February 2025

OpenMinds

Accelerating Energy and Climate Progress

OpenMinds

OpenMinds' Mission & Identity

OUR MISSION

More energy. Less emissions. Fast.

- 125+ volunteer experts

- 501(c)(3)

- Disciplined non-partisan selection process

- 360° systems engineering approach

WHAT MAKES US UNIQUE

Energy AND climate
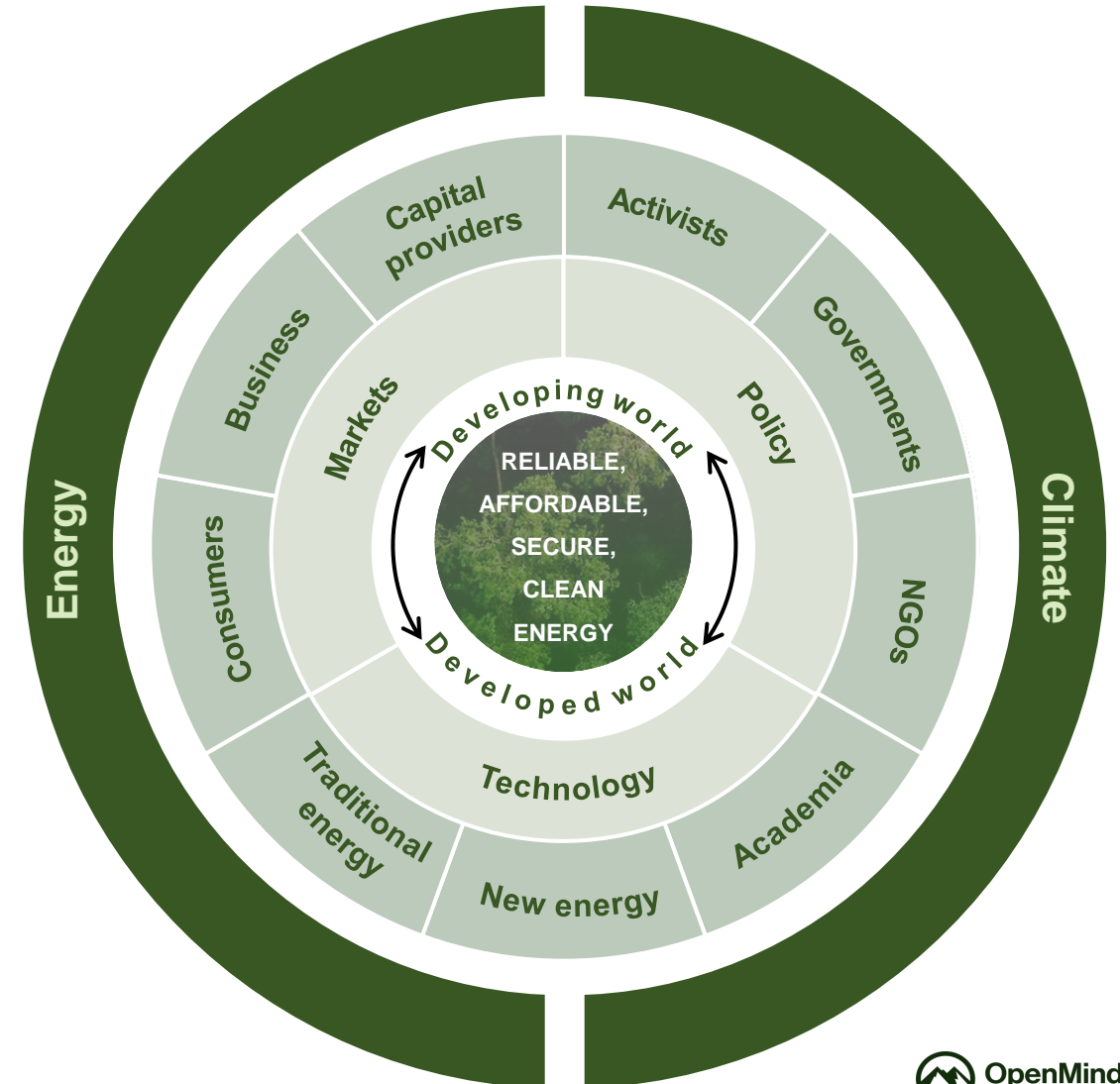
Cross-functional expert team
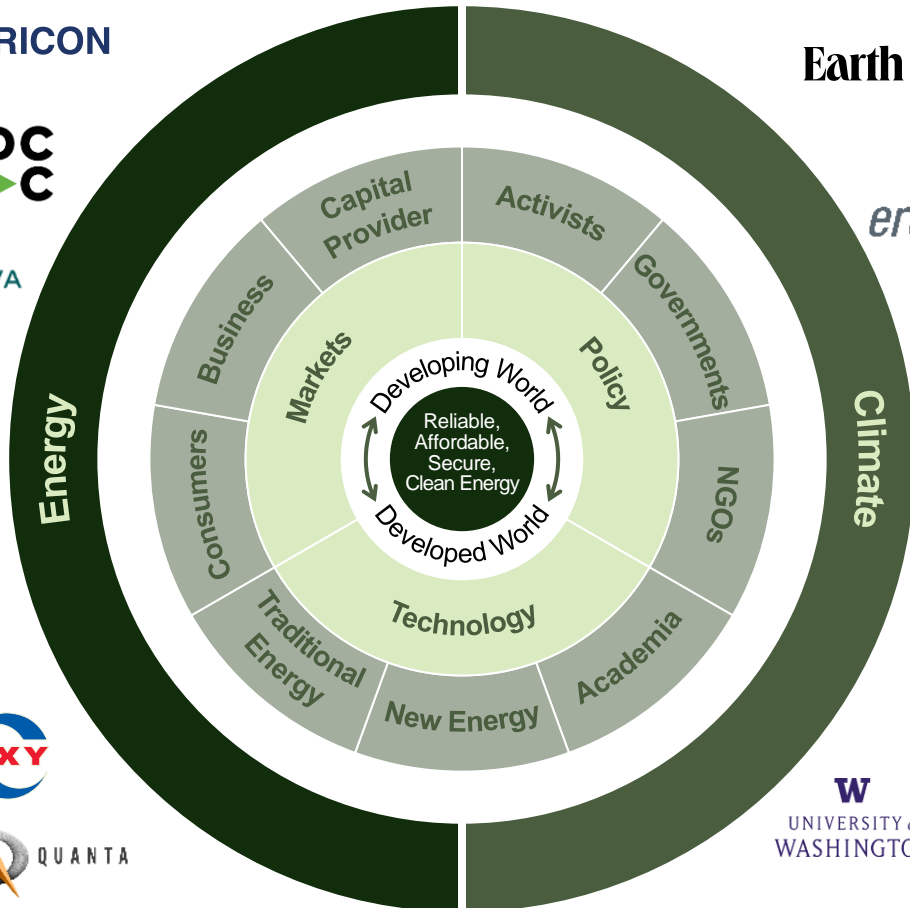
Detailed solutions framework

Impact progress by 203X

OpenMinds' Solution Approach

We believe that addressing the Dual Challenge requires us to work together in a **non-partisan** manner across **diverse** fields, industries, and geographies

The OpenMinds Team… Energy AND Climate Experts

The OpenMinds Team

Industry	Role and company
Ms. Bridgitt Arnold	VP of Communications, Google
Mr. John Arnold	Founder & CEO, Arnold Ventures
Mr. John Berger	Founder & CEO, Sunnova Energy International
Mr. Scott Brown	Founder and Chairman, New Energy Capital
Dr. Barbara J. Burger	Corporate Graduate, Energy Director, Advisor and Innovator
Mr. Adrian Corless	CEO, Carbon Capture
Mr. Ted Craver	Former Chair, President, & CEO, Edison International
Mr. Michael DeBock	Vice President of Origination, NextEra Energy
Ms. Jayshree Desai	CFO, Quanta Services, Inc.
Ms. Keila Diamond	Managing Director and Head of ESG, Quantum Energy Partners
Mr. Bob Flexon	CEO, UGI Corporation
Mr. Jason Glickman	EVP Engineering, Planning & Strategy, PG&E
Mr. Jon Goldberg	Founder and CEO, Carbon Direct
Mr. Thad Hill	CEO, Calpine
Ms. Vicki Hollub	President & CEO, Oxy
Ms. Phoebe Ho-Stone	CCS Development Planner, ExxonMobil Low Carbon Solutions
Mr. Aaron Jagdfeld	CEO, Generac Power Systems
Mr. Mateo Jamarillo	Co-Founder & CEO, Form Energy Inc
Mr. Sanjeev Krishnan	Chief Investment Officer & Senior Managing Director, S2G
Mr. Pier LaFarge	Founder & CEO, Sparkfund
Mr. Tim Latimer	Co-Founder & CEO, Fervo Energy
Mr. Steve Lockard	Chairman, TPI Composites
Mr. Thomas McAndrew	Founder & CEO, Enchanted Rock
Dr. Shannon Miller	Founder & CEO, Main Spring Energy
Mr. Jeff McDermott	McDermott Capital
Mr. Stan Miranda	Founder & Chairman, Partners Capital
Mr. Nate Nickerson	Comms and Public Affairs Partner, DCVC
Ms. Lara Poloni	President, AECOM
Ms. Rachael Porter	CMO, Oxy
Mr. Miguel Prado	CEO, energyRe
Ms. Heather Redman	Co-Founder & Managing Partner, Flying Fish Partners
Ms. Starlee Sykes	CEO, Archaea Energy at BP
Mr. Dan Tishman	Chairman & Principal, Tishman Realty & Construction
Mr. Ignacio (Nacho) Torras	President & CEO, Tricon
Ms. Jessica Uhl	President, GE Vernova
Mr. Al Vickers	COO, Grid United
Mr. Andy Waite	Managing Partner - SCF Partners
Mr. Daniel Weiss	Co-Founder and Managing Partner, Angeleno Group
Mr. Jason Wells	President & CEO, CenterPoint Energy

Industry	Role and company
Mr. Darryl Willis	Corporate VP of Energy & Resources, Microsoft
Dr. Mike Witt	VP & CSO, Northrop Grumman

Academia	Role and Company
Dr. Steven Barrett	Regius Professor of Engineering, Cambridge University
Dr. Naomi Boness	Managing Director, Stanford Natural Gas Initiative and Stanford Hydrogen Initiative
Dr. Neil Fromer	Executive Director of Programs, Resnick Sustainability Institute
Mr. Sam Hall	MBA Candidate, MIT Sloan School of Management
Mr. Britt Harris	Former CEO & CIO, UTIMCO
Mr. Ira Joseph	Global Fellow CGEP, Columbia University
Ms. Daniela Marin	PhD Candidate, Stanford University
Dr. Kenneth Medlock III	Senior Director, Center for Energy Studies at Rice University's Baker Institute
Dr. Dava Newman	Director, MIT Media Lab
Dr. Jonas Peters	Director, Resnick Sustainability Institute
Dr. Minoo Rathnasabapathy	Research Lead, Future Worlds, MIT Media Lab
Mr. Dan Reicher	Senior Research Scholar, Stanford Woods Institute for the Environment
Dr. Peter Schlosser	Vice President - Global Futures Initiative Vice Provost - Arizona State University
Mr. Ben Soltoff	Ecosystem-Builder/Entrepreneur in Residence, MIT's Martin Trust for MIT Entrepreneurship
Dr. Scott Tinker	Director, Bureau of Economic Geology at the University of Texas
Dr. Maya Tolstoy	Dean of the College of the Environment, University of Washington

Policy / Influence	Role and Company
Mr. Benji Backer	Executive Chairman & Founder, American Conservation Coalition
Mr. Jason Bordoff	Professor & Founding Director, Center on Global Energy Policy, Columbia University
Mr. David Crane	Under Secretary for infrastructure, United States Department of Energy
Dr. Reginald DesRoches	President, Rice University
Mr. Hal Harvey	Founder, Energy Innovation
Mr. Mac Heller	Documentary Film Producer
Mr. John Hickenlooper	Former Governor and Current US Senator, State of Colorado

Policy / Influence	Role and Company
Mr. Joe Kennedy III	President, Citizens Energy
Mr. Robert Johnston	Executive Director, Columbia Center on Global Energy Policy
Ms. Janet Napolitano	Former President, University of California System
Mr. Rob Shepardson	Co-Founder, SS+K
Mr. Lenny Stern	Co-Founder, SS+K

NGO	Role and Company
Dr. Doug Arent	Executive Director, Strategic Public Private Partnerships, NREL
Mr. Armond Cohen	Executive Director, Clean Air Task Force
Ms. Karlynn Cory	Group Manager - Community Energy Transitions, NREL
Ms. Myrtle Dawes	CEO, Net Zero Technology Centre
Mr. Jason Grumet	CEO, American Clean Power Association (ACP)
Ms. Jennifer Layke	Global Director – Energy, World Resources Institute
Mr. Tom Light	President & CEO, Aviation Climate Taskforce
Dr. Lara Pierpoint	Director of Early Climate Infrastructure, Prime Coalition
Mr. David Pruner	Executive Director, TEX-E
Mr. Larry Selzer	President & CEO, The Conservation Fund
Dr. Cyrus Wadia	CEO, Activate
Mr. Brady Walkinshaw	Founder & Publisher, Noisy Creek
Mr. Kurt Waltzer	Former CEO, Clean Air Task Force
Mr. Pablo Vegas	CEO, ERCOT

Hosts	Role and Company
Mr. David Baldwin	OpenMinds Co-Founder	Partner, SCF Partners
Mr. Jeff Katz	OpenMinds Co-Founder	Founding Chairman & CEO, Orbitz / Journera
Ms. Maire Baldwin	Board Director, Permian Resources
Ms. Mara Abbott	Chief of Staff, OpenMinds
Mr. James Baird	Associate Partner, Bain & Company
Mr. Jason Corzine	President & CEO, Telluride Foundation
Mr. Julian Critchlow	Advisory Partner, Bain & Company
Mr. Grant Dougans	Partner, Bain & Company
Ms. Emily Emmett	Partner, Bain & Company
Mr. Peter Guarraia	Partner, Bain & Company
Mr. Preston Henske	Partner, Bain & Company
Ms. Cate Hight	Partner, Bain & Company
Mr. Fred Kittler	Co-Founder and Managing Director, Firelake Capital Mgmt.
Ms. Dianne Ledingham	Advisory Partner, Bain & Company
Mr. Paul Major	Board Member & Manager, Paradox Community Trust
Mr. Joseph Scalise	Partner, Head of Global Energy & Natural Resources Practice, Bain & Company
Mr. Crosby Scofield	Partner, Vinson and Elkins
Ms. Erika Serow	Partner and CMO, Bain & Company
Mr. Michael Short	Partner, Bain & Company

... and many more

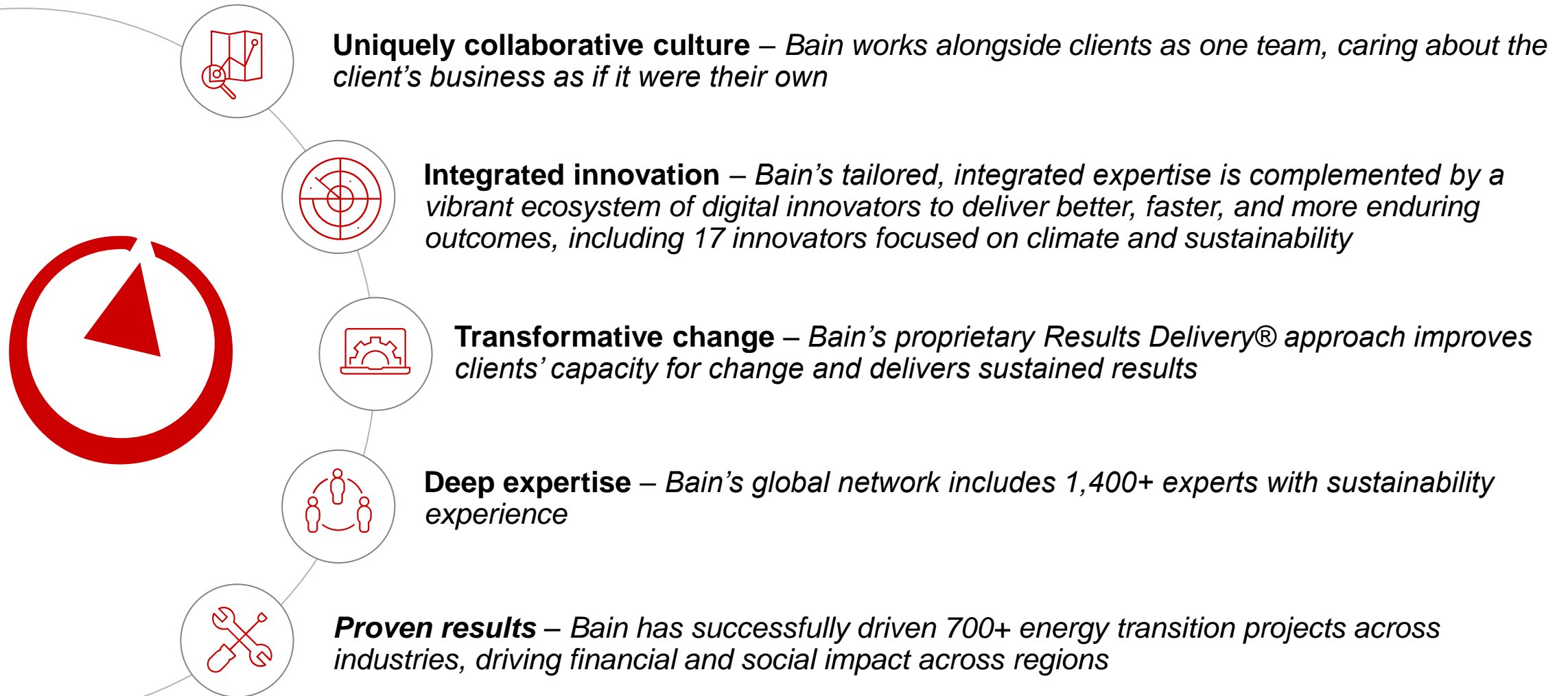# Collaboration with Complementary Strengths

OpenMinds has a diverse, non-partisan network of climate & energy leaders and a focus on impact by 203X…

…Bain supplements with global scale, deep industry expertise, and advanced analytics capabilities

OpenMinds

BAIN & COMPANY

Overview of Bain's Energy Transition Capabilities

Uniquely collaborative culture – *Bain works alongside clients as one team, caring about the client's business as if it were their own*

Integrated innovation – *Bain's tailored, integrated expertise is complemented by a vibrant ecosystem of digital innovators to deliver better, faster, and more enduring outcomes, including 17 innovators focused on climate and sustainability*

Transformative change – *Bain's proprietary Results Delivery® approach improves clients' capacity for change and delivers sustained results*

Deep expertise – *Bain's global network includes 1,400+ experts with sustainability experience*

Proven results – *Bain has successfully driven 700+ energy transition projects across industries, driving financial and social impact across regions*

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The Dual Challenge: An Overview

Energy is fundamental to human wellbeing and flourishing…

… but our primary energy sources, fossil fuels, are also the principal source of human greenhouse gas emissions, which **cause global warming**

The tension between energy supply and climate change presents the **Dual Challenge**

This is a **global** problem of enormous **scale and complexity**, and addressing it will require us to balance **competing priorities**

Energy Drives Human Well Being and Longevity

Global energy consumption

PETAWATT-HOURS

Global GDP

TRILLIONS OF CONSTANT 2017
INTERNATIONAL USD, PPP ADJUSTED

~8x Approximate increase in the world population

~3x Approximate increase in average life expectancy

World population

1.0B → 8.2B

Average life expectancy

29yrs. → 73yrs.

Note: GDP is adjusted for purchasing power parity. Sources: BP Statistical Review of World Energy 2021; Vaclav Smil, *Energy Transitions: Global and National Perspectives,* 2017;
Maddison Project Database, version 2020. Bolt, Jutta and Jan Luiten van Zanden (2020), "Maddison style estimates of the evolution of the world economy. A new 2020 update"; World Bank; Our World in Data

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Growth in Energy Consumption

Global primary energy consumption by source
(measured in petawatt-hours)

+1.9% per year

78% fossil fuel share in 1990

77% fossil fuel share in 2023
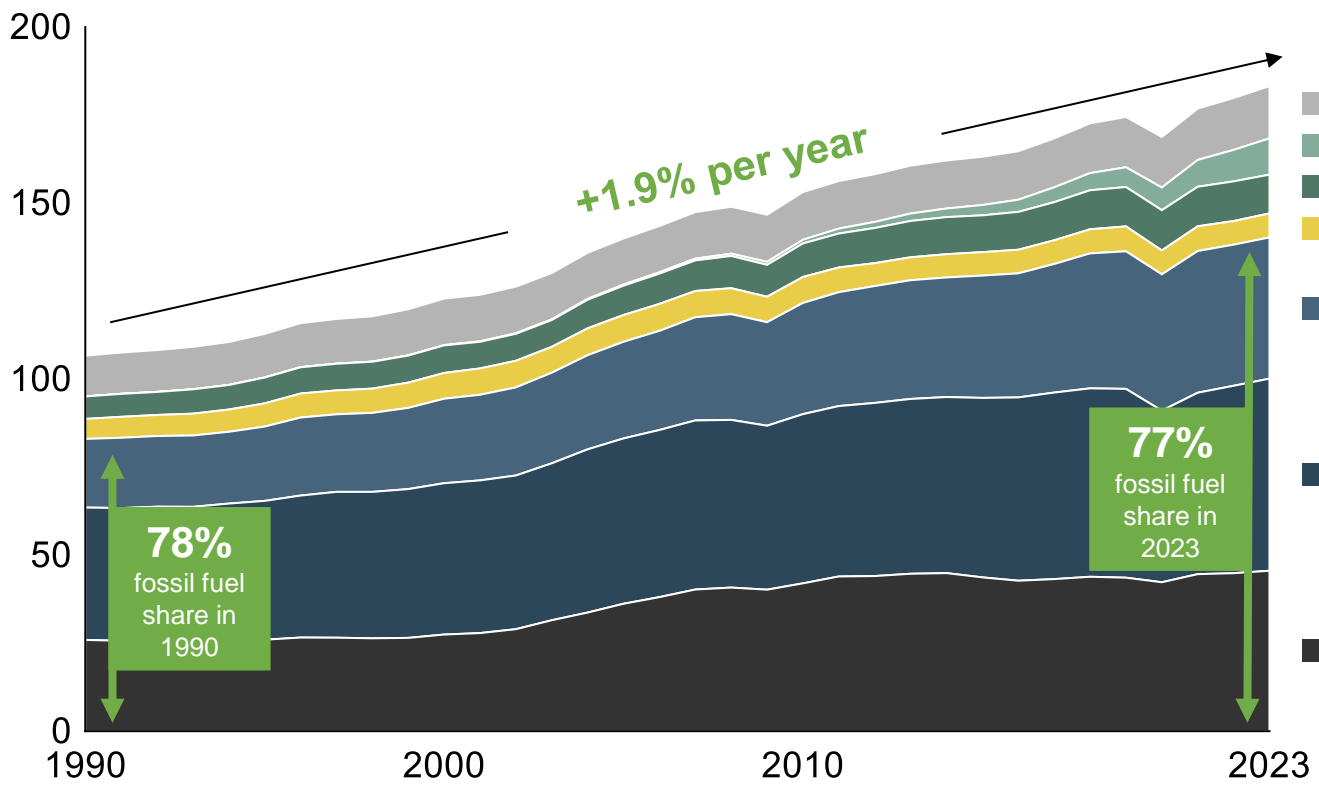
	% of total		Share of 1990-2023 demand growth
	1990	**2023**	
Other*	11%	8%	4%
Wind & solar	0%	6%	**13%**
Hydro	6%	6%	6%
Nuclear	5%	4%	1%
Gas	18%	22%	**27%**
Oil	35%	30%	**22%**
Coal	24%	25%	**26%**
	100%	100%	100%

Note: * Other includes traditional biomass, biofuels, and other renewables
Source: Our World in Data *Energy Mix*

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Human Activities Driving Greenhouse Effect

Making things
cement, steel, plastic
33%

Plugging in
electricity generation
28%

53
billion tons
of greenhouse gases emitted globally in 2023

Keeping warm and cool
heating, cooling, refrigeration
7%

Getting around
planes, cars, trucks, cargo ships
16%

Growing things
plants, animals
16%

77% share of total emissions accounted for by **fossil fuels (coal, oil, gas) combustion**
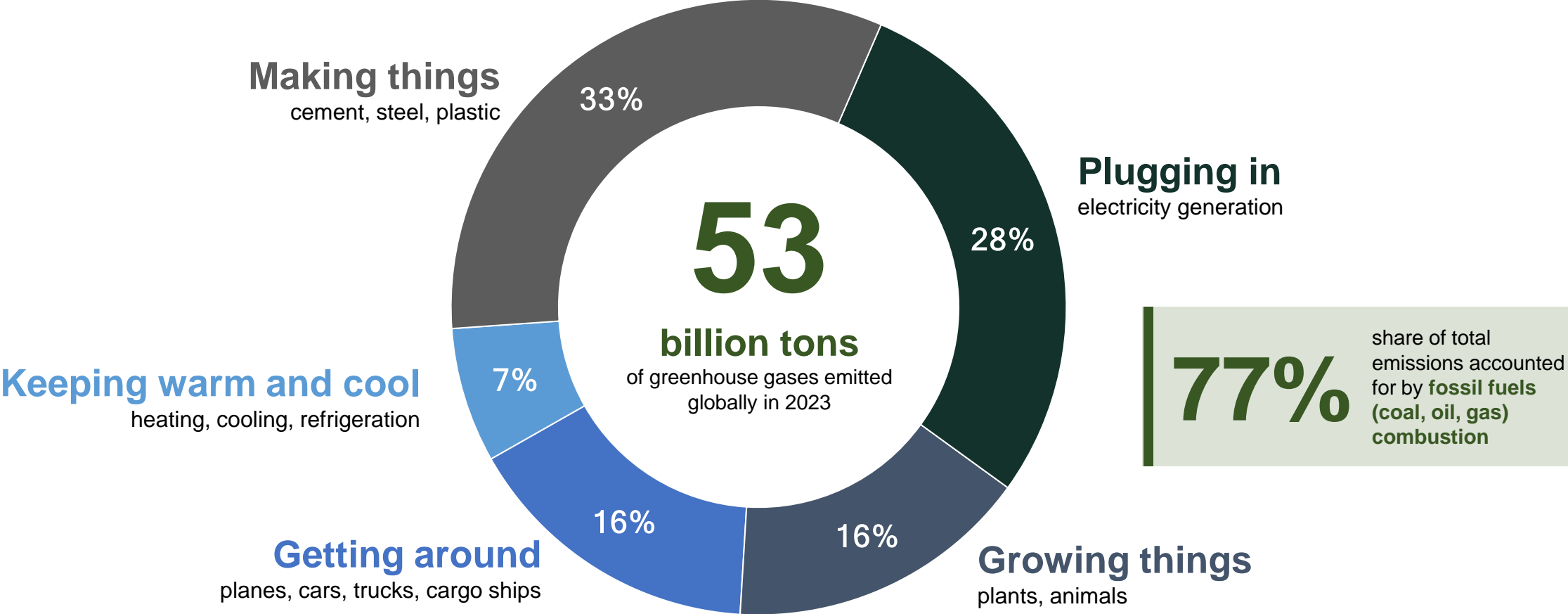
Note: Emissions measured in tons of CO_2-equivalent and include carbon dioxide, methane, nitrous oxide, and f-gases
Source: Bill Gates, *How to Avoid a Climate Disaster* (2021); EDGAR *GHG emissions of all world countries, 2024 report*

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Required Emissions Reduction

Global greenhouse gas emissions

(measured in billions of tons of CO_2-equivalent)

53

80-90%

9

60-70%

21

Current annual emissions

Limit warming to 1.5°C

Limit warming to 2°C

Current

2050: IPCC Scenarios (AR6)
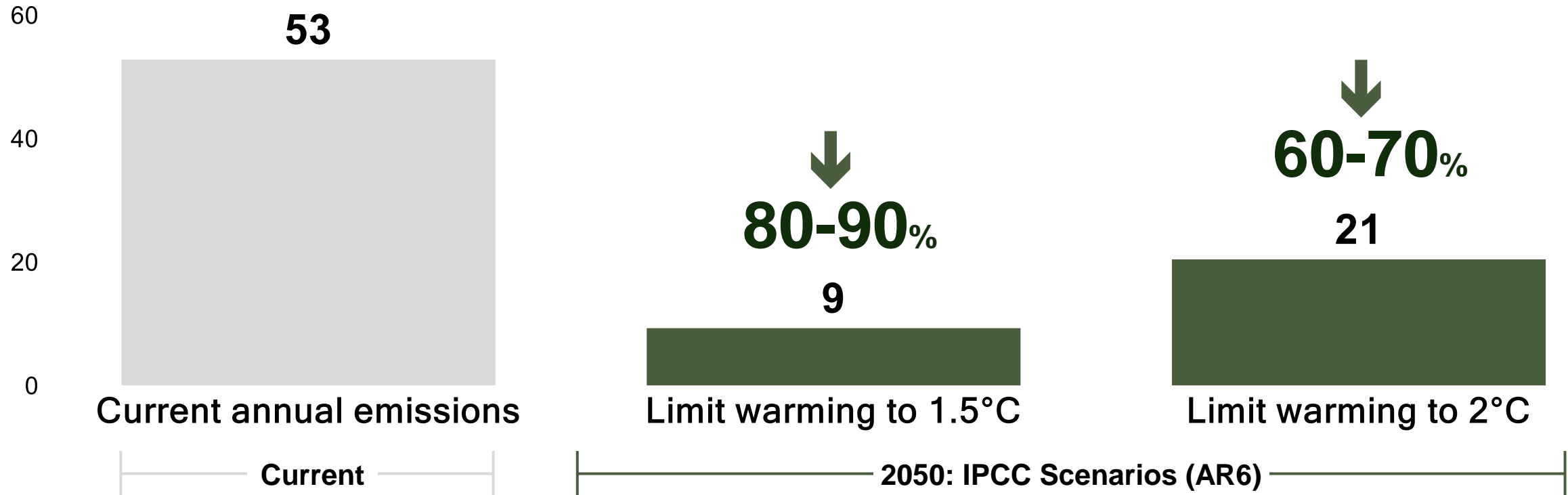
Note: 1.5°C scenario refers to "Limit warming to 1.5 °C (>50%) with no or limited overshoot" scenario in IPCC; 2 °C scenario refers to "Limit warming to 2 °C (>67%)" scenario. ">50%" and ">67%" refer to probability of reaching scenario should emissions reduction targets be reached

Source: IPCC, Sixth Assessment Report (AR6), Climate Change 2022: Mitigation of Climate Change – Summary for Policymakers, Table SPM.1 (2022); EDGAR *GHG emissions of all world countries, 2024 report*

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A Two-Track World on Emissions

Annual CO_2e emissions by country or region[1]
(measured in billions of tonnes of CO_2e)

■ 1990 ■ 1995 ■ 2000 ■ 2005 ■ 2010 ■ 2015 ■ 2022

← Developed countries

15% population

Developing countries →

85% population

North America: 7 7 8 8 7 7 7

EU27 and UK: 6 5 5 5 5 4 4

East Asia and Pacific (ex China): 3 3 3 3 3 3 3

Latin America and Caribbean: 4 5 5 6 5 5 5

Sub-Saharan Africa: 2 3 3 3 4 4 4

Europe and Central Asia (ex EU27 and UK): 6 4 3 4 4 4 4

China: 4 5 5 8 11 12 14

India: 2 2 2 2 3 3 4

Southeast Asia: 2 3 3 3 3 5 4

Middle East and North Africa: 2 2 2 3 3 4 4

South Asia (ex India): 0 0 1 1 1 1 1

2000-2022 trajectory:
- North America: ↘
- EU27 and UK: ↘
- East Asia and Pacific (ex China): →
- Latin America and Caribbean: ↘
- Sub-Saharan Africa: ↗
- Europe and Central Asia (ex EU27 and UK): ↗
- China: ↗
- India: ↗
- Southeast Asia: ↗
- Middle East and North Africa: ↗
- South Asia (ex India): ↗

Note: (1) Emissions include carbon dioxide, methane, and nitrous oxide from all sources, including land-use change
Source: Our World in Data

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Transitions Take Decades

Years until supplying 25% of global primary energy supply

(share of global primary energy supply)

35 years — 1840 — **Coal**

40 years — 1915 — **Crude oil**

55 years — 1930 — **Natural gas**

? — 2015 — **Wind & solar**
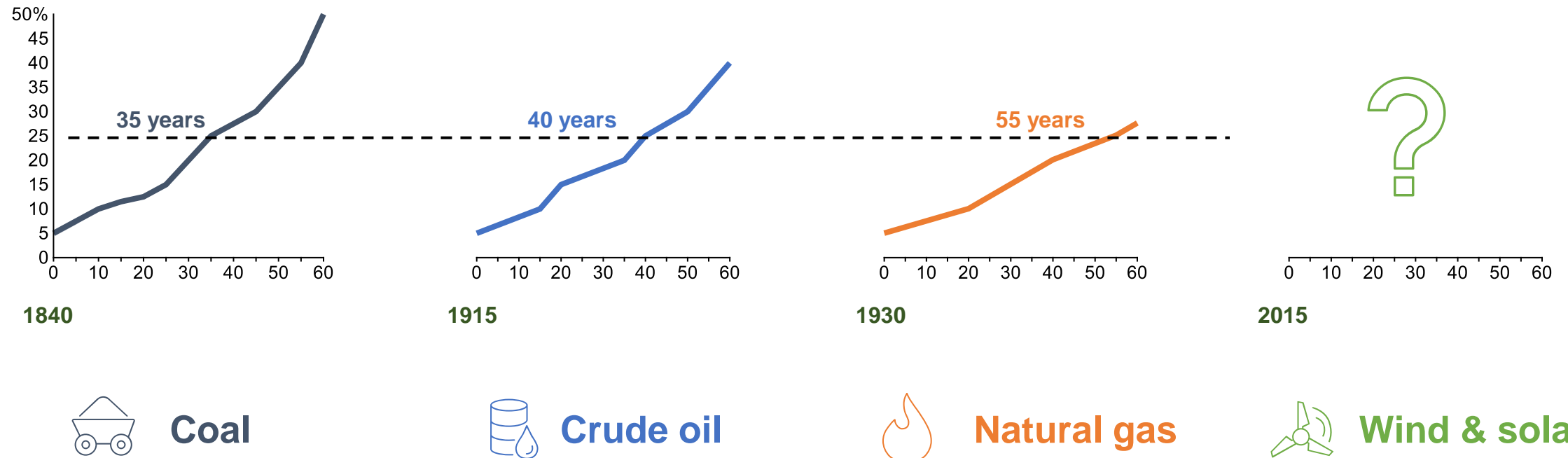
Note: Based on time from 5% to 25% of global energy supply
Source: Vaclav Smil, *Energy Transitions: Global and National Perspectives* (2017)

The Core of the Dual Challenge

Energy Will Grow ▶ Emissions Must Decline ▶ The Dual Challenge

Global primary energy demand
(petawatt-hours)

Path to 2050

2022
2010
2000
1990
1980
1970

Global GDP
(trillions of constant 2015 USD)

Global annual greenhouse gas emissions
(gigatons of CO_2-equivalent)

Trend from implemented policies (2.5°C–3.5°C)

Limit warming to 2°C

Limit warming to 1.5°C

Year

Global CO_2e emissions
(gigatons of CO_2e)

2022
2010
2000
1990
1980
1970

Global Primary Energy Demand
(petawatt-hours)
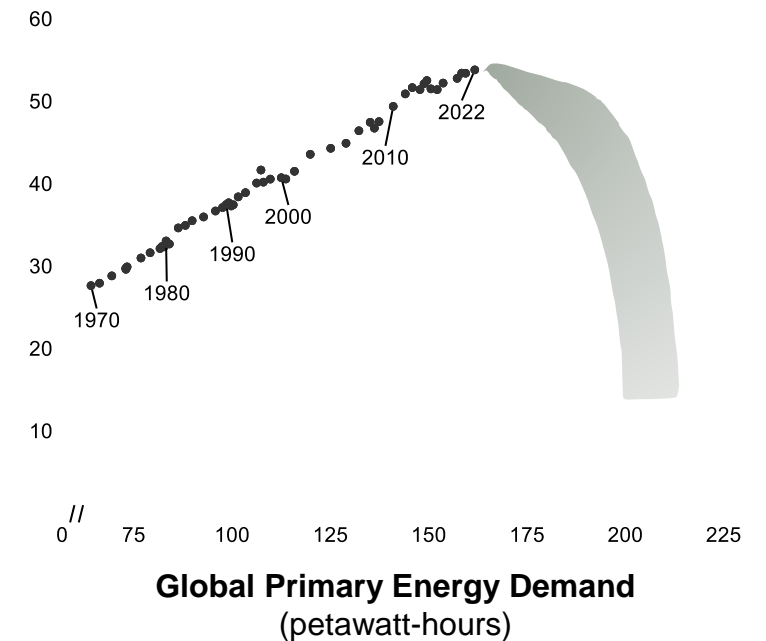
Note: Warming figures in middle-side emissions chart are relative to the preindustrial period and reflect projected warming level by 2100 in each scenario; bold lines in emissions chart represent median estimate, and shaded regions reflect a range from the 25th to 75th percentile. Emissions in right-side chart reflect global CO_2 emissions inclusive of land use change.
Sources: IPCC, Sixth Assessment Report; World Bank; Our World in Data

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Our Task: Change the Trajectory of Emissions

Global CO$_2$e emissions
(gigatons of CO$_2$e)

60

40

20

1970

1980

1990

2000

2010

2023

0   50   100   150   200   250

Global primary energy demand
(petawatt-hours)
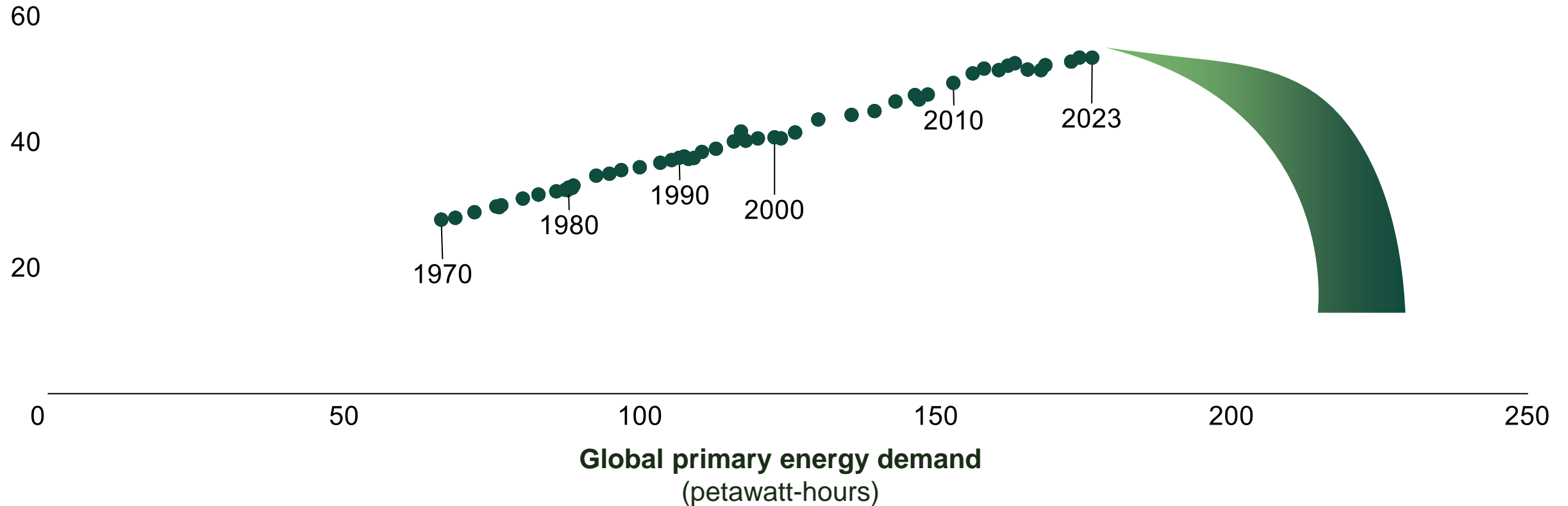
DISCUSSION AGENDA

01
An Introduction
to OpenMinds

02
Defining the
"Dual Challenge"

03
**Confronting the
"Dual Challenge"**

04
OpenMinds Strategy
and Path Forward

Our Solutions Approach

1

Where are emissions coming from?

Understand energy sources, consumption patterns, and emissions to spot crucial action areas

2

What are the tradeoffs of each solution?

Identify and systematically evaluate a long list of potential technical solutions

3

What is the most efficient pathway?

Identify the solutions with the highest potential for impact through 203X

4

How do we drive impact globally?

Assess solution feasibility at a country-level, based on varying resources and priorities, to calibrate deployment rates

Accelerate progress against the Dual Challenge by 203X

Analysis of Emissions and Energy Consumption

Energy and Emissions

By end use / By source	Industry — Iron/steel, (petro)chemical, machinery, construction, etc.			Transport — Road, aviation rail and pipeline			Buildings — Residencial and commercial buildings			Agriculture — Agriculture and fishing			Other — Non-specified and non-energy sources			Total	
	Energy	Emission	En/Em	Energy	Emission	En/Em	Energy	Emission	En/Em	Energy	Emission	En/Em	Energy	Emission	En/Em	Energy	Emission
E N E R G Y																	
Electricity/heat	18%	12%	-	<1%	0%	-	20%	12%	-	1%	1%	-	2%[1]	7%[2]	-	42%	32%
Coal	8%	8%	🔴	<1%	0%	🔴	9%	8%	🔴	<1%	<1%	🔴	<1%	5%	🔴	18%	21%
Oil products and oil	<1%	<1%	⚪	-	-	-	<1%	<1%	⚪	-	-	-	-	-	-	<1%	1%
Natural gas	4%	3%	⚪	-	-	-	5%	3%	⚪	-	-	-	<1%	1%	⚪	10%	7%
Bio/waste[6]	<1%	<1%	🔴	-	-	-	1%	<1%	🔴	-	-	-	-	-	-	2%	2%
Nuclear	3%	<1%	⚪	-	-	-	3%	<1%	🟢	-	-	-	-	-	-	6%	<1%
Renewables[7]	2%	<1%	⚪	-	-	-	2%	<1%	🟢	-	-	-	<1%	<1%	🟢	5%	<1%
Direct combustion	14%	13%	-	22%	17%	-	14%	6%	-	<1%	<1%	-	8%[3]	7%[4]	-	58%	44%
Coal	6%	6%	🔴	-	-	-	1%	<1%	⚪	-	-	-	<1%	1%	🔴	7%	7%
Oil products and oil	2%	2%	🔴	20%	16%	⚪	2%	1%	⚪	<1%	<1%	🔴	6%	5%	⚪	31%	24%
Natural gas	5%	3%	⚪	<1%	<1%	🔴	5%	2%	⚪	-	-	-	1%	1%	🔴	12%	6%
Bio/waste	1%	2%	🔴	<1%	1%	🔴	6%	3%	⚪	-	-	-	-	-	-	8%	6%
N O N - E N E R G Y																	
Industrial processes	-	6%	N/A	-	-	N/A	-	-	N/A	-	-	N/A	-	-	N/A	N/A	6%
Agriculture	-	-	N/A	-	-	N/A	-	-	N/A	-	12%	N/A	-	-	N/A	N/A	12%
Other	-	-	N/A	-	-	N/A	-	-	N/A	-	-	N/A	-	7%[5]	N/A	N/A	7%
Total	32%	31%		22%	17%		34%	18%		2%	13%		10%	21%		100%	100%

Key impact areas

- (A) **Electricity** generation from **fossil fuels**
- (B) Oil and oil products for **transportation**
- (C) Energy usage in **buildings**
- (D) **Fugitive emissions**
- (E) **Industrial processes**
- (F) **Energy supply needs to expand in a lower carbon manner to support economic growth in the developing world**

Legend:
- ▭ Key impact areas
- 🟢 High Energy/Emissions ratio
- ⚪ Moderate Energy/Emissions ratio
- 🔴 Low Energy/Emissions ratio

Note: Data reflected above is for 2019. Energy data reflects primary energy and emissions data reflects greenhouse gas emissions in terms of CO_2 equivalent. 1: Electricity/heat going to non-specified and non-energy uses, 2: Unallocated fuel combustion for electricity, 3: Energy going to non-specified and non-energy uses, 4: Emissions from energy production and fugitive emissions, 5: Emissions from LUCF and food waste (6%), 6: Includes traditional biomass and animal materials/waste 7: Includes geothermal, solar/tide/wind, and hydro, CO_2 equivalent includes methane and nitrous oxide emissions. **Figures are directional.**
Sources: IEA, WRI , Climate Watch, German Environment Agency; EIA

Emissions and Energy Consumption by Country Archetype

Total emissions by archetype

Percent of CO_2e emissions – 2023

	Resource abundant	Resource deficient	China	India	Resource abundant	Resource deficient	Rest of World
% of emissions	**20%**	8%	**31%**	**8%**	**23%**	5%	4%
% of final energy consumption	**26%**	13%	**28%**	**6%**	**21%**	4%	3%
% of population	**8%**	7%	**18%**	**18%**	**21%**	11%	16%
	Advanced economies		**Emerging economies**				
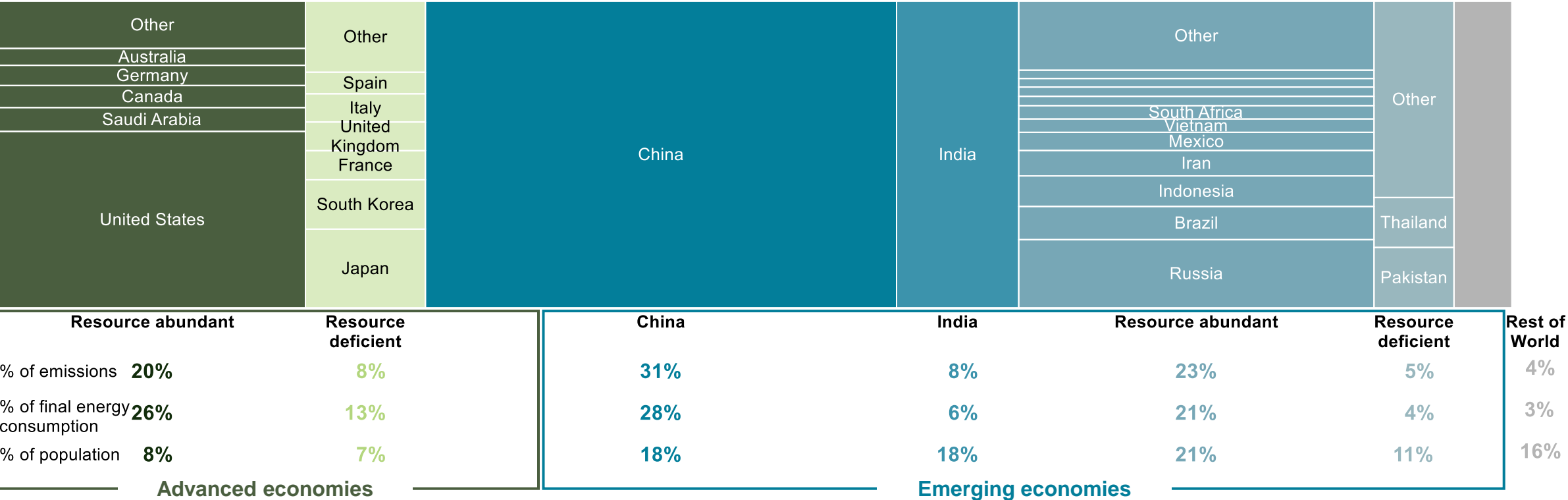
Note: Countries are grouped into archetypes by level of development and resource abundance. CO_2 emissions includes land use, land use change, and forestry
Source: EDGAR *GHG emissions of all world countries, 2024 report;* Our World in Data

Prioritization of Potential Solutions
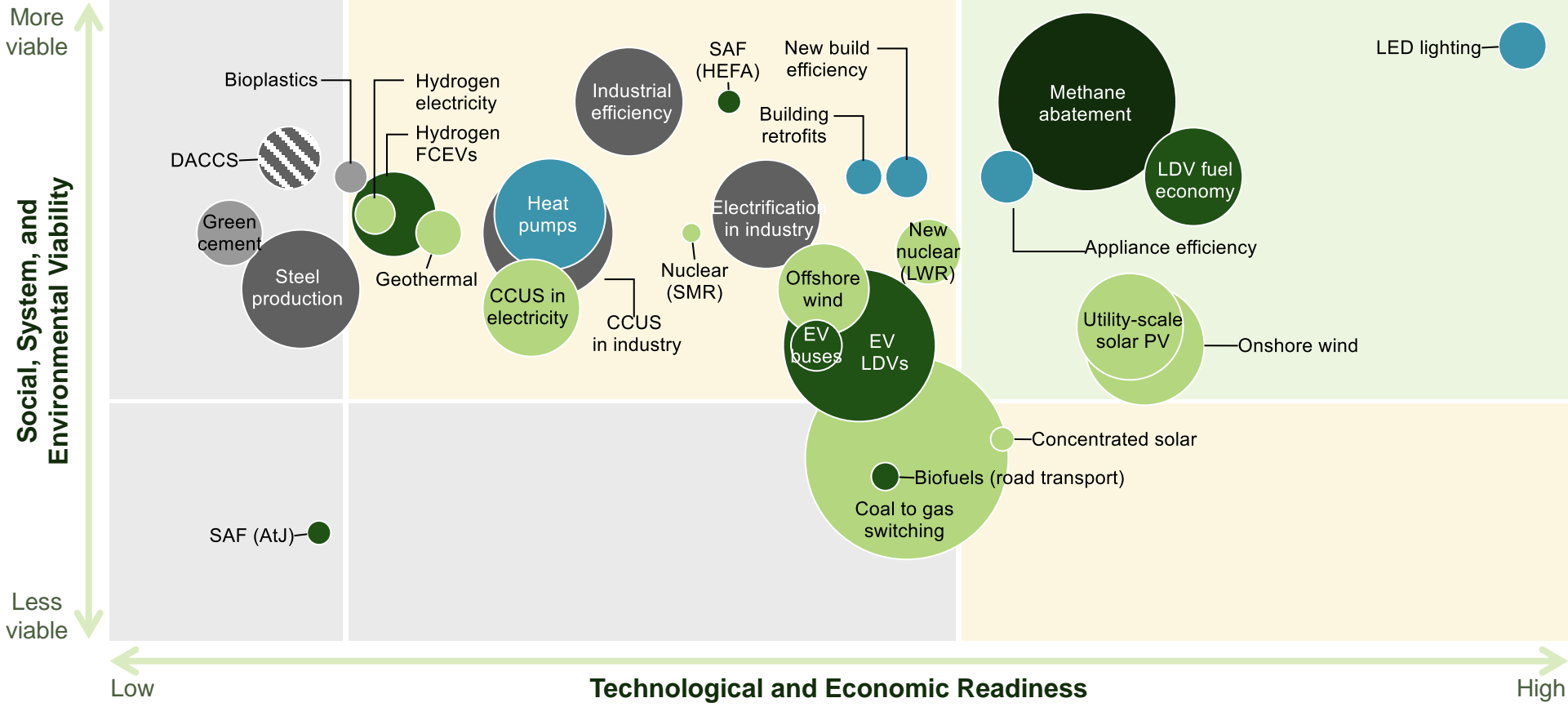
Prioritized by:

- Low cost
- Deployment speed
- Abatement potential

Legend:
- Electricity generation from fossil fuels
- Oil and oil products for transportation
- Energy usage in buildings
- Fugitive emissions
- Industrial processes
- Other

1.5 GtCO₂e — Medium-term annual CO₂e abatement potential

OpenMinds' Top 10 Solutions

Cost effective, ready now

Big 4 opportunities

Abating methane emissions from energy	Renewables (i.e., solar and wind)	Coal-to-X switching	CCUS in electricity and industry
Transportation energy efficiency	Industrial efficiency and electrification	Electric LDVs	Heat pumps
		LED lighting	Buildings efficiency

Longer timeline to full potential

Behavioral change	Adaptation		
Distributed generation	Green steel and cement	Nature-based solutions	Hydrogen
New and existing nuclear	Direct air capture	Geothermal	Circular economy

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Impact of Implementing Key Solutions

Projected emissions impact

GIGATONS OF CO_2E PER YEAR

FORECAST

60

55

50

2020   2025   2030   2035
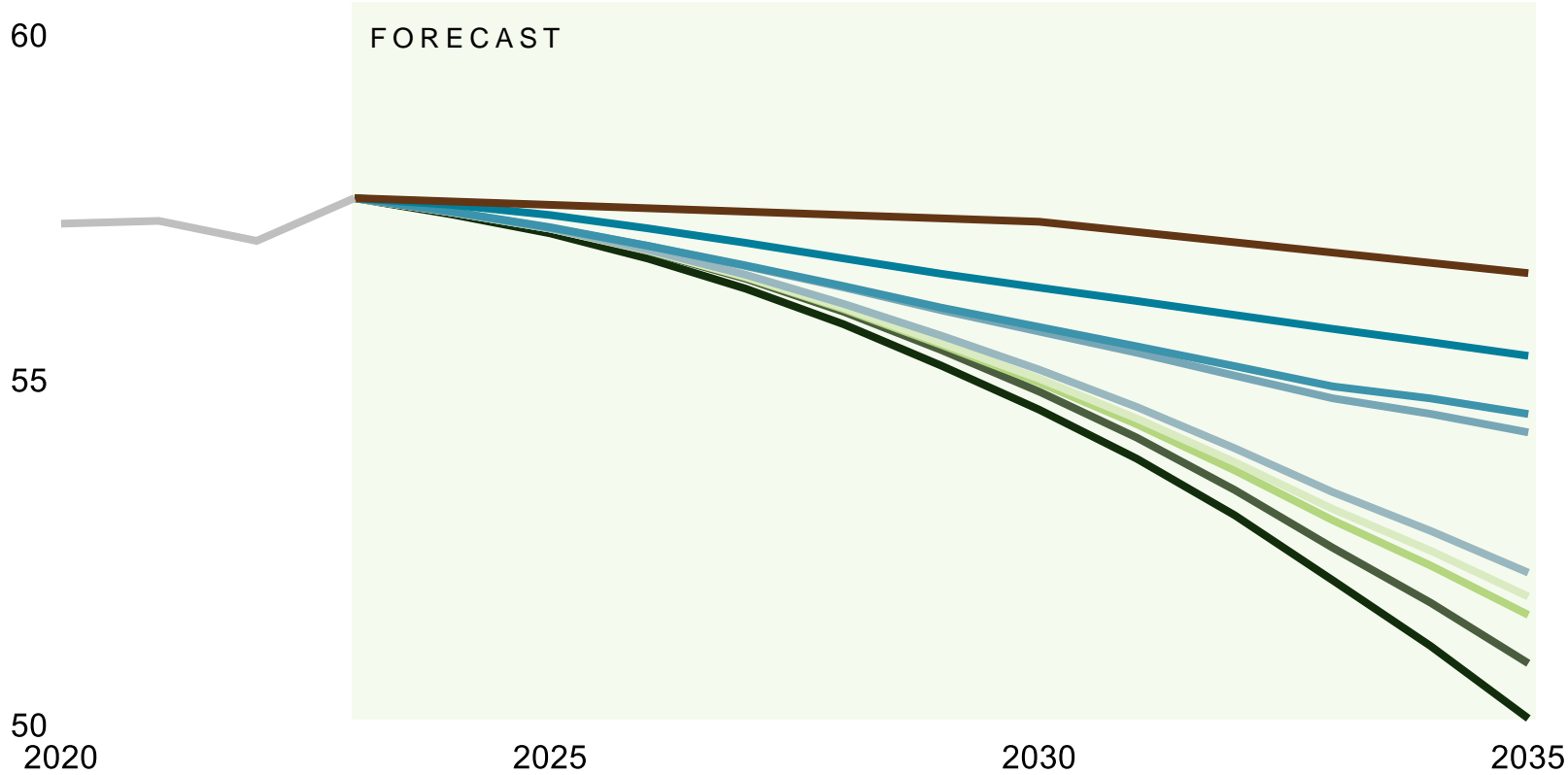
Baseline

+

Methane abatement

+

Coal-to-X switching

+

CCUS in electricity & industry

+

Renewables

+

Nuclear

+

Transportation efficiency

+

Transport electrification

+

Buildings and industry efficiency and electrification

01

An Introduction
to OpenMinds

02

Defining the
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OpenMinds Strategy
and Path Forward

OpenMinds' Impact Strategy

Mission

More energy. Less emissions. By 203X.

2035 Goals

Break the emissions growth trend and accelerate decline.

Geographies

Phase 1 (2024-2026)	Phase 2 (2026-2030)	Long-term (2030+)

Accelerate US →

EU / UK →

Asia →
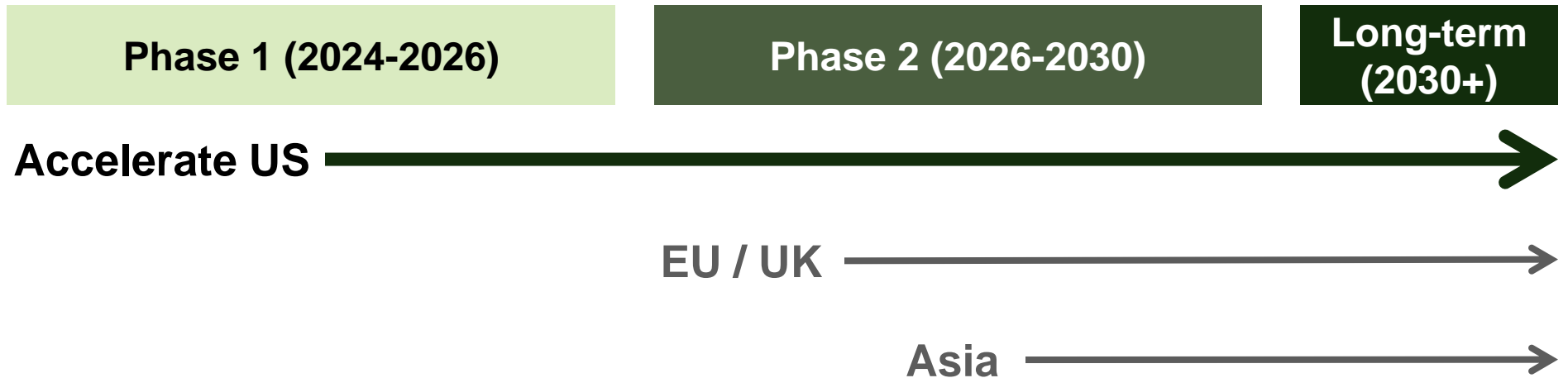
OpenMinds: Transitioning to Impact in 2024+

1

2

3

4
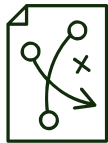
2022 - Define

More energy.
Less emissions.
By 203X.

2023 - Solve

Data-driven.
Solutions pathway.
Cost, speed, scale.

2024 - Impact

8 projects.
Removing bottlenecks.

2025 plus - Scale

Additional projects.
Global reach.

OpenMinds + Bain = Differentiated Impact
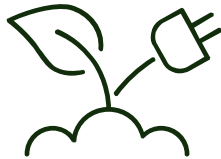
Energy and Climate

125+ Experts Across Key Energy and Climate Sectors
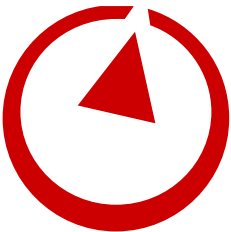
Bain Collaboration

Data-Driven
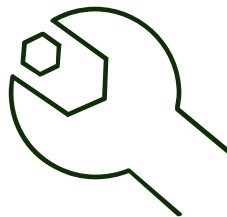
Practical Solutions Framework and 10-Year Horizon
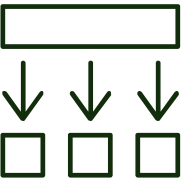
Impact Projects Targeting Key Bottlenecks

We're Bending the Emissions Curve, Yet Face a Big Gap

Global CO$_2$ emissions (Gt CO$_2$)

Forecast

+0.9% CAGR

'P50' Outlook: -0.2% CAGR

IEA APS Scenario: -3.4% CAGR (1.8°C case)

40

30

20

10

0

2010   2015   2020   **2023**   2025   2030   2035

'P50' Outlook   IEA APS
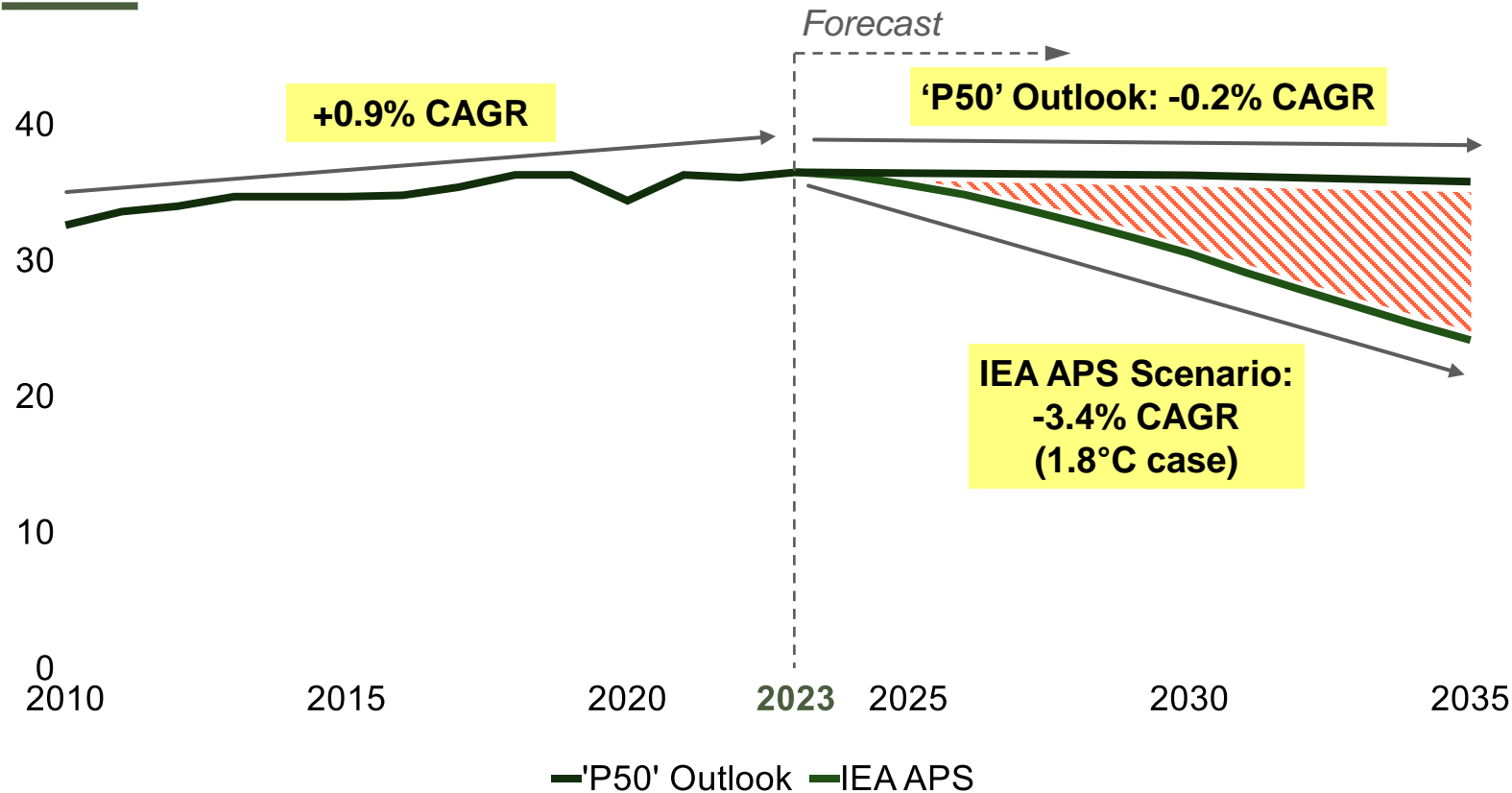
The gap through 2035

~66Gt
Total global CO$_2$ emissions gap between the 'P50' Outlook and 1.8°C scenario

-14%
Total global CO$_2$ emissions reduction needed to stay on track from '23-'35

What's Needed to Close the Gap in the US

More Firm and Low-Carbon Generation

Cleaner Fossil Fuel Power

Expanded Transmission

Energy Efficiency and Electrification
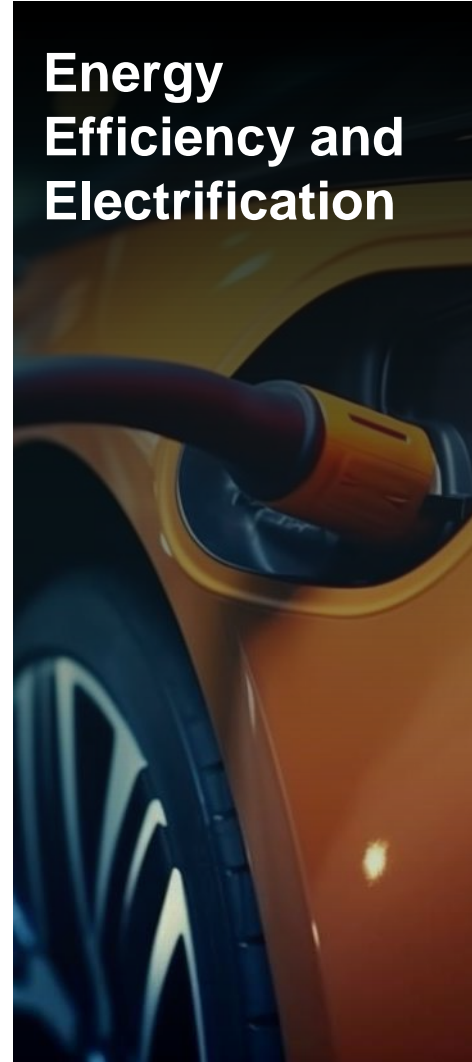
New Generation of Leaders
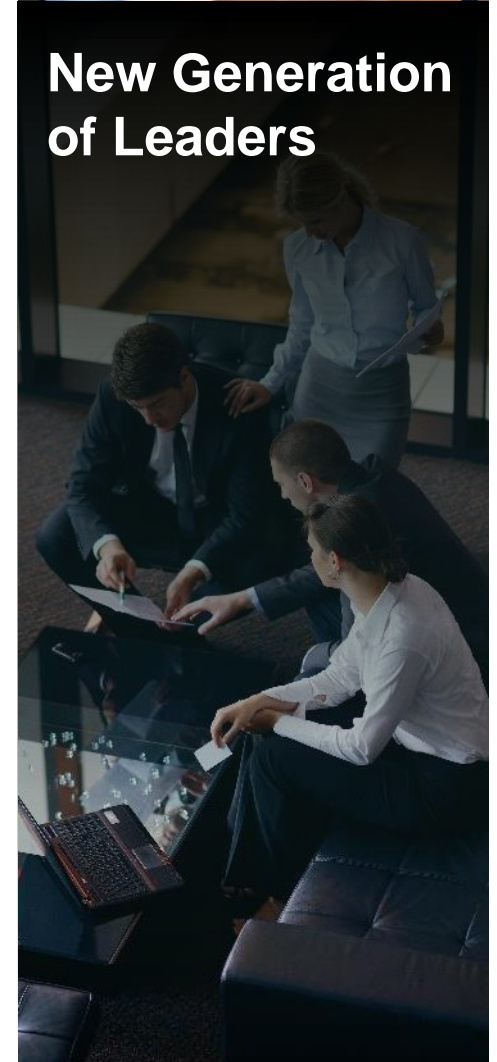
OpenMinds' Impact Projects – Removing Key Bottlenecks

More Firm and Low-Carbon Generation

Meet AI Demand with Renewables

Create the Market for Multi-Day Storage

Segment Direct Air Capture Customers

Cleaner Fossil Fuel Power

Quantify CCUS Economics

Prove and Catalyze CCS

Incentivize Methane Abatement

Evaluate Coal-to-X Switching Full Potential

Expanded Transmission

Accelerate Transmission Permitting Reform

Catalyze Transmission Investment

Improve Community Benefits of Transmission

Energy Efficiency and Electrification

To be determined

New Generation of Leaders

Launch NextGen Program

Scale the NextGen Community

Trusted Source of Information and Progress

OpenMinds

OpenMinds' 2025 Impact Projects

OBJECTIVE

Remove key bottlenecks to the highest-priority Dual Challenge solutions

KEY TENETS

- Target a meaningful bottleneck
- Ensure strong sponsorship guiding an expert team
- Create uniquely additive impact
- Demonstrate measurable success within one year

APPROACH

Energy and climate experts design and execute projects guided by our solutions framework, 2035 forecasts, and our data-driven, non-partisan approach

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Decarbonizing Generation

1 Prove and Catalyze CCUS for Gas

Mission: Enable producers, customers, & value chain coalitions to speed learning, simplify profitability, and spur projects

Year 1 Success: Key customer publicly commits to power generated w/ CCUS; Value chain coalition formed; Published perspective on scaling CCUS

Long-term Success: Develop scalable, actionable model to get 5+ FIDs by 2032

Team: Calpine, Clean Air Task Force, Oxy

2 Create the Market for Multi-Day Storage

Mission: Prove value of MDS capacity value through a dedicated ISO auction

Year 1 Success: ISO commitment to define clean, firm capacity & auction; Engage two other ISOs on similar actions; Published perspective on scaling MDS

Long-term success: X MW of MDS installed in first ISO by 2028; X MW of MDS installed in US by 2035

Team: Form Energy, energyRe

Connecting America

3 Accelerate Transmission Permitting Reform

Mission: Prove transmission infrastructure climate, energy, and community benefits to key audiences to quicken deployment

Year 1 Success: Develop economic benefits model for 4 transmission projects; Engage key decision-makers by sharing public model and supporting data *(completed)*

Long-term Success: *Post-EPRA KPIs in development, project relaunch Spring 2025*

Team: Conservation Fund, New Energy Capital, Grid United

4 Improve Community Benefits of Transmission

Mission: Improve community benefits of transmission to shorten project timelines and provide trusted, long-term host value

Year 1 Success: Publish case studies on successful in-construction projects; Prioritize and determine implementation plan for states that would benefit most; Host stakeholder session to deploy findings

Long-term Success: *KPIs in development*

Team: Clean Air Task Force, Conservation Fund, Grid United, EDF, NRDC

Communicating to Accelerate Impact

5 Develop a Dual Challenge Dashboard

Mission: Establish a simple, ubiquitous progress tracker relied upon by top decision-makers

Year 1 Success: Develop a prototype for revision at OM25; Public launch by EOY25

Team: MIT, OpenMinds Staff, *others TBD*

6 Advance OpenMinds' Launch

Misson: Host OpenMinds' strategic public debut

Year 1 Success: Social media presence; OM25; Earned hit in target publication

Long-term Success: Top trusted voice for best-in-class Dual Challenge comms

Team: Google, DCVC, SS+K, Oxy, Univ. of Washington, ACC, Noisy Creek

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Developing NextGen Leaders

7 Launch the NextGen Program

Mission: Connect and empower the second cohort of the next generation of energy and climate leaders

Year 2 Success: Select next ~30 for Leadership Program; Adapt program based on Year 1 feedback; Define next 6 sponsor projects aligned with other impact efforts

Team: 16+ universities, with academics from Stanford, MIT, Columbia, CalTech, Rice, UW

8 Scale the NextGen Community

Misson: Create a strong cohort of 300 leading young entrepreneurs, leaders, and activists to drive a successful energy transition over multiple decades

Long-term Success: 300+ NextGen Leaders having completed the program, and connected to each other and to broader OpenMinds experts

Team: 16+ universities, with academics from Stanford, MIT, Columbia, CalTech, Rice, UW

OpenMinds Impact Project Leadership

Decarbonizing Generation

Steve Lockard
Chairman
TPI Composites
Co-Leaders

Kurt Waltzer
Principal
Energy Systems Innovation Consulting

Dr. Doug Arent
Executive Director,
Strategic PPPs
NREL

Adrian Corless
CEO
Carbon Capture

Myrtle Dawes
CEO
Net Zero Technology Centre

Michael DeBock
VP of Origination
NextEra Energy

Jon Goldberg
Founder & CEO
Carbon Direct

Thad Hill
CEO
Calpine

Mateo Jamarillo
CEO
Form Energy

Thomas McAndrew
Founder & CEO
Enchanted Rock

Jeff McDermott
Entrepreneur /
Sustainable Technology
and Infrastructure

Stan Miranda
Founder & Chairman
Partners Capital

Dr. Jonas Peters
Director
Resnick Sustainability Institute, Caltech

Heather Redman
Co-Founder and
Managing Partner
Flying Fish Partners

Jessica Uhl
President
GE Vernova

Jason Wells
CEO
CenterPoint Energy

Darryl Willis
Corporate VP of Energy
& Resources Industry
Microsoft

Preston Henske
Partner
Bain & Company
Bain Lead

Connecting America

Larry Selzer
President & CEO
The Conservation Fund
Co-Leaders

Scott Brown
Chairman
New Energy Capital Partners

John Arnold
Co-Founder,
Arnold Ventures
Board Member, **Meta**

Armond Cohen
Executive Director
Clean Air Task Force

Ted Craver
Board & advisory roles
Duke Energy, Bain & Co., Wells Fargo, etc.

Jayshree Desai
CFO
Quanta Services, Inc.

Bob Flexon
CEO
UGI Corporation

Jason Glickman
EVP Engineering,
Planning and Strategy
PG&E

Vicki Hollub
President and CEO
Oxy

Miguel Prado
CEO
energyRe

Dan Reicher
Senior Research Scholar
Stanford Woods Institute for the Environment

Dan Tishman
Chairman & Principal
Tishman Realty & Construction

Al Vickers
COO
Grid United

Daniel Weiss
Co-Founder &
Managing Partner
Angeleno Group

Cate Hight
Partner
Bain & Company
Bain Lead

Developing NextGen Leaders

Dr. Naomi Boness
Managing Director
Stanford Natural Gas & Hydrogen Initiatives
Co-Leaders

Dr. M. Rathnasabapathy
Research Eng. & Program
Lead, Future Worlds
MIT Media Lab

Dr. Robert Johnston
Executive Director
CGEP, **Columbia University**

Keila Diamond
Managing Director and
Head of ESG
Quantum Energy Partners

Dr. Neil Fromer
Executive Director
Resnick Sustainability Institute, Caltech

Phoebe Ho-Stone
CCS Development
Planner, **ExxonMobil Low Carbon Solutions**

Ira Joseph
Global Fellow
CGEP, **Columbia University**

Dr. Shannon Miller
Founder & CEO
Mainspring Energy

David Pruner
Executive Director
TEX-E

Ben Soltoff
Entrepreneur in
Residence
MIT's Martin Trust Center for Entrepreneurship

Dr. Cyrus Wadia
CEO
Activate

Dianne Ledingham
Advisory Partner
Bain & Company
Bain Lead

Dr. Mike Witt
Chief Sustainability
Officer
Northrop Grumman

Sam Hall
MBA Candidate
MIT
Student Representatives

Daniela Marin
PhD Candidate
Stanford University

Communicating to Accelerate Impact

Jeff Katz
Co-Founder
OpenMinds
Co-Leaders

Rob Shepardson
Founding Partner
SS+K

Bridgitt Arnold
Vice President,
Communications
Google

Benji Backer
Executive Chairman &
Founder
American Conservation Coalition

Aart de Geus
Executive Chair &
Founder
Synopsys

Nate Nickerson
Comms and Public Affairs
Partner
DCVC

Rachael Porter
CMO
Oxy

Dr. Maya Tolsoy
Dean of **UW College of the Environment**

Brady Walkinshaw
Founder & Publisher
Noisy Creek

Erika Serow
Partner and CMO
Bain & Company
Bain Lead

2024 NextGen Cohort

Frank Agwuncha
Columbia University
Masters – Sustainability
Management

David Brown
MIT
MBA – Entrepreneurship

Tam Kemabonta
Arizona State University
PhD – Sustainable
Energy

Hannah Mae Merten
Harvard University
MBA/Masters – Public
Policy

Oyindamola Pedro
MIT
MBA – Sustainable
Fuels

Cameron Andrews
University of Texas
MPA – Policy

Dennis Cha
Harvard University
MBA – Energy Transport

Vivek Kesireddy
Texas A&M
PhD – Petroleum
Engineering

Hannah Murdoch
Stanford University
MBA/MS – Environment &
Resources

Kimberly Sinclair
University of Washington
PhD – Earth and Space
Sciences & Astrobiology

Edward Apraku
Stanford University
PhD – Environmental
Engineering

Anita Chandrahas
Harvard University
Post-Doctoral Fellowship
– Biomedical Science

César Lasalde-Ramírez
Caltech
PhD – Energy Storage

Kristina Nabayan
Columbia University
PhD – Materials Science
& Engineering

Amanda Studebaker
Stanford University
MBA/MS – Environment &
Resources

Ainee Athar
Stanford University
MBA/MSc –
Environmental Resources

Debjyoti Chatterjee
University of Texas
PhD – Electrical &
Computer Engineering

Daniela Marin
Stanford University
PhD – Chemical
Engineering

Ian Naccarella
Harvard University
MBA – Electric Vehicles

Andrew van Baal
University of Michigan
MS – Sustainable
Systems

Victor Awosiji
Stanford University
PhD - Earth & Planetary
Sciences

Isabelle Dunning
Columbia University
MS – Sustainability
Management

Karina Masalkovaite
Stanford University
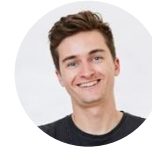PhD – Materials Science
& Engineering

Bianca Derya Neumann
University of Potsdam
MA – Political Science,
Environmental Policy

Yingxiao Zhang
University of Michigan
PhD – Climate Sciences
& Engineering

Ines Azoy-Parravano
University of Michigan
Bachelors – Computer
Science

Sam Hall
MIT
MBA – Energy & Climate
Technology

Hillary McKenzie
University of Michigan
MBA/MS – Sustainability

Yogi Nishanth
Harvard University
Masters – Sustainability
ALM

OpenMinds

We look forward to staying in touch!

Learn more about OpenMinds, the Dual Challenge, and our Top 10 solutions

OpenMinds

https://openminds203x.org/

David Baldwin

Co-founder, OpenMinds
dbaldwin@scfpartners.com

Jeff Katz

Co-founder, OpenMinds
jgkatz@me.com

OpenMinds

OpenMinds | Solving for the Dual Challenge.