

# **A Moonshot For The Future Of Mining**















Global Connectivity

Climate Change

Rapid Urbanization

Population Explosion

Massive Automation

Accelerated Innovation

Hyper Globalization



The image features a high-angle view of the Earth from space, showing the curvature of the planet and the transition from blue oceans to brown and green landmasses. The background is a deep black space filled with numerous stars. A prominent red ring and a purple ring are visible in the upper right quadrant. The word "XPRIZE" is written in large, white, bold, sans-serif capital letters across the center of the image. The letter 'X' is stylized with a white swoosh that curves around its top and left sides. A registered trademark symbol (®) is located to the right of the word.

**XPRIZE**®











**Awarded 17 Prizes:  
USD 47.3 million**

**5 Active Prizes:  
USD 50 million**

**3 Launching in 2019:  
USD 50 million**

**9 Prizes in Development:  
USD 200 million +**





**10 Million Dollars**

**- Privately funded  
teams**

**- 100 KM in sub-orbital  
space**

**- 3 Passengers**

**- 2 flights in 2 weeks**



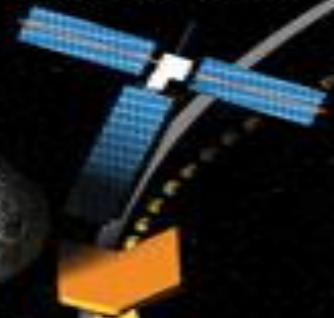




MARS



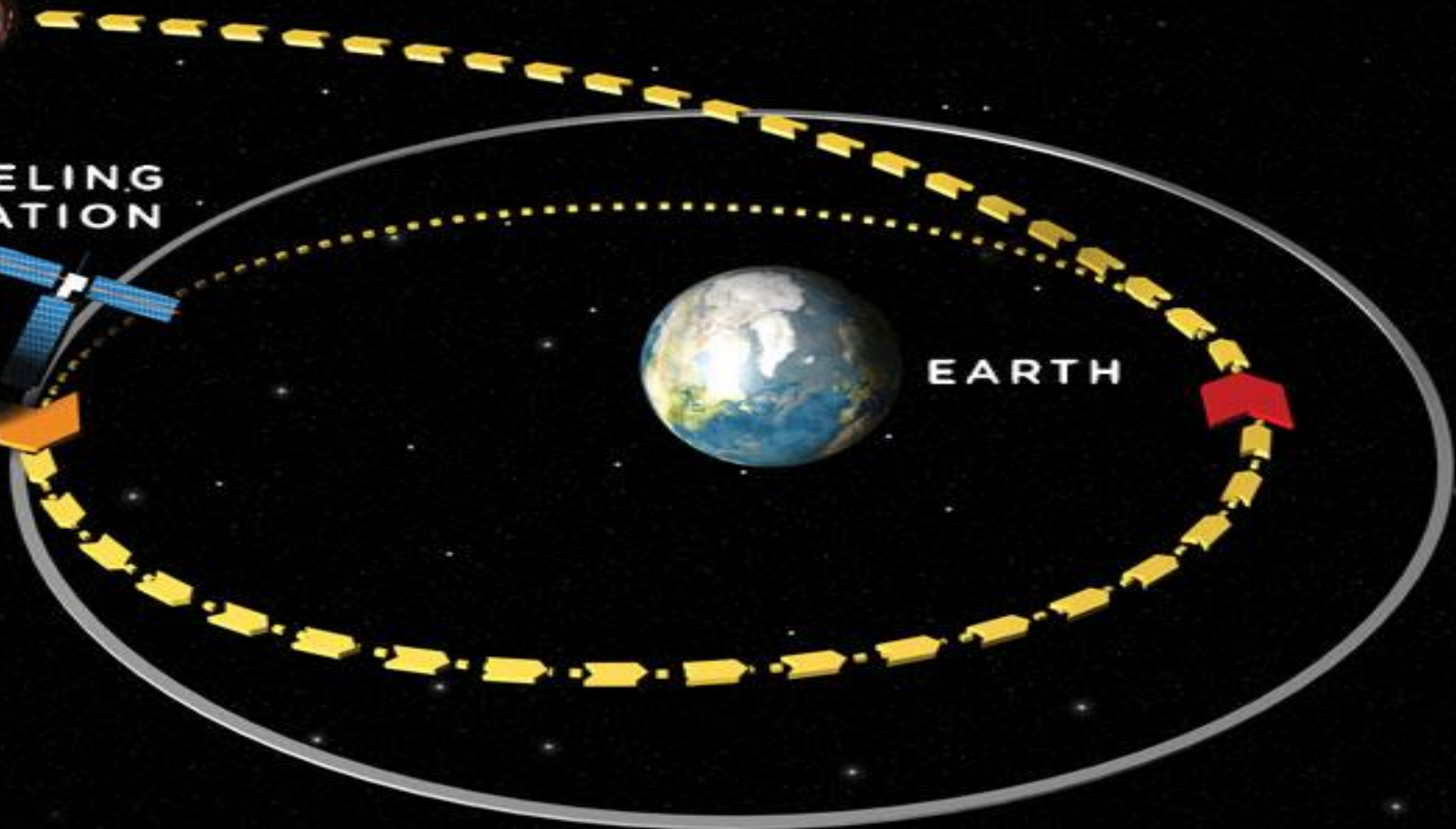
FUELING  
STATION



MOON



EARTH





# CONVERGENCE OF EXPONENTIAL TECH



Artificial Intelligence

Intelligent Sensors

Big Data

Synthetic Biology

Machine Learning

Quantum Computing

Blockchain

Gene Editing

Robotics

3D Printing

Brain-Machine Interface

IoT

Virtual/Augmented Reality



# Zero-Waste Mining

# XPRIZE<sup>®</sup>







**1. Sets an audacious but achievable goal**



PHYSICIAN CONTACTED

MEDICATION RECOMMENDED  
10ML (2TSP) ACETAMINOPHEN

TEMPERATURE: 102°

PULSE: 110 BPM

QUALCOMM  
TRICORDER **XPRIZE**

Healthcare in the Palm of Your Hand





A night sky filled with stars, transitioning from a dark blue to a lighter blue near the horizon. Below the horizon, a thick layer of white clouds covers the landscape. In the foreground, a cityscape is visible, illuminated by numerous small lights, likely from buildings and streets. A large, faint, stylized 'X' logo is overlaid on the left side of the image.

## 2. Democratizes innovation



The logo features a dark blue background with a faint grid pattern. A large, glowing blue planet with a ring system is the central focus. The planet's surface is covered in a dense field of blue and white particles. A bright yellow ring orbits the planet. In the upper left, a smaller, dimmer planet is visible. The text 'ANA AVATAR' is on the left, and 'XPRIZE' is on the right, both in white. The 'X' in 'XPRIZE' is stylized with a yellow ring passing through it.

**ANA**   
**AVATAR**

**XPRIZE**®



An aerial night view of a city, likely San Francisco, with a large, semi-transparent 'X' watermark overlaid on the left side. The city lights are visible through the clouds, and the sky is dark with some stars. The text '3. Accelerate the lifecycle of innovation' is centered in the middle of the image.

### **3. Accelerate the lifecycle of innovation**





**Shell**  
**OCEAN DISCOVERY** **XPRIZE**<sup>®</sup>

Getting to the Bottom of Our Ocean.



A night sky filled with stars, transitioning into a twilight horizon. Below the horizon, a thick layer of white clouds covers the landscape. In the foreground, a cityscape is visible, illuminated by warm yellow and orange lights, contrasting with the cool blue tones of the sky and clouds. A large, faint, stylized 'X' watermark is overlaid on the left side of the image.


## 4. Leverages investment



# ANSARI XPRIZE®







**5. Provides vision and hope that moonshots are truly possible**





Google  
**LUNAR XPRIZE**

BACK TO THE MOON FOR GOOD





nrg  | cosia  
CARBON

**XPRIZE**®



# WHY A CARBON XPRIZE?

The NRG COSIA Carbon XPRIZE is a US \$20 million global competition to incentivize ways to reduce carbon emissions by **recycling industrial CO<sub>2</sub> into valuable products**.

The team that converts the most CO<sub>2</sub> into products with the highest value will win the prize.



# KEY COMPETITION ELEMENTS

**Technology breakthroughs:** Support and incentivize development and demonstration of breakthrough technologies

**Diversity of solutions:** Encourage a diversity of CO<sub>2</sub> conversion technologies and end products while incentivizing solutions that, when commercialized, can have meaningful impact on massive scale of global CO<sub>2</sub> emissions

**Independent technology validation:** Facilitate meaningful industrial testing, 3<sup>rd</sup> party validation, and demonstration of conversion solutions

**Build the ecosystem:** Support and build collaborative ecosystem of technology developers, scientists, funders, and other stakeholders around the theme of CO<sub>2</sub> conversion and CO<sub>2</sub>-based products



# CARBON XPRIZE SNAPSHOT

THE WINNING TEAM WILL...	Convert the most CO <sub>2</sub> into one or more products with the highest net value
PRIZE PURSE	<ul style="list-style-type: none"><li>• \$2.5M milestone prize purse for each track</li><li>• \$7.5M grand prize purse for each track</li></ul>
TIMELINE	4.5 years: September 2015 – March 2020
STRUCTURE	<p>Teams register for one of two tracks:</p> <ul style="list-style-type: none"><li>• 1 track tested on coal (“Track A”)</li><li>• 1 track tested on natural gas (“Track B”)</li></ul> <p>Teams compete in three rounds:</p> <ul style="list-style-type: none"><li>• Round 1: Technical and Business Viability Assessment</li><li>• Round 2: Pilot Scale Competition</li><li>• Round 3: Demonstration Scale Competition</li></ul>
JUDGING CRITERIA	<p><b>Scoring Criteria:</b></p> <ul style="list-style-type: none"><li>• Amount of CO<sub>2</sub> converted into products</li><li>• Net value of products</li></ul> <p><b>Minimum Thresholds:</b></p> <ul style="list-style-type: none"><li>• Maximum volume of fresh water consumed</li><li>• Maximum land footprint in Round 3 demonstration</li></ul>



# ACCELERATE CARBON INNOVATION

Competitors will go from **concept to prototype to industry-scale demonstration** in just 5 years. We are almost there.





# USA TEST CENTER: **WYOMING INTEGRATED TEST CENTER**

Gillette, Wyoming, USA

\$21 million from State of Wyoming, Tri-State Generating Co., and National Rural Electric Cooperatives Association

5 separate test bays will host 5 Carbon XPRIZE Finalists from 2018 – 2020

Host site is 385 MW coal-fired Dry Fork Station





# CANADA TEST CENTER:

# ALBERTA CARBON CONVERSION TECHNOLOGY CENTER

Calgary, Alberta, Canada

\$20 million from Government of Canada and Government of Alberta

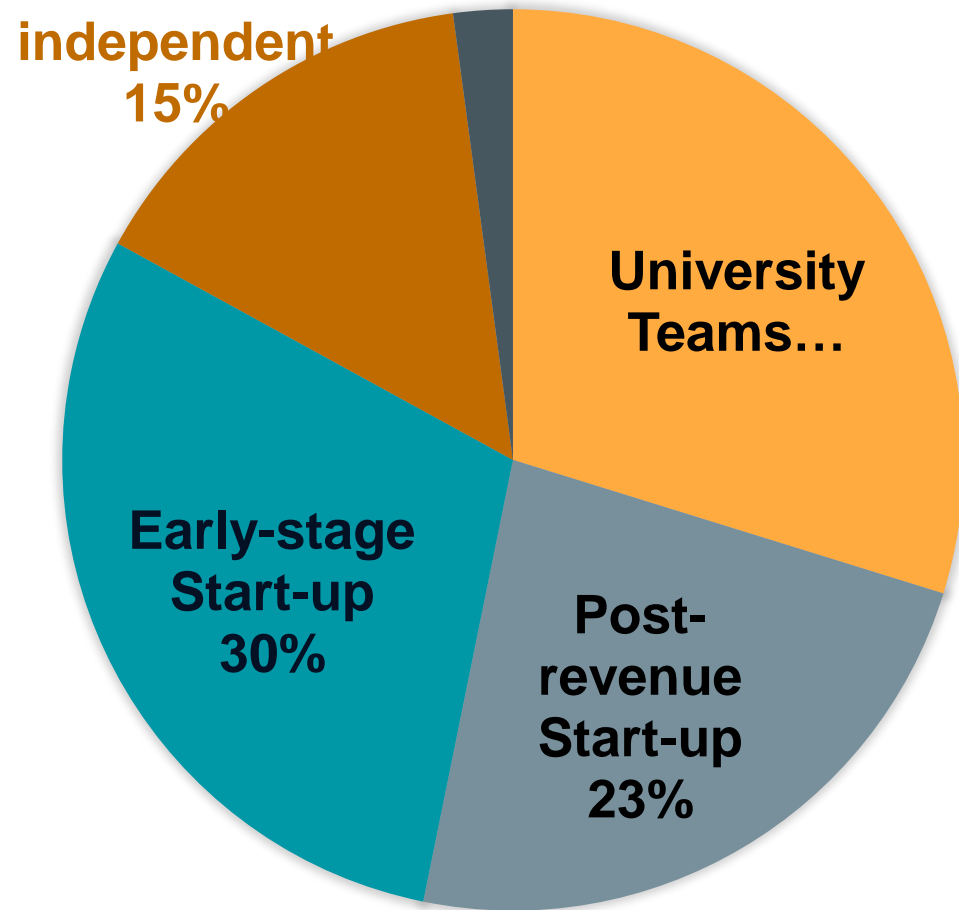
5 separate test bays will host 5 Carbon XPRIZE Finalists from 2018 – 2020

Host site is 860 MW natural gas EnMax Shepard Energy Center

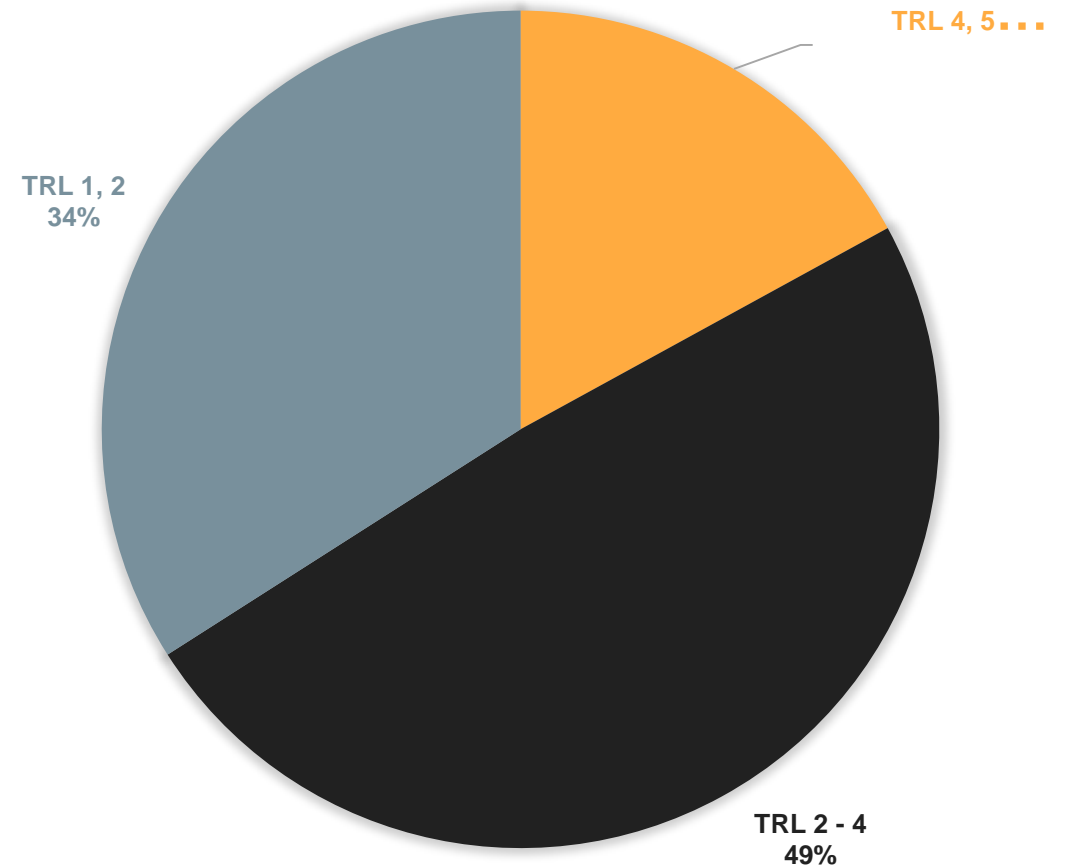




# TEAM TYPES AND CURRENT MATURITY



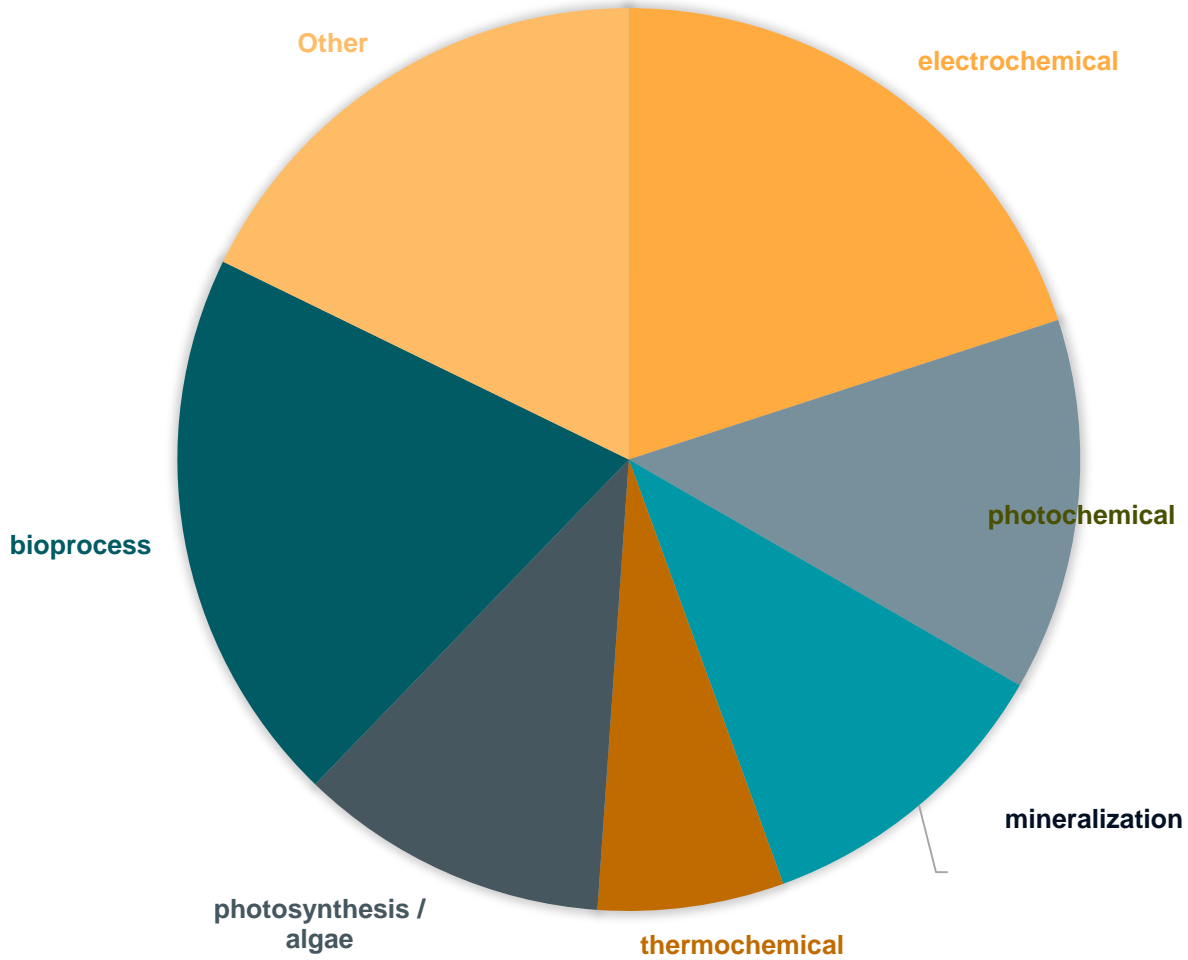
## TECHNOLOGY MATURITY



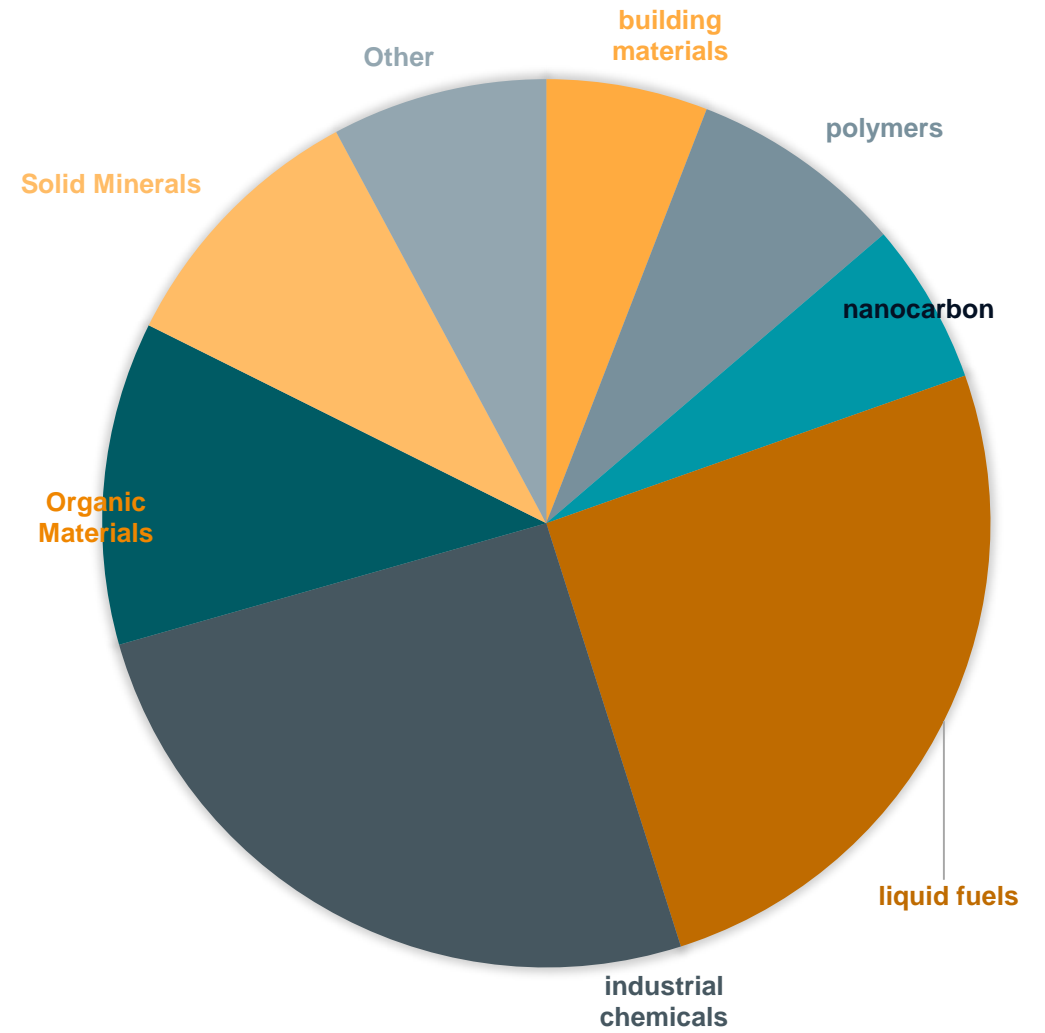


# TEAM PROCESSES & PRODUCTS

## TECHNOLOGIES



## PRODUCTS



# CREATE CO<sub>2</sub>-BASED SUPPLY CHAINS OF THE FUTURE





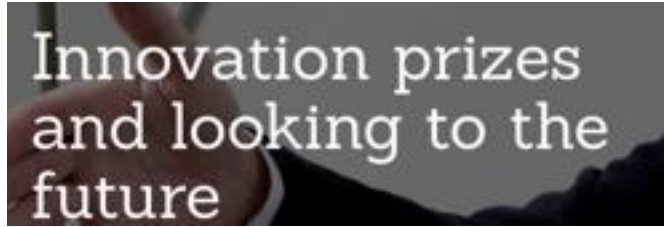
# SUPPORT CARBON INNOVATORS AROUND THE WORLD

20 Semi-Finalist teams from 6 countries are all vying for 10 spots in the Finals



# SHAPE THE GLOBAL CONVERSATION ON CARBON

Rethink 'carbon' to make CO2 work for climate change solutions



RATIONAL CHOICE

Humanity's fight against climate change is failing. One technology can change that.



How the Carbon XPrize Is Turning Airborne Trash Into Treasure



Carbon: From Pollutant to Product | Moving Upstream  
An inside look at how businesses and scientists are trying to capture carbon dioxide and convert it into sellable products.

BUSINESS | ENERGY | JOURNAL REPORTS: ENERGY

The Way Forward for Carbon Capture

Storing carbon may give way to using it as an ingredient in salable—and profitable—products

CO2 to fish food, other ideas advance in \$20M XPRIZE contest





“The day before  
something is a  
breakthrough, it is  
still a crazy idea.”

– Dr. Peter H. Diamandis











A scenic landscape featuring a large mountain peak, a valley with houses, and a lake in the foreground. The sky is blue with scattered white clouds. The foreground is filled with yellow wildflowers. A road curves through the valley, and a lake is visible on the right side.

**Zenia Tata**  
**Chief Impact Officer, XPRIZE**

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***Thank you***