October 2024

OpenMinds

Accelerating Energy and Climate Progress

OpenMinds

DISCUSSION AGENDA

01	02	03	04
An Introduction to OpenMinds	Defining the “Dual Challenge”	Confronting the “Dual Challenge”	OpenMinds Strategy and Path Forward

OpenMinds' Mission & Identity

OPENMINDS

OUR MISSION

More energy. Less emissions.

Accelerate progress against the Dual Challenge by 203X

- 100+ 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

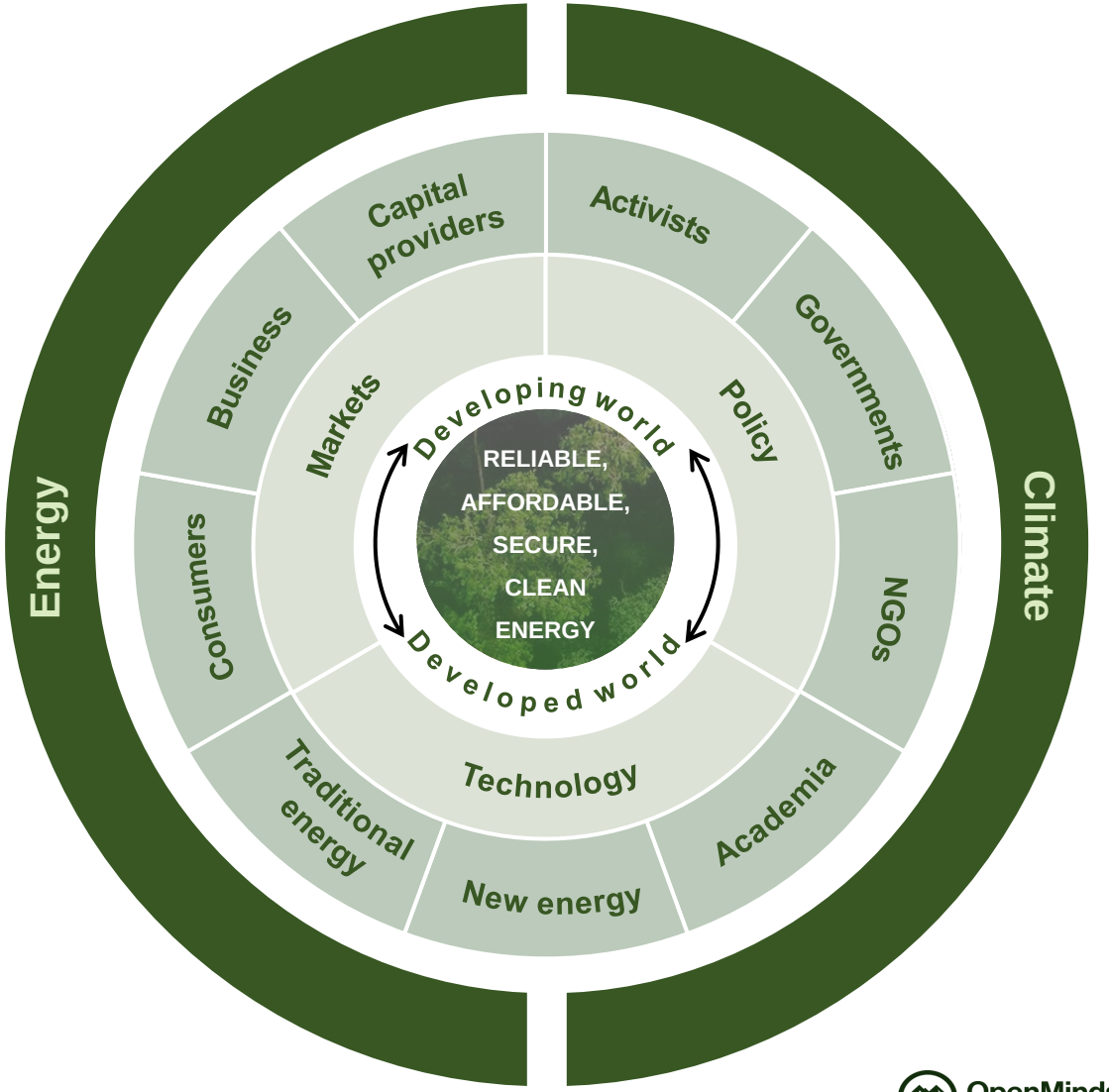
Detailed solutions framework

Impact progress by 203X

OpenMinds' Solution Approach

OPENMINDS

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

OPENMINDS

/AS OF OCTOBER 8, 2024

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	Chairman, PG&E
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 and Senior Managing Director, S2G
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	Partner & Head of Strategic Finance. Energy Impact Partners
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 Industry, Microsoft
Dr. Mike Witt	VP & Chief Sustainability Officer, 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. 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

Hosts	Role and Company
Mr. David Baldwin	OpenMinds Co-Founder | Partner, SCF Partners
Mr. Jeff Katz	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

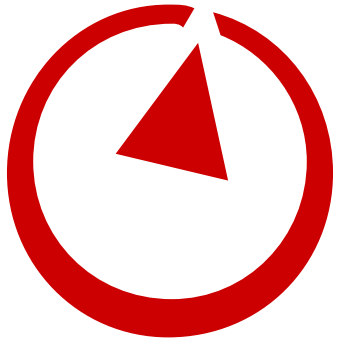
… and many more

Partnership with Complementary Strengths

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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An Introduction to OpenMinds	**Defining the “Dual Challenge”**	Confronting the “Dual Challenge”	OpenMinds Strategy and Path Forward

The Dual Challenge: An Overview

THE DUAL CHALLENGE

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

THE DUAL CHALLENGE

Global energy consumption

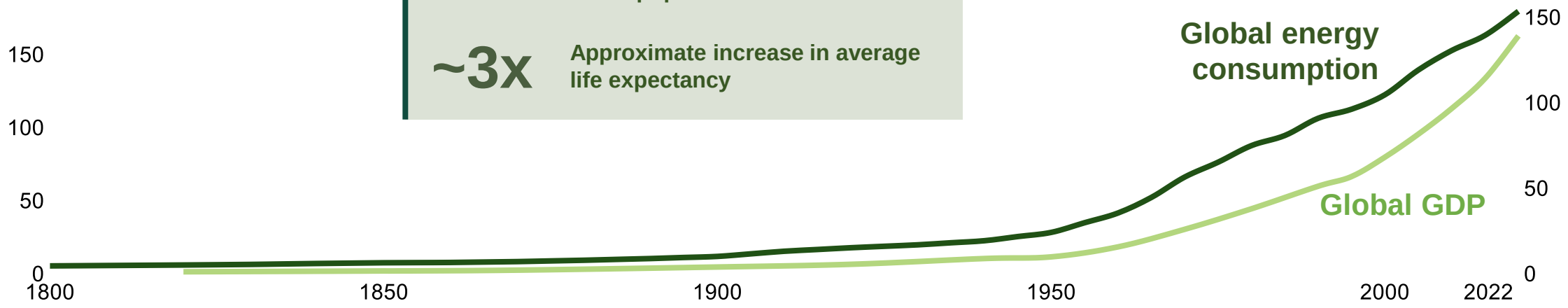
PETAWATT-HOURS

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

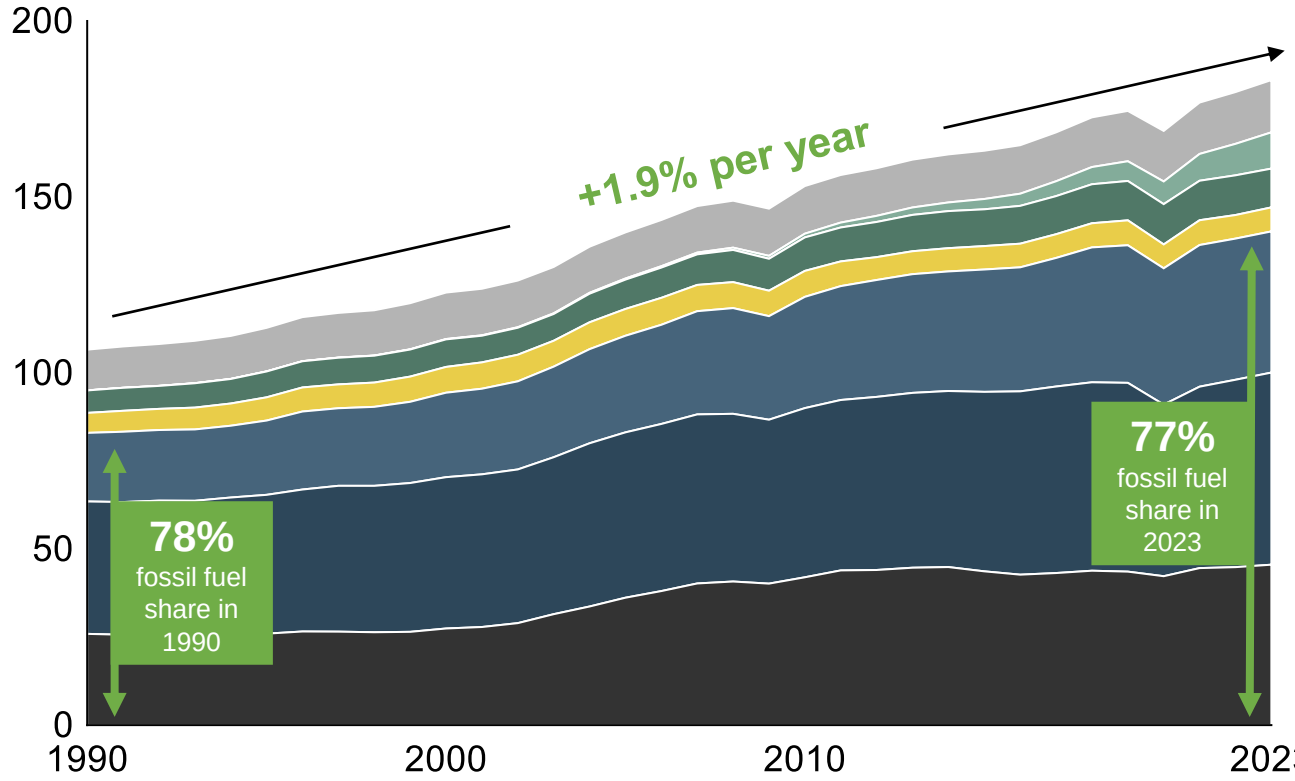
29yrs. → 73yrs.

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

Growth in Energy Consumption

THE DUAL CHALLENGE

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

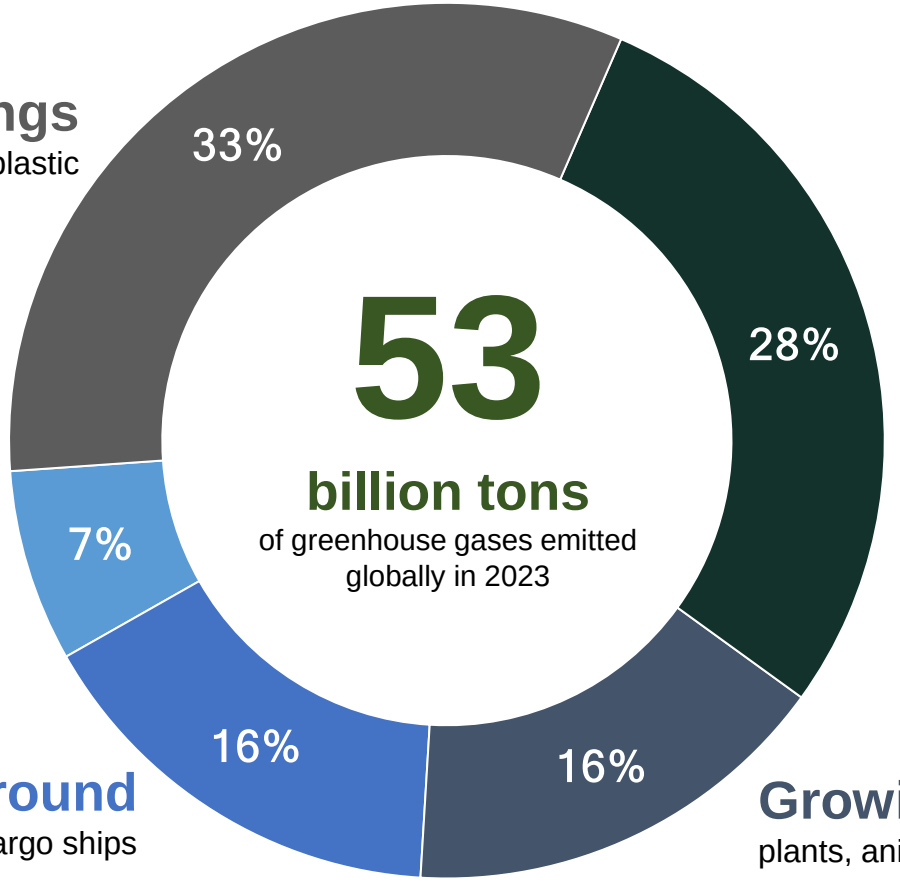


	% of total 1990	% of total 2023	Share of 1990-2023 demand growth
Other*	11%	8%	4%
Wind & solar	0%	6%	**13%**
Hydro	6%	6%	6%
Nuclear	5%	4%	1%
Gas	18%	22%	**27%**
Oil	35%	30%	**22%**
Coal	24%	25%	**26%**
	100%	100%	100%

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

Human Activities Driving Greenhouse Effect

THE DUAL CHALLENGE



Making things
cement, steel, plastic

Plugging in
electricity generation

Keeping warm and cool
heating, cooling, refrigeration

Getting around
planes, cars, trucks, cargo ships

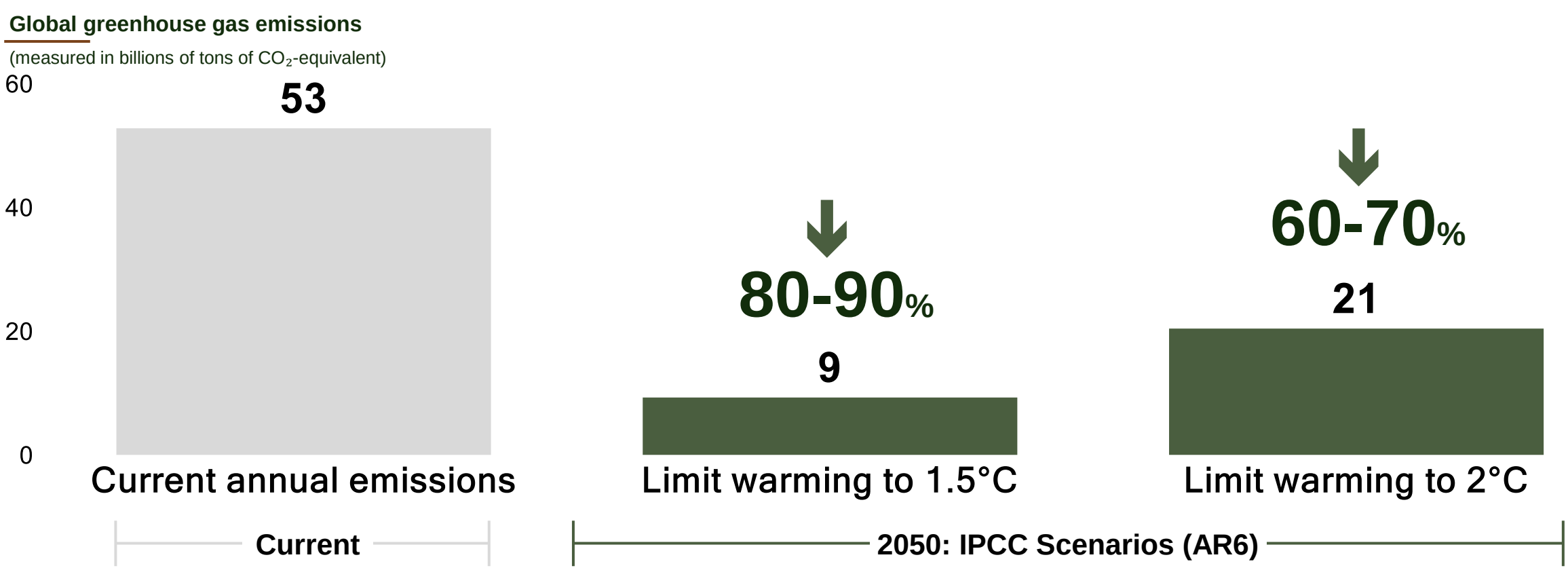
Growing things
plants, animals

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*

Required Emissions Reduction

THE DUAL CHALLENGE



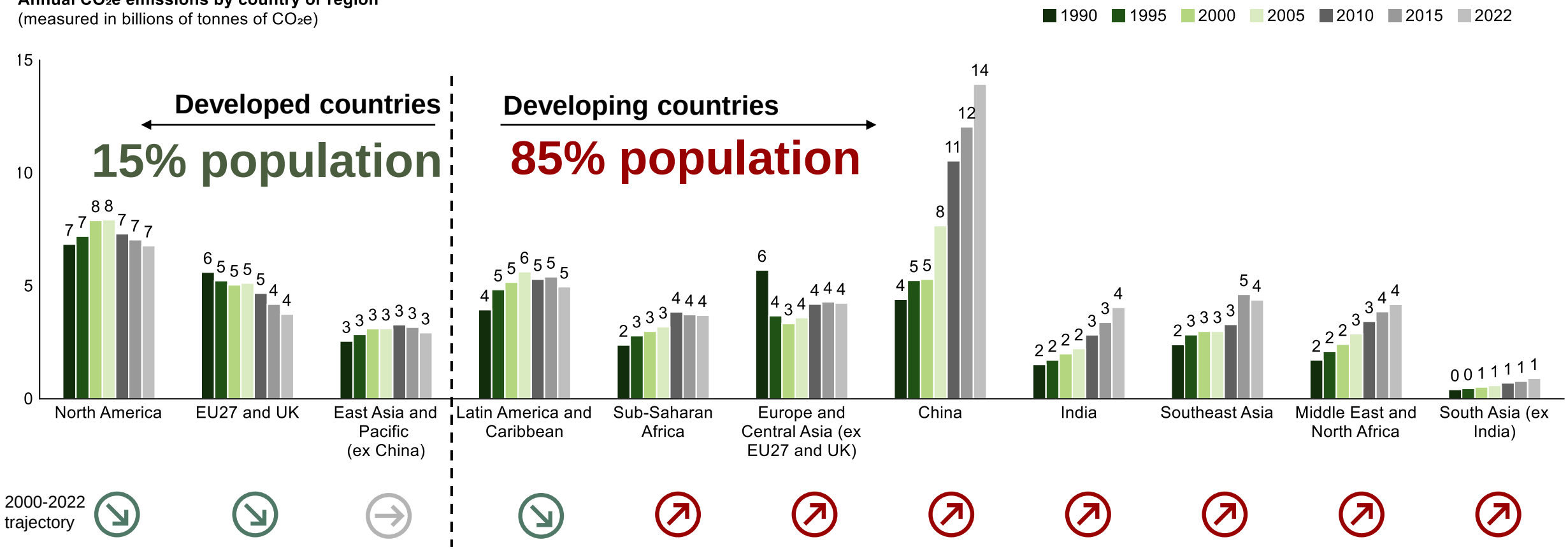
Note: 1.5°C scenario refers to “Limit warming to 1.5 °C (>50%) with no or limited overshoot” scenario in IPCC; 2 °C scenario refers to “Limit warming to 2 °C (>67%)” scenario. “>50%” and “>67%” refer to probability of reaching scenario should emissions reduction targets be reached

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*

A Two-Track World on Emissions

THE DUAL CHALLENGE

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



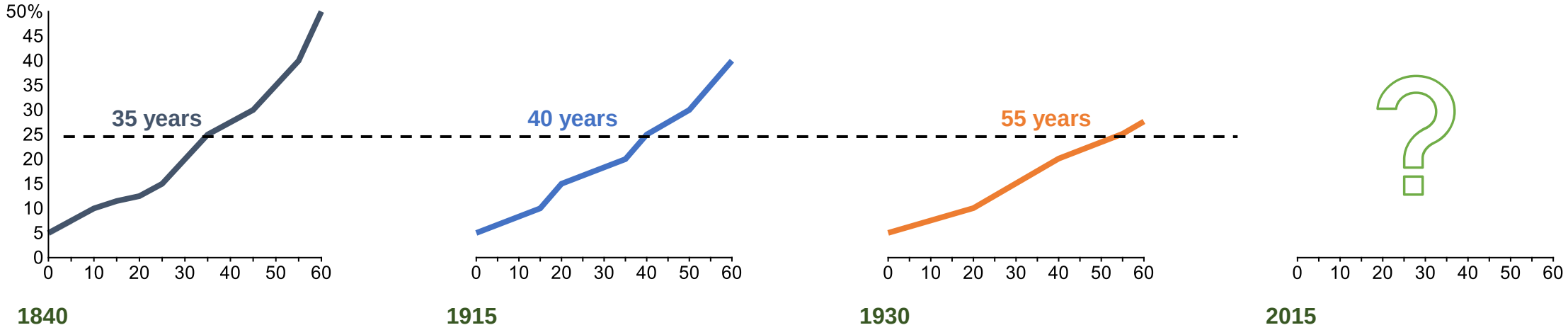
Note: (1) Emissions include carbon dioxide, methane, and nitrous oxide from all sources, including land-use change
Source: Our World in Data

Transitions Take Decades

THE DUAL CHALLENGE

Years until supplying 25% of global primary energy supply

(share of global primary energy supply)



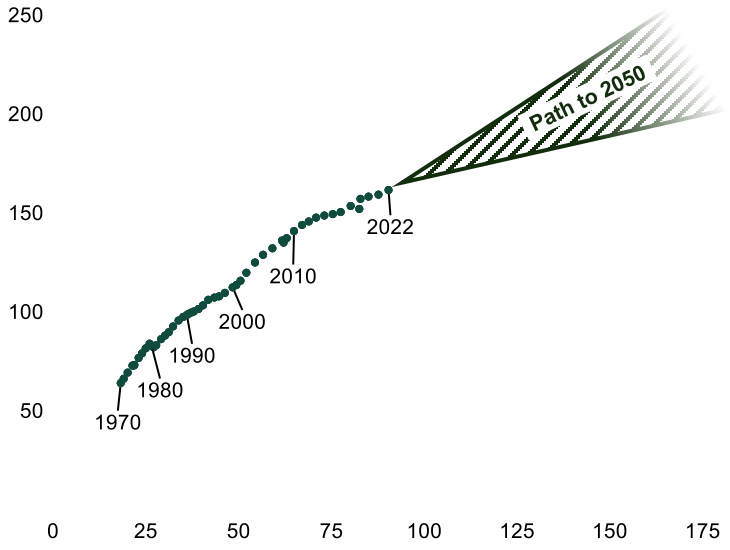
Note: Based on time from 5% to 25% of global energy supply
Source: Vaclav Smil, *Energy Transitions: Global and National Perspectives* (2017)

The Core of the Dual Challenge

THE DUAL CHALLENGE

Energy Will Grow

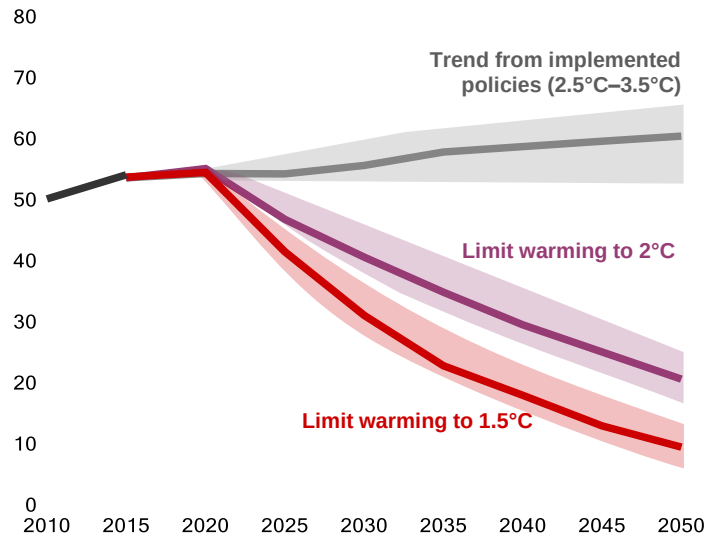
Global primary energy demand
(petawatt-hours)



Global GDP
(trillions of constant 2015 USD)

Emissions Must Decline

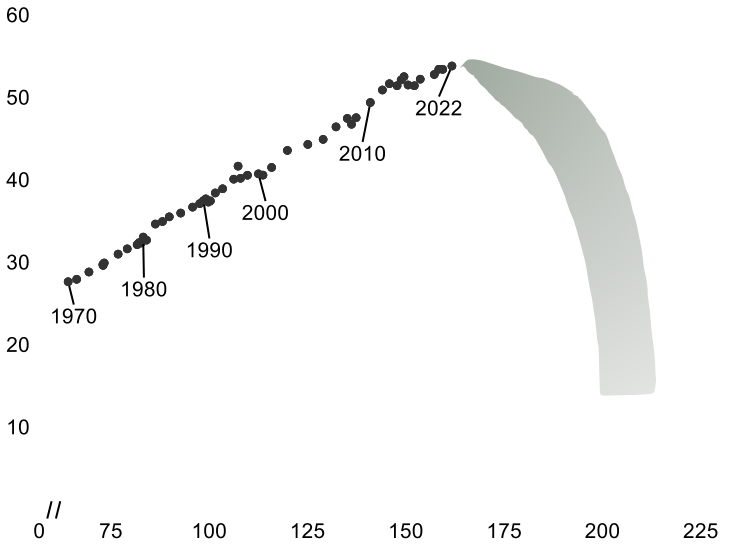
Global annual greenhouse gas emissions
(gigatons of CO_2-equivalent)



Year

The Dual Challenge

Global CO_2e emissions
(gigatons of CO_2e)



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

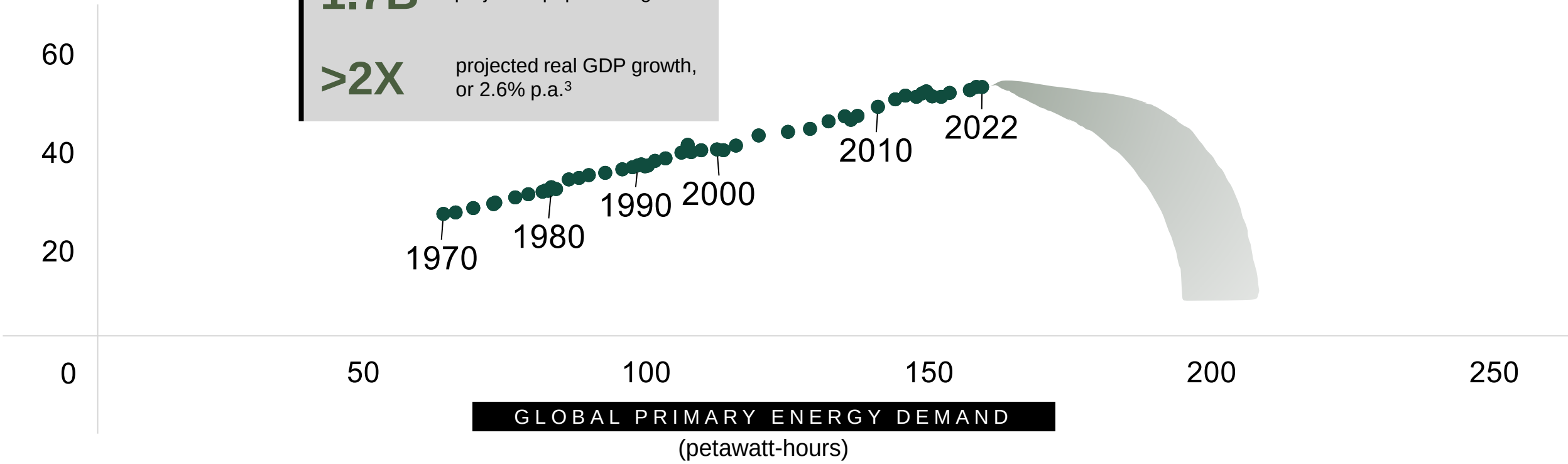
The Line Needs to Bend…Quickly!

THE DUAL CHALLENGE

Demographic and economic backdrop for 2022-2050 period

1.7B projected population growth[2]

>2X projected real GDP growth, or 2.6% p.a.[3]



Note: (1) CO_2e emissions include land use change; (2) UN median fertility scenario; (3) GDP expressed in 2022 USD in purchasing power parity terms via IEA and UN
Source: IEA World Energy Outlook 2023; Our World in Data; UN Trade and Development

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Our Solutions Approach

SOLUTIONS

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

SOLUTIONS

DIRECTIONAL

Energy and Emissions

By source \ By end use	Industry			Transport			Buildings			Agriculture			Other			Total	
	Iron/steel, (petro)chemical, machinery, construction, etc.			Road, aviation rail and pipeline			Residencial and commercial buildings			Agriculture and fishing			Non-specified and non-energy sources				
	Energy	Emission	En/Em	Energy	Emission	En/Em	Energy	Emission	En/Em	Energy	Emission	En/Em	Energy	Emission	En/Em	Energy	Emission
ENERGY																	
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%
NON-ENERGY																	
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%**

A, B, C, D, E, F

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

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

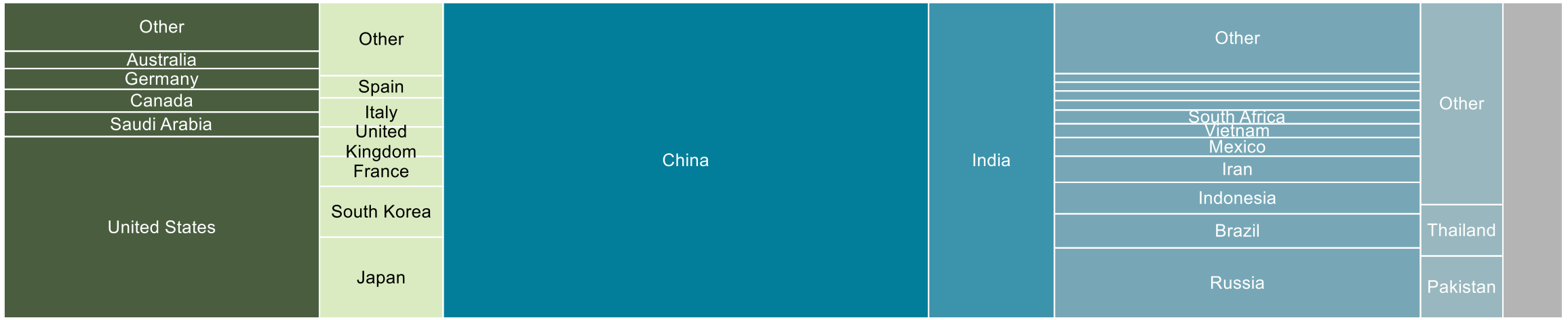
Emissions and Energy Consumption by Country Archetype

SOLUTIONS

PRELIMINARY

Total emissions by archetype

Percent of CO_2e emissions – 2023



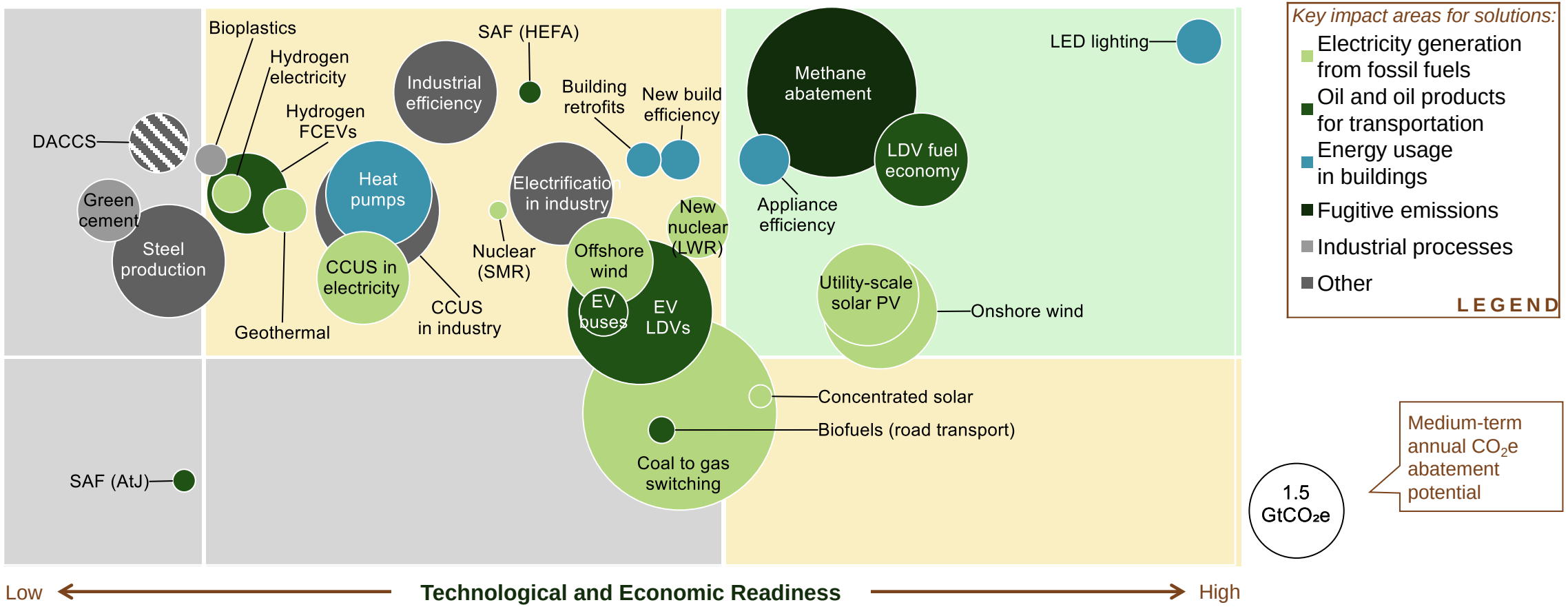
	Resource abundant	Resource deficient	China	India	Resource abundant	Resource deficient	Rest of World
% of emissions	20%	8%	31%	8%	23%	5%	4%
% of final energy consumption	26%	13%	28%	6%	21%	4%	3%
% of population	8%	7%	18%	18%	21%	11%	16%
	Advanced economies		Emerging economies				

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

SOLUTIONS

DIRECTIONAL



Note: Abatement potential refers to medium-term annual CO_2e emissions reduction; building efficiency and retrofits refers to insulation and HVAC only; DACCS abatement potential virtually infinite; industrial efficiency includes solutions such as waste to heat recovery; renewable solutions include battery component in cost and abatement potential; geothermal represents enhanced geothermal systems; assumes methane has global warming potential 30 times that of CO_2
Source: IEA; IRENA; Goldman Sachs; Project Drawdown; OpenMinds research and lit. scan

Our Top 10 Solutions

SOLUTIONS

‘Top 10’ solutions

Prioritized set of solutions with high viability and sufficient technological and economic readiness to “bend the curve” by 203X

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
		New and existing nuclear	Buildings efficiency

Other important solutions

Solutions that **may be critically important** but are assessed as having less overall impact potential by 203X relative to our list of ‘top 10’ solutions

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

We are considering whether and how to incorporate these more fully into our efforts

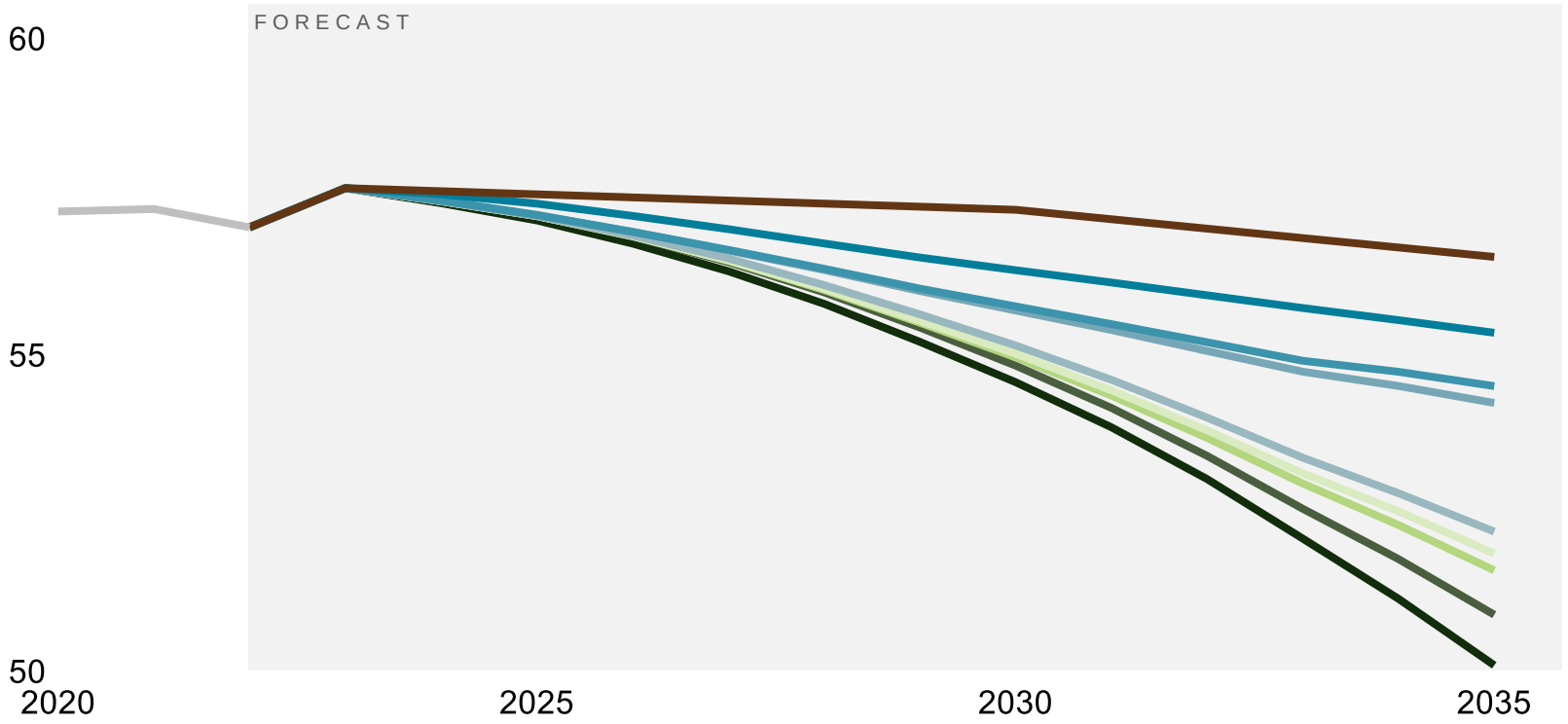
Impact of Implementing Key Solutions

SOLUTIONS

PRELIMINARY

Projected emissions impact

Global annual net GHG emissions (Gt CO_2e per year)



Source: Intersect$_{SM}$ Carbon & Energy Transition CGE Model; Climate Interactive

- Baseline
- Methane abatement
- Coal-to-X switching
- CCUS in electricity & industry
- Renewables
- Nuclear
- Transportation energy efficiency
- Transport electrification
- Buildings and industry efficiency and electrification

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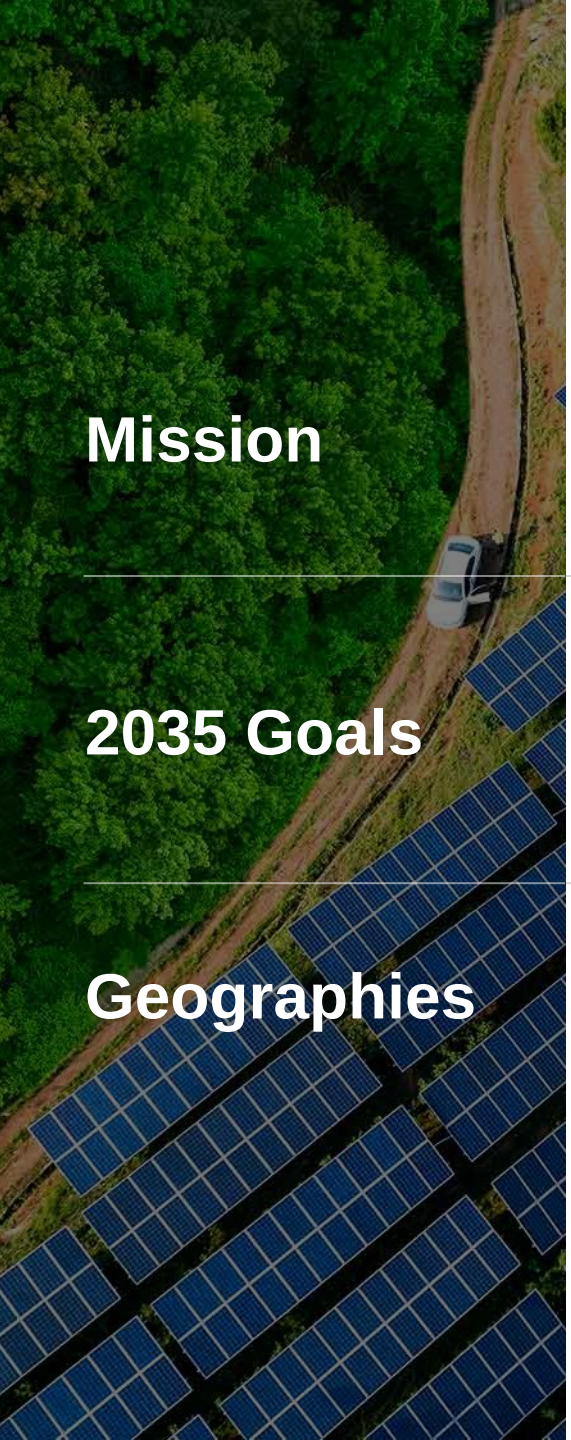


OpenMinds' Strategy

Mission

More energy. Less emissions.

Accelerate progress against the Dual Challenge by 203X.

2035 Goals

10% more energy, 10% lower emissions against current baseline...

Break the emissions growth trend and accelerate decline.

Geographies

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

Accelerate progress in the US →

EU / UK team →

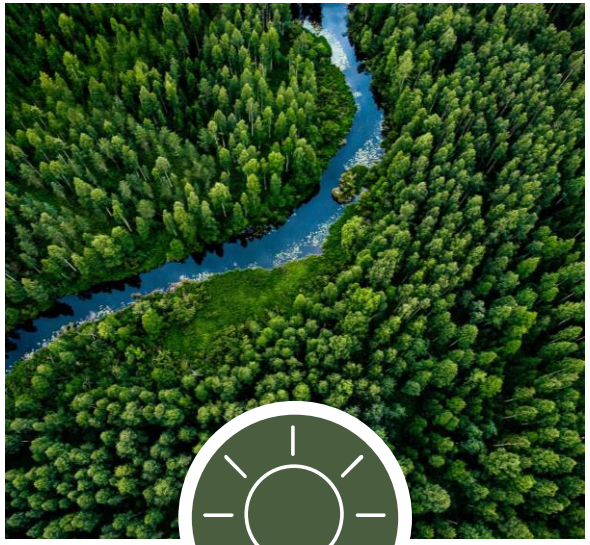
Asia / other team →

OpenMinds: Transitioning to Impact in 2024+

1

2022 - Define

The world is at risk of missing **both its energy and climate goals**



2

2023 - Solve

We developed a **solutions pathway** that solves for key energy and climate priorities by 203X

3

2024 - Impact

Multiple impact projects to **drive progress** against key bottlenecks

4

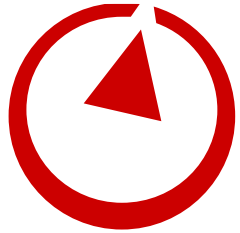
2025 plus - Scale

We are seeking new partners to help us **expand and accelerate** our impact

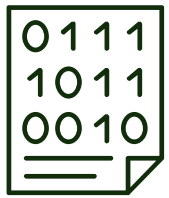
OpenMinds + Bain = Differentiated Impact

Energy and Climate

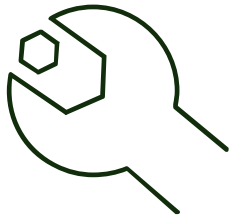
125 Experts Across Key Energy and Climate Sectors



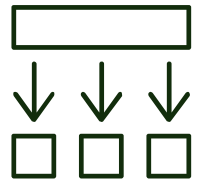
Bain Partnership



Data-Driven



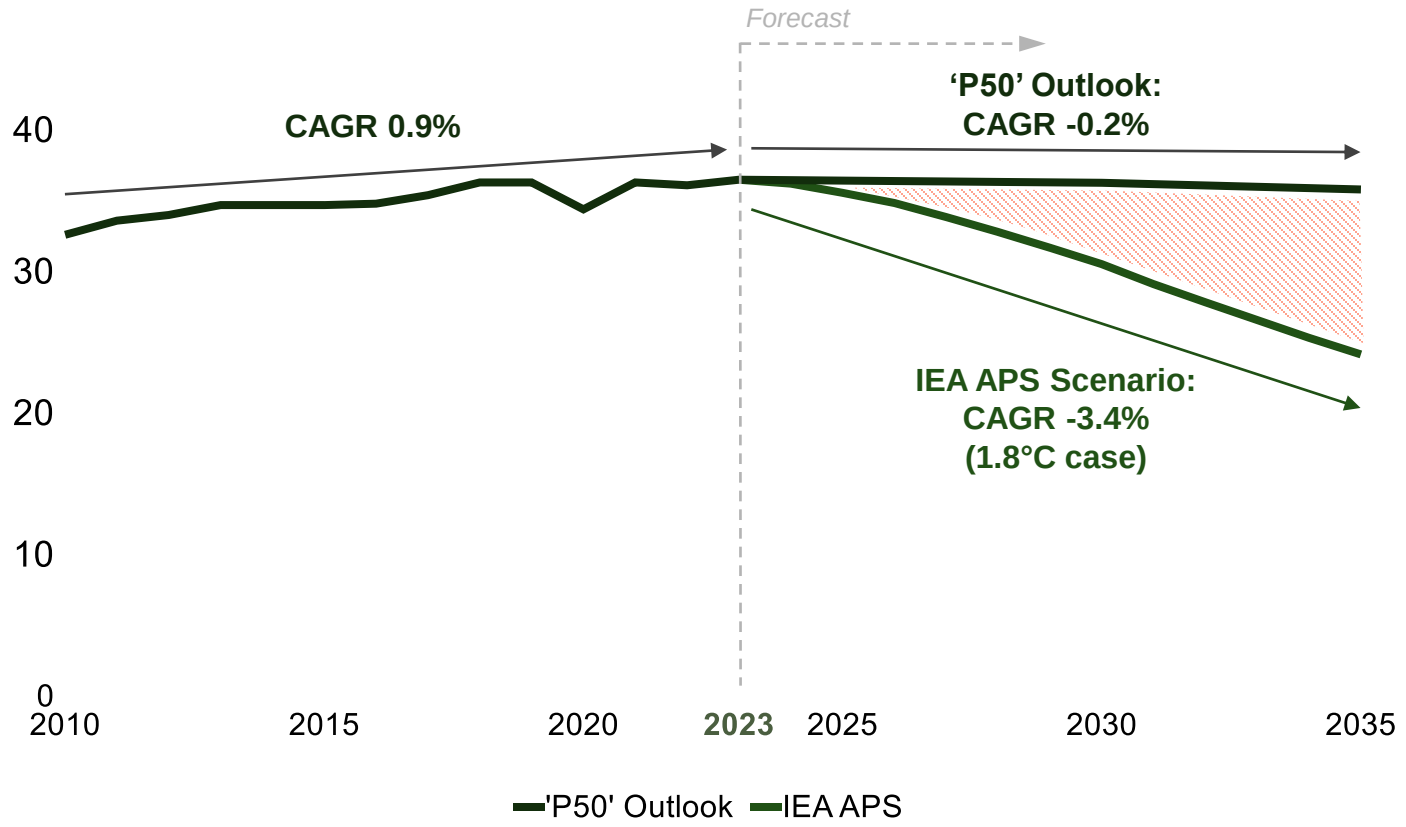
Practical Solutions Framework and 10-Year Horizon



Impact Projects Targeting Key Bottlenecks

We're Bending the Curve, but Need to Go Faster

Global CO_2 emissions (GT CO_2)



The gap through 2035

~66GT

Total global CO_2 emissions gap between the 'P50' Outlook and IEA APS scenario

-14%

Total global CO_2 emissions reduction needed to stay on track from '23-'35

~$16T*

Total social cost of CO_2 emissions gap from '23 to '35

Note: *Value is presented in 2023 USD using 2% discount rate
Source: Intersect$_{SM}$ Carbon & Energy Transition CGE Model; IEA WEO 2023; Climate Action Tracker; EPA

What's Needed to Close the Gap in the US

Solutions we're progressing with current OpenMinds Impact Projects

Add More Firm and Low-Carbon Generation

- **Accelerate renewables**
- Scale geothermal and advance SMRs
- Deploy long-duration storage
- Firm with gas peakers

Remove Emissions from Current Energy System

- **Maximize methane abatement**
- **Advance CCS deployment**
- **Progress coal-to-X switching**

Expand Electric Transmission Infrastructure

- **Streamline permitting**
- **Enable interconnection**
- Upgrade existing assets

Increase Energy Efficiency and Electrification

- Make buildings more energy efficient
- Install heat pumps
- Improve fuel economy standards and EV adoption
- Electrify industrial processes

Identify and Develop a New Generation of Leaders

- **Equip, empower, and foster innovation**
- **Grow a strong network across climate and energy**

OpenMinds' 2024 Impact Projects – Removing Key Bottlenecks

Decarbonizing Generation

Scale CCS for Baseload Gas
Ensure top generators include CCS in operational plans & speed pilot deployment

Elevate Deep Decarbonization Pathways
Prove regional energy mixes & market signals that can accelerate decarbonization

Maximize Methane Leak Abatement
Define highest-impact, case-specific actions for policymakers & company leaders

Connecting America

Accelerate Transmission Permitting Reform
Equip key decision-makers with data on the benefits of transmission infrastructure

Improve Community Benefit Agreements
Deploy a modernized CBA for "win-win" community agreements

Communicating to Accelerate Impact

Develop a Dual Challenge Dashboard
Establish a simple, ubiquitous progress tracker relied upon by top decision-makers

Advance OpenMinds Launch
Host OpenMinds' strategic public debut, highlighting impact, model, & future growth

Developing NextGen Leaders

Launch NextGen Program
Prepare top graduate students to be energy and climate leaders

Scale the NextGen Community
Set the program's long-term ambition and map how to get there

Quantify CCUS Economics *with* CALPINE
Estimate the impact of implementing CCUS on US natural gas-fired power plants

Segment Direct Air Capture Customers *with* CarbonCapture
Identify high priority customer segments and estimate market opportunity

Incentivize Methane Abatement *with* QUANTUM CAPITAL GROUP
Determine most attractive abatement incentives for small- to mid-sized operators

Evaluate Coal-to-X Switching Full Potential *with* CenterPoint Energy
Evaluate risk of coal plant retirement delays due to increasing electricity demand

Meet AI Demand with Renewables *with* NEXTera ENERGY
Estimate AI-driven electricity demand growth & assess how renewables can meet it

Catalyze Transmission Investment *with* GRID UNITED
Gauge the potential impact of EPRA on accelerating investment in the grid

OpenMinds Org

Develop OpenMinds 'P50' Outlook
Model the likely global and US decarbonization pathway & energy mix through 2035

Define 2035 Climate and Energy Success for the US
Establish a clear, trusted view of what US progress on the Dual Challenge looks like

OpenMinds Impact Project Leadership

Decarbonizing Generation

Steve Lockard
Chairman
TPI Composites

Kurt Waltzer
Principal
Energy Systems Innovation Consulting

Co-Leaders

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Executive Director, Strategic PPPs
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Net Zero Technology Centre

Michael DeBock
VP of Origination
NextEra Energy

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Form Energy

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Bain Lead

Connecting America

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Scott Brown
Chairman
New Energy Capital Partners

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Board Member, **Meta**

Armond Cohen
Executive Director
Clean Air Task Force

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

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Quanta Services, Inc.

Bob Flexon
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Director, **ERCOT**

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PG&E

Vicki Hollub
President and CEO
Oxy

Miguel Prado
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EnergyRe

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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

Michael Short
Partner
Bain & Company

Bain Leads

Developing NextGen Leaders

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Stanford Natural Gas & Hydrogen Initiatives

Dr. Minoo R.
Research Eng. & Program Lead, Future Worlds
MIT Media Lab

Dr. Robert Johnston
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Keila Diamond
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Resnick Sustainability Institute, Caltech

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CCS Development Planner, **ExxonMobil Low Carbon Solutions**

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David Pruner
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TEX-E

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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

Daniela Marin
PhD Candidate
Stanford University

Student Representatives

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OpenMinds

Rob Shepardson
Founding Partner
SS+K

Co-Leaders

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Vice President, Communications
Google

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

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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

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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

Colombia University
PhD – Materials Science & Engineering

Amanda Studebaker

Stanford University
MBA/MS – Environment & Resources

Ainee Athar

Stanford University
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Stanford
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Ian Naccarella

Harvard University
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Andrew van Baal

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PhD - Earth & Planetary Sciences

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Karina Masalkovaite

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University of Michigan
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Sam Hall

MIT
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Hillary McKenzie

University of Michigan
MBA/MS – Sustainability

Yogi Nishanth

Harvard University
Masters – Sustainability ALM

We look forward to staying in touch!

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

https://openminds203x.org/

OpenMinds

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OpenMinds

Solving for the
Dual Challenge.