The Landscape of Innovation

The only way to provide everyone in the world with access to reliable and affordable energy, food, goods, and services without emitting greehouse gas is through broad public and private investment into a landscape of innovation focused on developing new technologies. No Investor or group of investors can do this alone. Breakthrough Energy is committed to encouraging a broad network of public and private capital to work together to solve the problem.

Breakthrough Energy COALITION

GRAND CHALLENGES

The broad areas of activity that produce the most greenhouse gases.

TECHNICAL QUESTS

Specific scientific pathways that have the potential for breakthrough technologies which can significantly reduce greenhouse gas emissions.

PUBLIC INVESTMENT

Governments around the world commit budget to scientific research into new energy solutions.

SCIENTIFIC INNOVATIONS

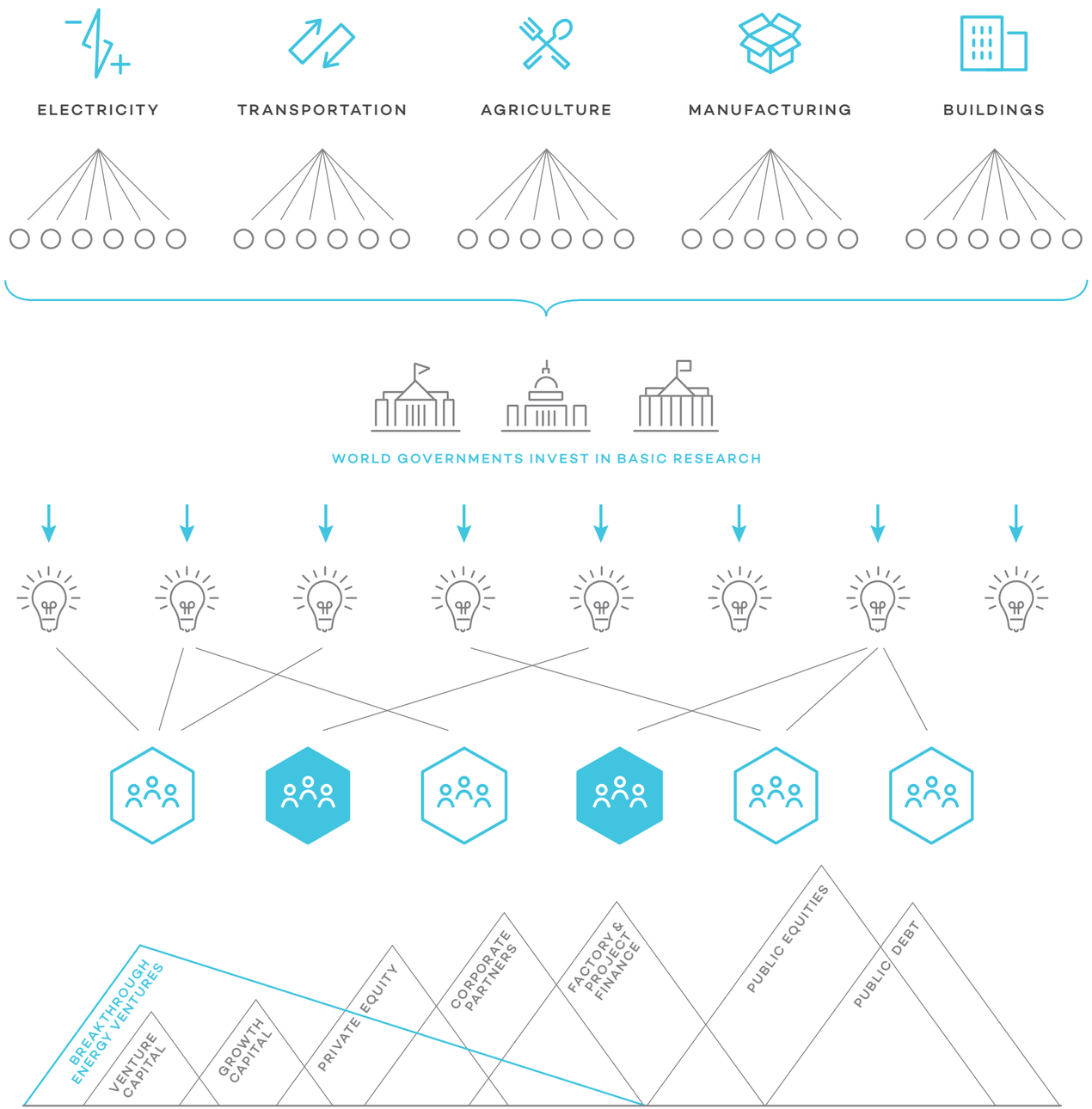
Leading research institutions, primarily funded by governments, working in collaboration will deliver new and exciting discoveries, with a variety of potential applications.

COMPANIES & PRODUCTS

New companies are formed around those innovations seeking capital from investors.

PRIVATE INVESTORS

Breakthrough Energy Coalition, BEV and other flexible capital is committed to investing in companies that will bring innovations from start-up to bankability.



Technical Quests

ELECTRICITY

- Next-Generation Nuclear Fission
- Enhanced Geothermal Systems (EGS)
- Ultra-Low-Cost Wind Power
- Ultra-Low-Cost Solar Power
- Nuclear Fusion
- Ultra-Low-Cost Electricity Storage
- Ultra-Low-Cost Thermal Storage
- Ultra-Low-Cost Transmission
- Low-Cost Ocean Energy
- Next-Generation Ultra-Flexible Grid Management
- Fast-Ramping, Low-GHG Power Plants
- Low-GHG, Reliable, Distributed Power Solutions
- CO_2 Capture
- CO_2 Sequestration and Use

TRANSPORTATION

- Batteries for Gasoline Equivalent EVs
- Lightweight Materials and Structures
- Low-GHG Liquid-Fuels Production—Non-Biomass
- Low-GHG Gaseous Fuels Production—H_2, CH_4
- High-Energy-Density Gaseous Fuel Storage
- High-Efficiency Thermal Engines
- High-Efficiency, Low-Cost Electrochemical Engines
- Low-GHG Liquid Fuels Production—Biomass
- Transportation-System Efficiency Solutions
- Technology Solutions that Eliminate the Need for Travel
- Technology-Enabled Urban Planning and Design
- Low-GHG Air Transport
- Low-GHG Water-Borne-Goods Transportation

AGRICULTURE

- Reducing CH_4 and N_2O Emissions from Agriculture
- Zero-GHG Ammonia Production
- Reducing Methane Emissions from Ruminant Animals
- Developing Low-Cost, Low-GHG New Sources of Protein
- Eliminating Spoilage/Loss in the Food-Delivery Chain
- Soil-Management Solutions for GHG Reduction and CO_2 Storage
- Manure
- Agriculture-Related Deforestation

MANUFACTURING

- Low-GHG Chemicals
- Low-GHG Steel
- Low/Negative-GHG Cement
- Waste Heat Capture/Conversion
- Low-GHG Industrial Thermal Processing
- Low-GHG Paper Production
- Extreme Efficiency in IT/Data Centers
- Fugitive Methane Emissions from Industry
- Extreme Durability for Energy-Intensive Products and Materials
- Transformative Recycling Solutions for Energy-Intensive Products and Materials
- Increasing Biomass Uptake Rate of CO_2
- CO_2 Extraction from the Environment

BUILDINGS

- High-Efficiency, Non-HFC Cooling & Refrigeration
- High-Efficiency Space/Water Heating
- Building-Level Electricity and Thermal Storage
- High-Efficiency Envelope: Windows and Insulation
- High Efficiency Lighting
- High-Efficiency Appliances and Plug-Loads
- Next-Generation Building Management
- Technology-Enabled Design of Efficient Buildings and Communities