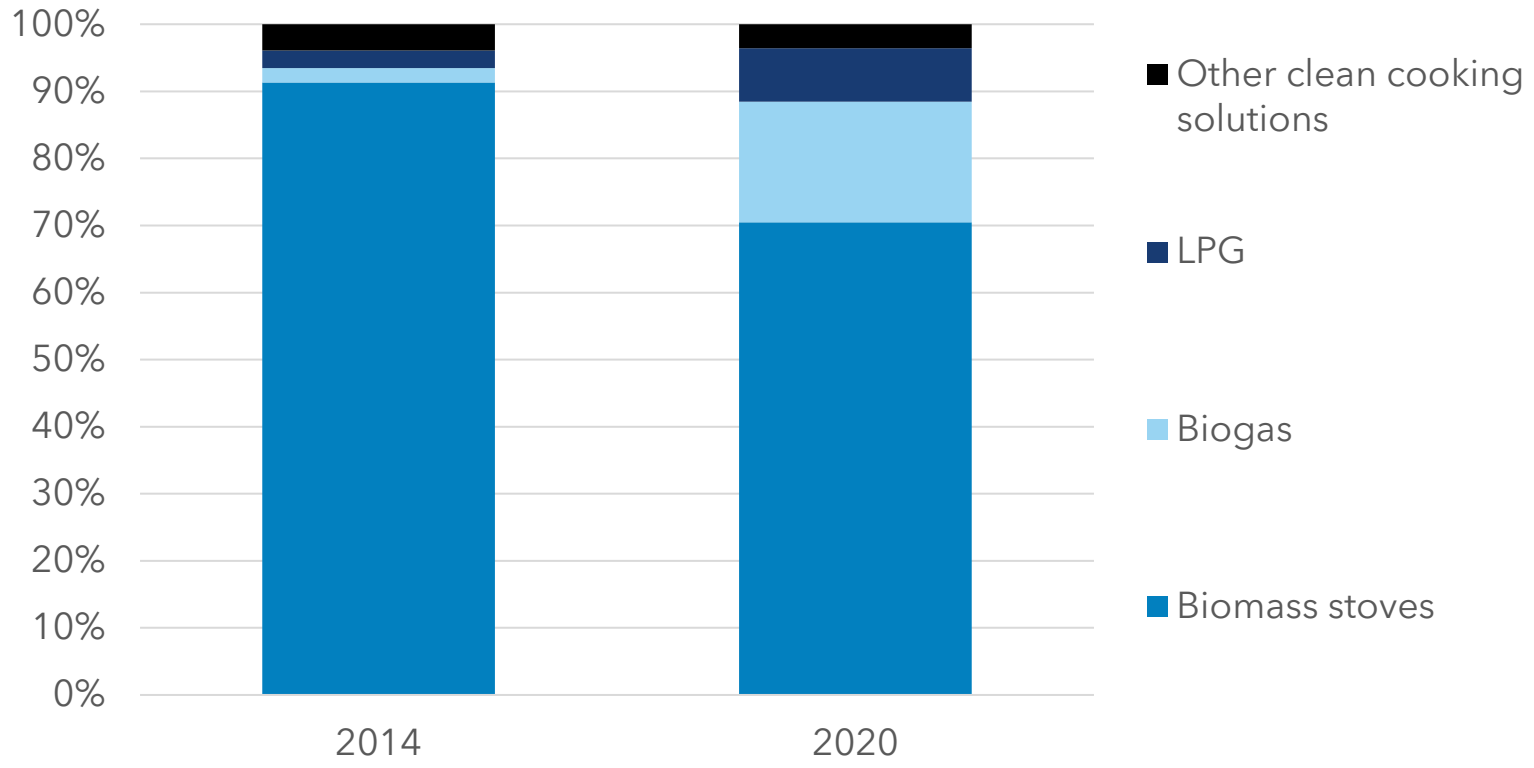
Capital raised by clean cooking enterprises



Source: *Clean Cooking Industry Snapshot 2022*, Clean Cooking Alliance

The market of solutions is diversifying

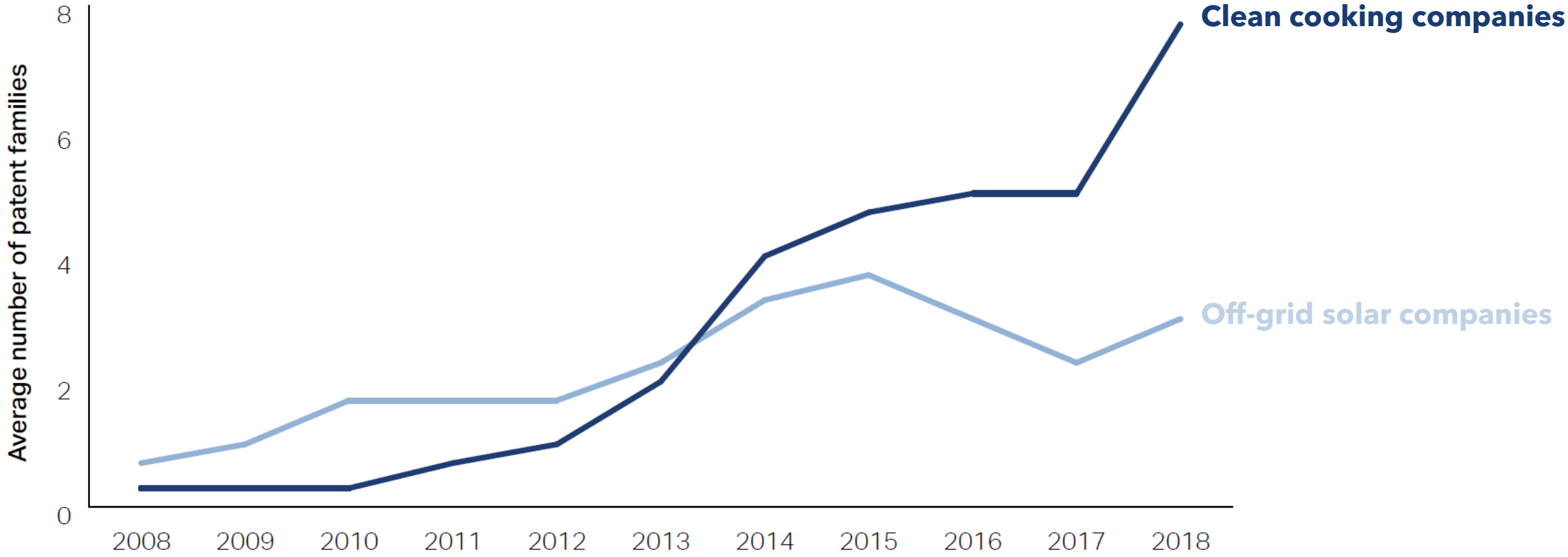
Share of revenues from clean cooking sales by technology category



Source: *Clean Cooking Industry Snapshot 2022*, Clean Cooking Alliance

Enterprises are investing more in innovation

Comparison of patent families of the top 10 fundraisers in clean cooking and off-grid solar, using a 3-year rolling average



Source: *Clean Cooking Industry Snapshot 2022*, Clean Cooking Alliance

Rewind to a decade ago ⏪

The sector's paradigm

Design stoves that are cleaner than existing models and that perform their cooking job just as well, and then run campaigns to "educate" people into buying them.

But the paradigm was incomplete

How do you compete on price?

How do you ensure quality and safety?

How do you reach your customers?

How do you overcome upfront costs?

How do you make it seamless?

Fast forward to today ⏩

From products to solutions

Seamless customer experience

More scalable

Now

Looking ahead

4

DISCUSSION