

August 2021

Actuate Climate

Breakthrough systems innovation
to eliminate emissions in time

Arati Prabhakar | CEO

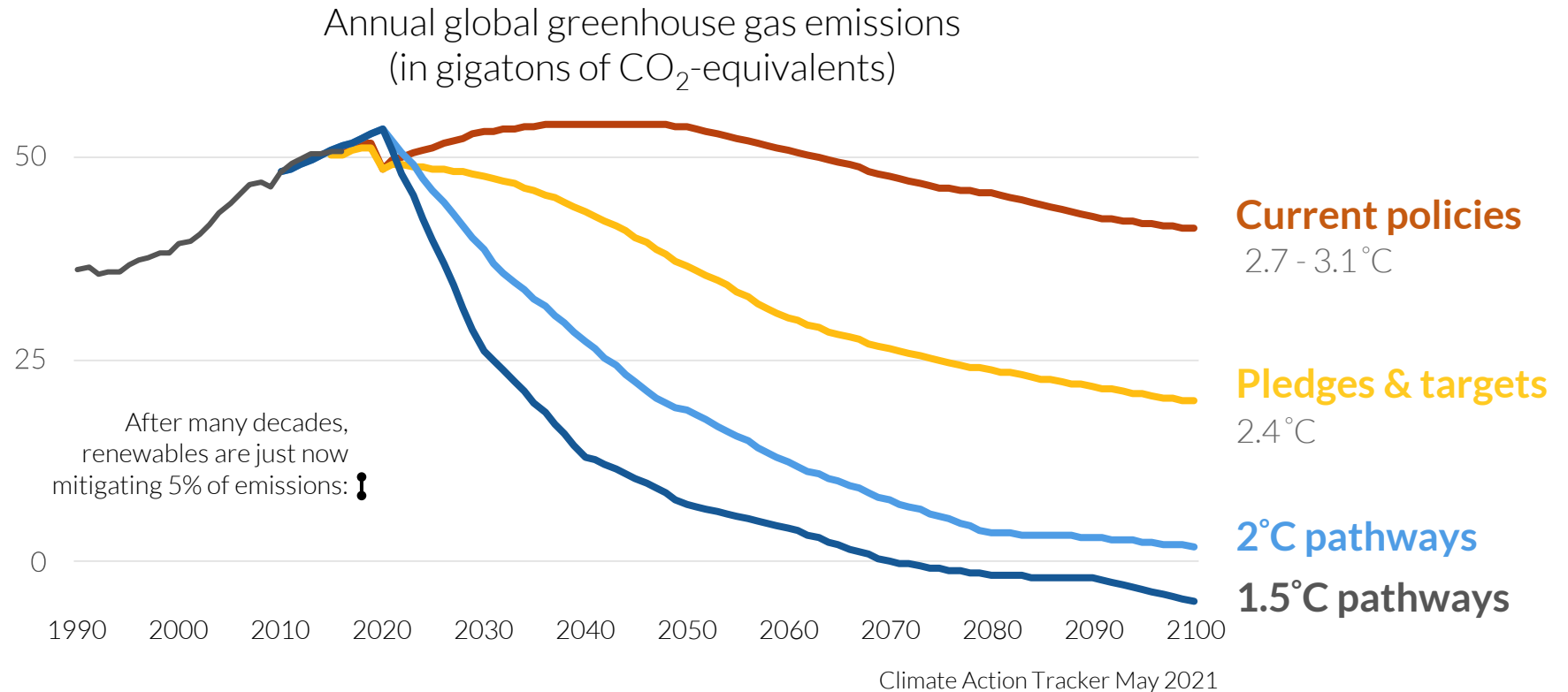
Lara Pierpoint | Director, Climate



Mitigating climate change requires eliminating emissions *in time*

Pledges & targets are improving but still leave a gap

New technologies take many decades to contribute



To eliminate emissions in time, we are building a different and essential kind of innovation

Innovation efforts today

- Typically push a technology one stage at a time from lab towards deployment
- Important—we need more and better
- By themselves, not on track to fully deploy fast enough to eliminate emissions in time

Lab research > Technology demonstrated > Pilot scale manufacturing > Production scale > >100Mt/year abated > Full deployment

Product

Financing

Market

Policy

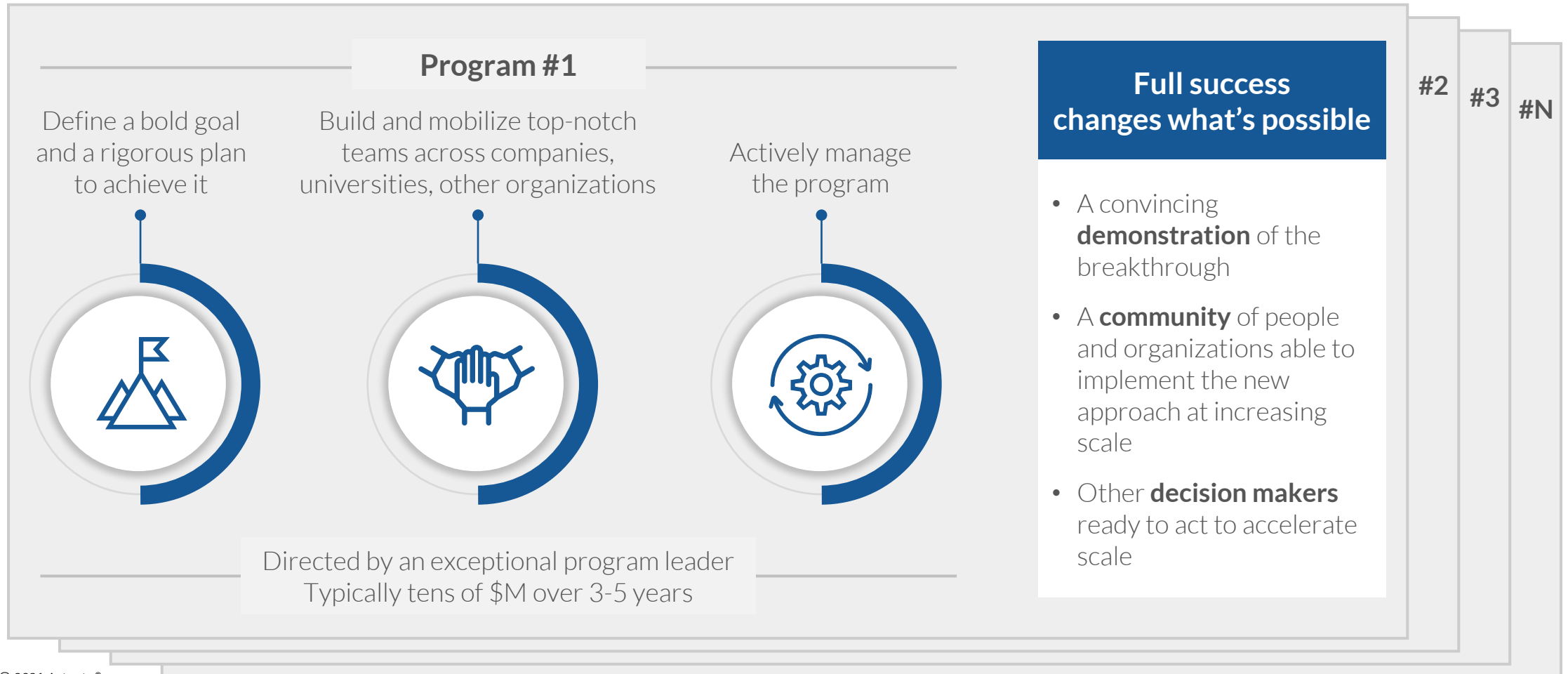
Communities

Breakthrough systems innovation

- We start on the right, asking: what does it take to realize faster emissions reduction at massive scale?
- We scope, design, and conduct experimental programs to shift the system by breaking through multiple technology and institutional barriers

Actuate adapts a **proven, powerful model** to the challenge of mass scale

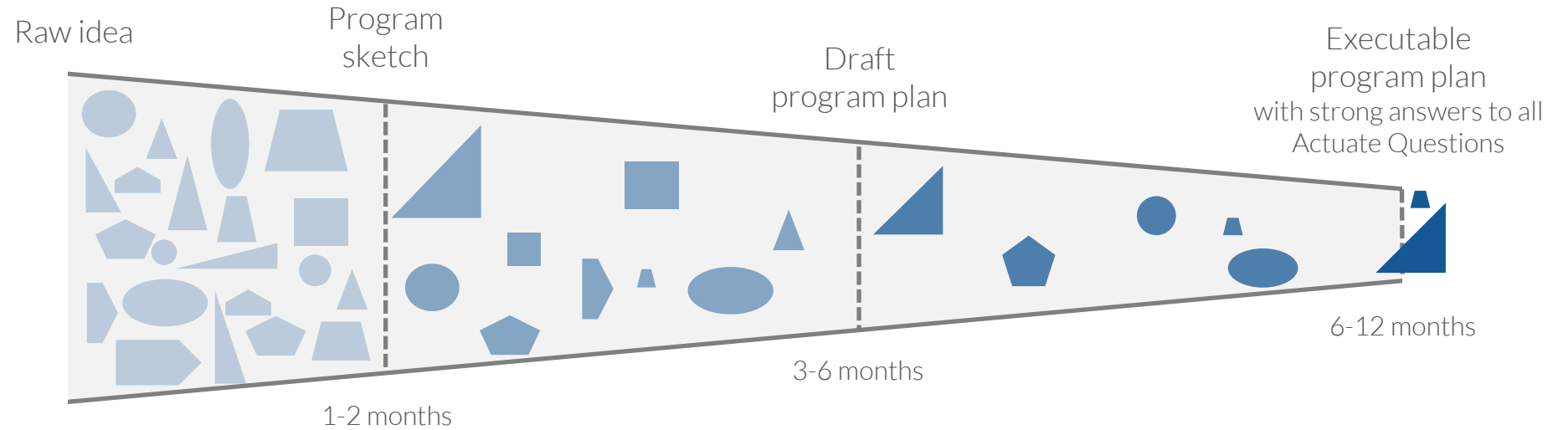
A portfolio of experimental programs to achieve breakthroughs for complex, critical challenges



Robust program design requires 6-12 months

Actuate Climate is currently in the early stages of this process

Program development pipeline



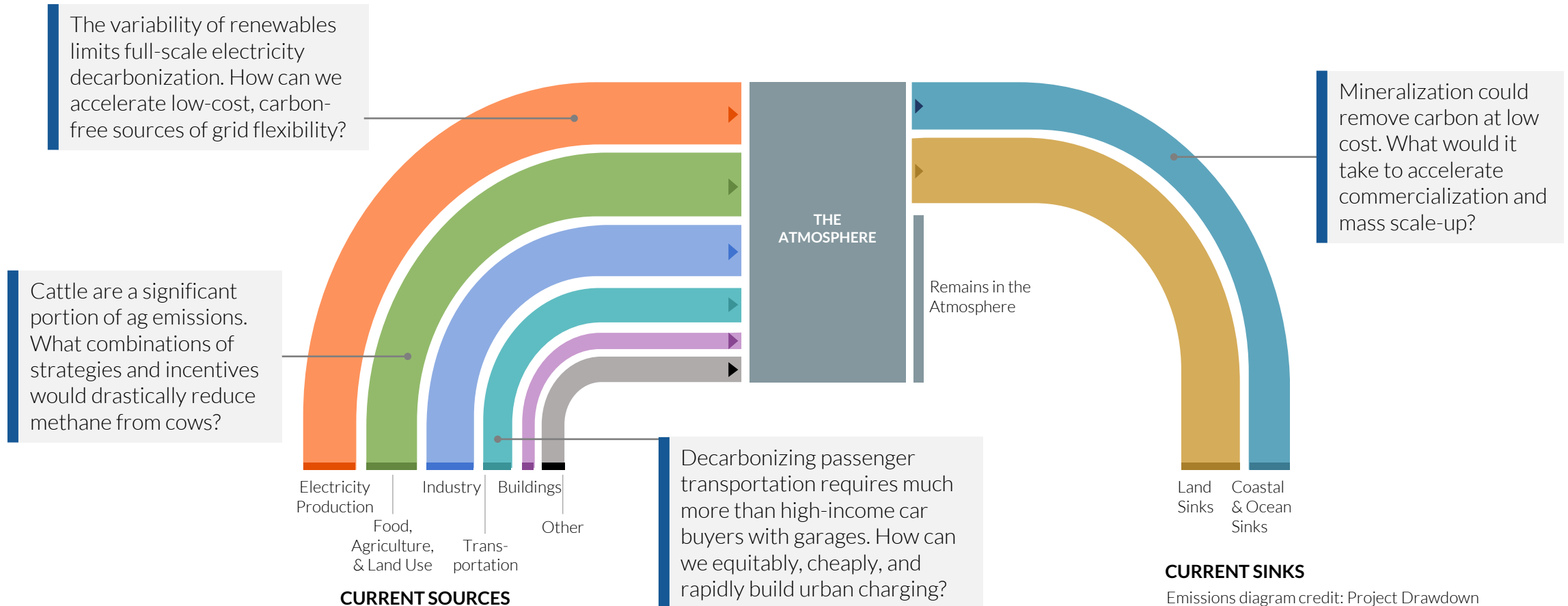
The Actuate Questions guide development

- 1. Objective:** What are you trying to do in this program?
- 2. Problem:** What's the problem you aim to solve? How is it done today, and what are the limits of current practice?
- 3. Opportunity:** What's your hypothesis? What's new in your approach? What are the risks?
- 4. Impact:** If your program succeeds, what difference will it make?
- 5. Plan:** What work will you fund in the program? Who will need to act to fully scale successful results? What will the program cost? How will you assess progress and success?

Adapted from the Heilmeier Catechism

We approach each sector of emissions as a **complex system**

Examples of questions to craft programs that break barriers to mass scale



Actuate Climate: breakthrough systems innovation to eliminate emissions in time

Actuate Climate will conduct a portfolio of experimental programs

- Systems innovation that breaks through the technical and institutional roadblocks to emissions reductions
- DARPA's proven methodology applied to faster emissions reduction

Each program aims to open a radically better reduction pathway

A program mobilizes companies, universities, nonprofits, and communities that:

- Create the tools, techniques, and evidence for a powerful new approach
- Initiate a structural shift

Our team brings a track record

- Deep energy and climate expertise, systems perspective, and networks
- DARPA experience in delivering high impact for large-scale, systemic challenges

We're at development stage

- Exploring and developing programs with a wide community of actors
- Scoping the Actuate Climate Portfolio to address the scale and diversity of the challenge of zero emissions in time



Actuate Thank you

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