

POLY TRANSFORM PVT. LTD.

Corporate Profile & Technology Overview

Engineering Tomorrow's Circular Energy Economy

Waste Plastic to Fuel | Fuel Cell Technology | Biogas to CBG/CNG

RESEARCH • INNOVATION • SUSTAINABILITY



CHAPTER

DISCOVER

Our Story

"Empowering change by rethinking the standard."

Every Challenge Holds the Seed of Innovation

Plastic waste and rising energy demand are often treated as separate global challenges. At Poly Transform, we believe they are opportunities to rethink how resources are valued and how energy is produced.

Founded with the vision of creating sustainable engineering solutions, Poly Transform Pvt. Ltd. is developing advanced clean technologies that address critical environmental and industrial needs. Our work focuses on three strategic innovation platforms: **Waste Plastic to Fuel Technology**, which transforms non-recyclable plastic waste into valuable liquid fuels; **Fuel Cell Technology**, which supports the transition toward efficient, low-emission energy systems; and **Biogas to CBG/CNG**, which converts organic waste into renewable biomethane for clean mobility and industrial energy.

Rather than viewing waste as an environmental burden, we see it as a resource capable of driving economic value and environmental progress. Through research, engineering, and continuous innovation, we aim to help industries reduce dependence on conventional fossil resources while supporting a circular and low-carbon economy.

Although we are at the startup stage, our ambition is global. We are building technologies designed not only to solve today's challenges, but to contribute to tomorrow's sustainable energy landscape.

OUR PHILOSOPHY

Innovation begins where conventional thinking ends. Every technology we develop is guided by scientific rigor, environmental responsibility, and a commitment to creating practical solutions for a cleaner future.



Building the Future of Sustainable Energy

Poly Transform Pvt. Ltd. is an innovation-driven clean technology company focused on developing commercially viable solutions that address the world's most pressing challenges: plastic waste management, sustainable energy generation, and renewable gas recovery.

Our integrated portfolio combines advanced engineering, scientific research, and scalable technology development to create solutions that contribute to a circular economy and support industrial decarbonization.

Rather than specializing in a single product, we are building a platform of complementary technologies designed to evolve with the energy transition.

OUR CORE VALUES

- Innovation
- Sustainability
- Scientific Excellence
- Integrity
- Scalability
- Environmental Responsibility
- Collaboration
- Long-term Value Creation

COMPANY SNAPSHOT

Company Name	Poly Transform Pvt. Ltd.
Headquarters	Pune, Maharashtra, India
Industry	Clean Technology
Core Technologies	Waste Plastic to Fuel, Fuel Cell Technology, Biogas to CBG/CNG
Business Focus	Technology Development & Commercialization
Business Model	Technology Licensing, Engineering Services, Clean Energy Solutions

Rethinking Waste. Reimagining Energy.

Modern society faces two interconnected challenges: increasing plastic waste and the growing demand for cleaner, more sustainable energy systems. Millions of tonnes of non-recyclable plastic continue to accumulate in landfills and natural ecosystems, while industries seek reliable alternatives to carbon-intensive energy sources. Addressing these issues requires more than incremental improvements — it demands technological innovation.

Poly Transform is developing solutions that respond to these challenges through engineering-driven approaches that recover value from waste and accelerate the transition to cleaner energy technologies.

FOUR GLOBAL CHALLENGES

01

Plastic Waste

Growing accumulation of non-recyclable plastics.

02

Energy Transition

Increasing demand for low-carbon energy solutions.

03

Circular Economy

Recovering value from resources instead of disposing of them.

04

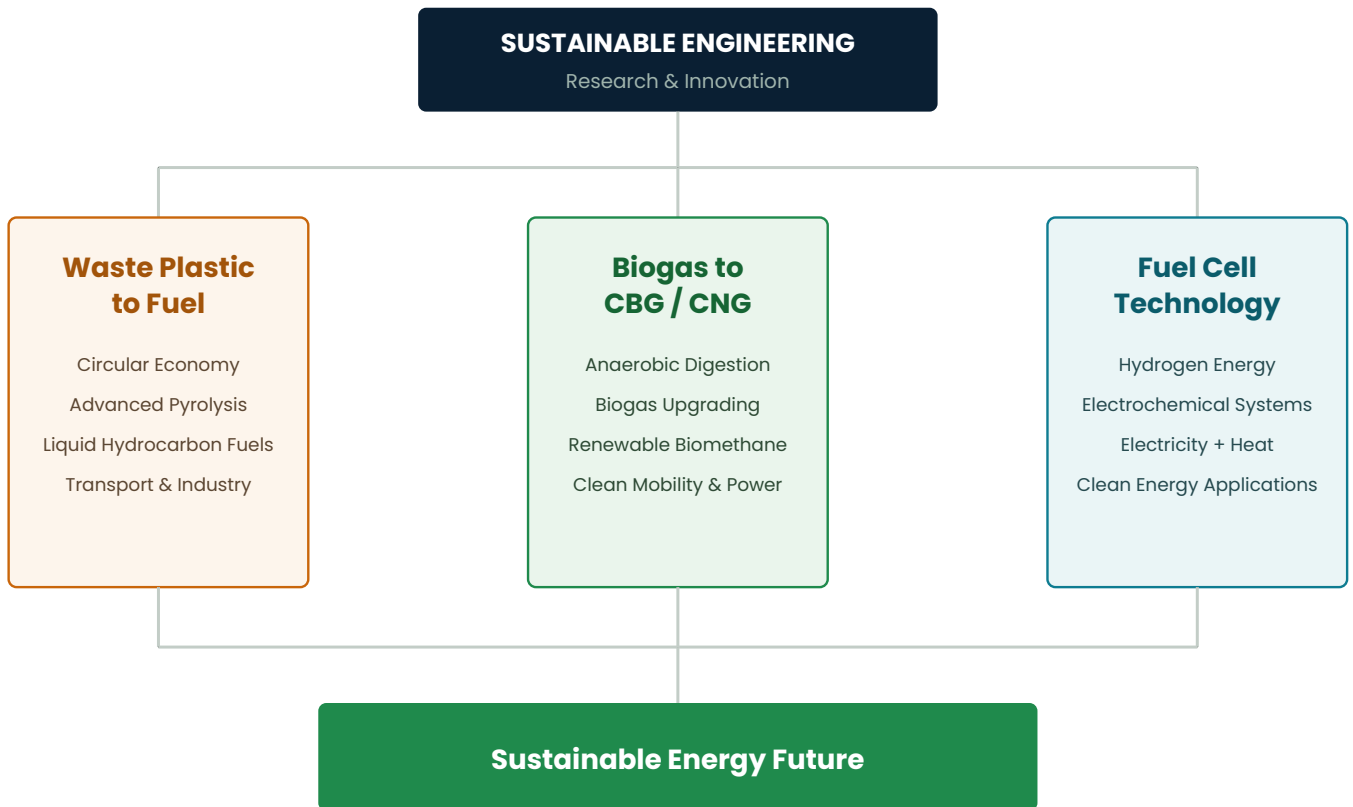
Industrial Sustainability

Supporting industries in meeting environmental and ESG goals.

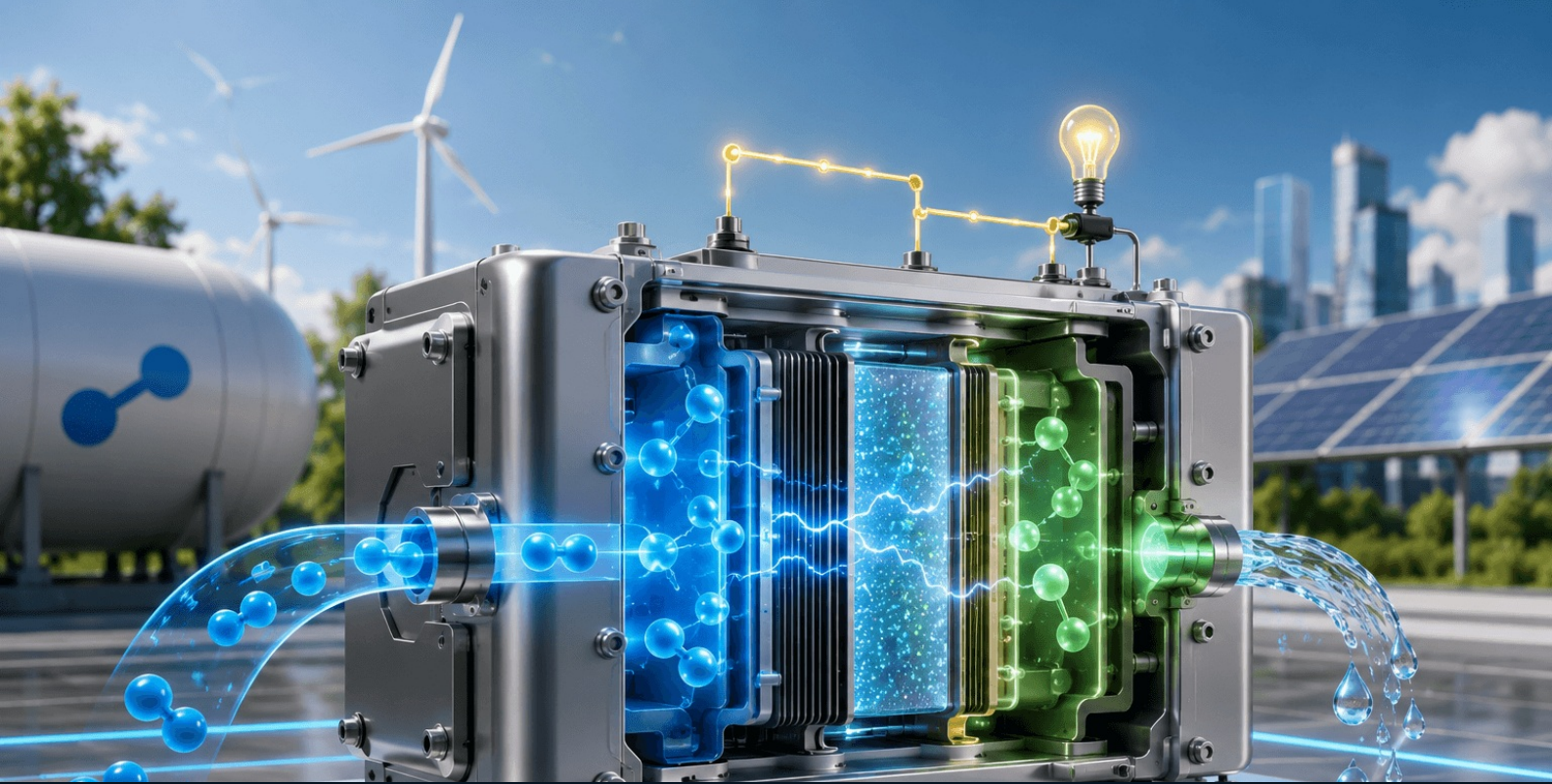
Poly Transform Innovation Platform

Three Strategic Technologies. One Sustainable Vision.

At Poly Transform, we are building an integrated clean technology platform comprising three complementary innovation pillars. While each technology addresses a distinct challenge, together they support the broader transition toward a circular, low-carbon economy.



One Company. Three Innovation Platforms. One Sustainable Future.



CHAPTER

RESEARCH

Science Before Solutions

"Science reveals possibilities before industry recognizes them."

Engineering Solutions for Tomorrow's Challenges

The global transition toward sustainable energy requires more than replacing one fuel with another — it requires reimagining how resources are utilized, how energy is generated, and how industries operate.

Poly Transform was established with the belief that scientific innovation should lead to practical, scalable solutions capable of addressing real-world environmental and industrial challenges.

Our technologies are designed around three guiding principles:



Circular Resource Utilization

Recovering value from waste streams rather than treating them as disposal challenges.



Sustainable Energy Innovation

Developing advanced technologies that improve energy efficiency while supporting decarbonization.



Engineering Excellence

Applying scientific research, process engineering, and continuous innovation to create commercially viable technologies.

WHAT MAKES POLY TRANSFORM DIFFERENT?

Instead of developing isolated products, we are building a technology platform capable of evolving alongside the global clean energy transition. Our approach combines Scientific Research, Engineering Design, Process Innovation, Commercial Scalability, and Sustainability into one integrated innovation ecosystem.

"Innovation is valuable only when it solves meaningful problems."

Building Technology Through Science

Every innovation begins with research. At Poly Transform, technology development is driven by engineering principles, laboratory experimentation, and continuous process optimization.

We are committed to advancing clean technologies through systematic research, analytical validation, and practical engineering solutions.

INNOVATION AREAS

Process Engineering	Reactor Optimization	Waste Valorization
Fuel Cell Systems	Fuel Characterization	Process Simulation
Sustainability Assessment		

OUR DEVELOPMENT PHILOSOPHY

Research → Design → Prototype → Testing → Optimization → Commercialization

POLY TRANSFORM INSIGHT

A significant proportion of plastic waste generated globally cannot be economically recycled using conventional mechanical recycling processes. Advanced thermochemical conversion technologies can help recover value from certain non-recyclable plastic streams when implemented responsibly and under appropriate environmental controls.

“Every data point brings us one step closer to commercially scalable clean technology.”

Designing Technologies That Scale

At Poly Transform, innovation extends beyond laboratory research. Every technology is developed with scalability, reliability, and industrial applicability in mind.

Our engineering philosophy integrates scientific understanding with practical implementation to ensure that future commercialization is supported by robust design principles.

ENGINEERING CAPABILITIES



DEVELOPMENT PRINCIPLES

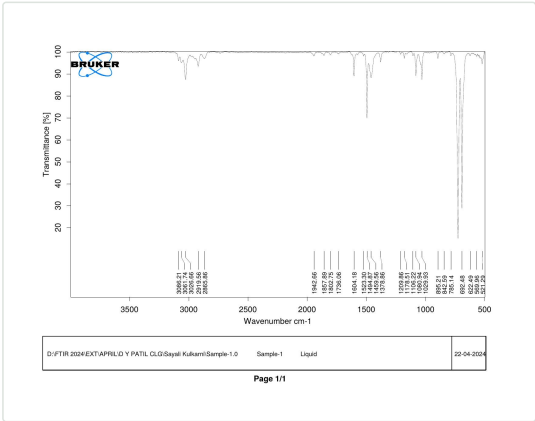


“Engineering excellence is what turns a scientific breakthrough into a lasting technology.”

Science Builds Confidence

Every emerging technology must be supported by evidence. Poly Transform is committed to validating its technologies through systematic laboratory testing, analytical characterization, and continuous engineering evaluation.

Our liquid fuel product has been subjected to Fourier Transform Infrared (FTIR) spectroscopy for molecular characterization. The spectra indicate the presence of hydrocarbon-related functional groups consistent with thermochemically derived liquid fuels.



Representative FTIR spectrum — pyrolysis liquid fuel sample · Detailed analytical characterization available upon request

KEY OBSERVATIONS

WAVENUMBER	GROUP	INTERPRETATION
~2,850-2,950 cm ⁻¹	C-H Stretch	Aliphatic hydrocarbons
~1,600-1,650 cm ⁻¹	C=C	Unsaturated hydrocarbons
~1,370-1,460 cm ⁻¹	CH ₂ /CH ₃ Bending	Hydrocarbon chain

TECHNOLOGY READINESS

Concept Validation	Completed
Laboratory Research	Ongoing
Analytical Characterization	FTIR Completed
Prototype Development	In Progress
Pilot Demonstration	Planned
Commercial Deployment	Future Phase

SCIENTIFIC VALIDATION

Scientific validation transforms innovation into engineering confidence. Future additions to our validation program include GC-MS, fuel property testing, pilot plant data, and industrial-scale validation.



CHAPTER

INNOVATE

Technology Platform

"Technology becomes meaningful only when it solves real-world challenges."

Three Innovation Platforms. One Sustainable Vision.

Poly Transform's technology portfolio has been strategically developed around three independent yet complementary innovation platforms. Each addresses a distinct global challenge while contributing to a common objective — accelerating the transition toward a cleaner, more sustainable future.

PLATFORM ONE

Waste Plastic to Fuel Technology

MISSION

Recover value from non-recyclable plastic waste through advanced thermochemical conversion.

FOCUS AREAS

- ✓ Circular Economy
- ✓ Waste Valorization
- ✓ Alternative Fuels
- ✓ Resource Recovery

APPLICATIONS

- Industrial Fuel
- Transportation Fuel (*subject to applicable refining and regulatory standards*)
- Waste Management Solutions

PLATFORM TWO

Biogas to CBG / CNG

MISSION

Convert suitable organic and biogas streams into renewable biomethane through integrated purification, upgrading and compression.

FOCUS AREAS

- ✓ Renewable Gas Engineering
- ✓ Anaerobic Digestion
- ✓ Biogas Upgrading
- ✓ Circular Waste Recovery

APPLICATIONS

- Clean Mobility (CBG/CNG)
- Industrial Energy
- Distributed Power Generation

PLATFORM THREE

Fuel Cell Technology

MISSION

Develop efficient electrochemical energy systems capable of supporting future clean energy applications.

FOCUS AREAS

- ✓ Hydrogen Economy
- ✓ Distributed Energy
- ✓ Clean Electricity
- ✓ Sustainable Mobility

APPLICATIONS

- Backup Power
- Transportation
- Stationary Energy
- Remote Power Systems

Three technologies. Shared purpose. Sustainable impact.



THE PLASTIC WASTE CHALLENGE

Waste Is Not the End of the Story

Every year, millions of tonnes of plastic waste are generated worldwide, creating environmental, economic, and social challenges. A significant portion of this waste cannot be economically recycled using conventional methods, ultimately ending up in landfills or the natural environment.

At Poly Transform, we believe these materials represent untapped energy resources rather than waste.

KEY CHALLENGES

Landfill Accumulation · Environmental Pollution · Resource Loss · Growing Energy Demand

OUR PERSPECTIVE

Instead of asking "How do we dispose of plastic?" — we ask "How do we recover its value?"

Plastic Waste → Resource Recovery → Energy Production → Circular Economy

Fuel Cell Technology

Global energy systems are transitioning toward cleaner, more efficient, and lower-emission technologies. Fuel cells represent one of the most promising solutions by converting chemical energy directly into electricity through electrochemical reactions with high efficiency and low emissions.

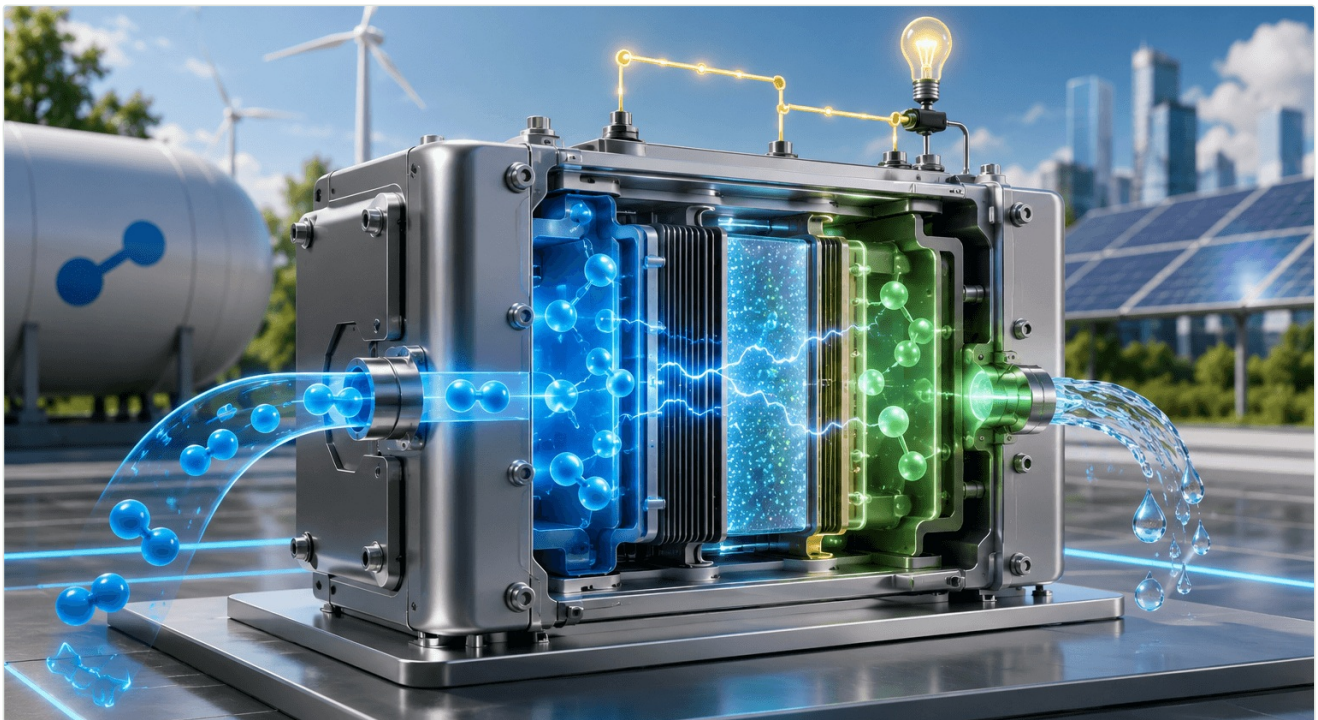
Poly Transform is actively developing fuel cell technologies that support future applications in mobility, distributed energy systems, and sustainable power generation.

WHY FUEL CELLS?

- ✓ Higher Efficiency
- ✓ Low Emissions
- ✓ Quiet Operation
- ✓ Scalable Systems

FUTURE APPLICATIONS

- ✓ Transportation & Mobility
- ✓ Backup & Distributed Power
- ✓ Industrial & Remote Energy



"The future of energy is not only cleaner — it is smarter."

Creating Value Beyond Technology

Our objective extends beyond technology development. We aim to create measurable environmental, economic, and social impact through engineering solutions that support sustainable industrial growth.

Environmental Impact

- Reduced Plastic Waste
- Lower Landfill Burden
- Resource Recovery
- Alternative Energy

Economic Impact

- New Business Opportunities
- Reduced Waste Management Costs
- Technology Commercialization
- Employment Generation

Social Impact

- Cleaner Cities
- Innovation Ecosystem
- Industrial Development
- Knowledge Creation

ALIGNED WITH UN SUSTAINABLE DEVELOPMENT GOALS

7

Affordable & Clean Energy

9

Industry, Innovation & Infrastructure

11

Sustainable Cities & Communities

12

Responsible Consumption & Production

13

Climate Action



CHAPTER

ENGINEER

Commercialization

"Ideas become industries through engineering."

Multiple Pathways to Commercial Value

Poly Transform's business model is designed to generate diversified, resilient revenue as our technologies mature — from early engineering services through to full technology licensing and long-term partnerships.

Technology Licensing

Licensing proprietary pyrolysis and fuel cell technology to industry partners.

Engineering Consultancy

Advisory and design services for waste-to-energy and clean power projects.

Plant Design

Custom plant design engineered to client feedstock and capacity requirements.

EPC Support

Engineering, procurement and construction support for deployment.

O&M Services

Operations and maintenance services for deployed systems.

Strategic Partnerships

Long-term collaborations with municipalities, industry and technology partners.

POLY TRANSFORM INSIGHT

As carbon markets mature, technologies that demonstrably reduce landfill dependence and displace fossil-derived fuels may become eligible for future carbon credit mechanisms — an emerging opportunity we continue to monitor as our commercial operations scale.

From Research to Real-World Impact

Every breakthrough technology follows a structured path from scientific research to commercial implementation. Poly Transform is progressing through a phased development strategy that emphasizes technical validation, engineering optimization, and market readiness.

- ✓ Research & Concept Development
- ✓ Laboratory Validation
- ✓ Prototype Development
- **Pilot Demonstration**
- Commercial Deployment
- Strategic Partnerships
- National Expansion
- Global Technology Licensing

CURRENT FOCUS

COMMERCIAL VISION

Our long-term objective is to develop scalable technology platforms that enable industries, municipalities, and strategic partners to adopt sustainable solutions through technology licensing, engineering services, and collaborative commercialization.

OUR GROWTH PRIORITIES

- Pilot Plant Development
- Industrial Demonstration
- Strategic Collaborations
- Technology Validation
- Intellectual Property Development
- Global Partnerships

Why Partner With Poly Transform?

The transition toward sustainable technologies requires collaboration between industry, academia, government, and investors. Poly Transform seeks strategic partnerships that accelerate technology validation, commercialization, and market adoption.

FOR INDUSTRY

- ✓ Sustainable technologies
- ✓ Engineering support
- ✓ Technology integration
- ✓ Process optimization

FOR INVESTORS

- ✓ High-growth clean technology sector
- ✓ Scalable innovation platform
- ✓ Long-term commercialization potential
- ✓ Research-driven approach

FOR GOVERNMENT

- ✓ Circular economy
- ✓ Waste valorization
- ✓ Sustainable industrial development
- ✓ Environmental stewardship

FOR ACADEMIA

- ✓ Collaborative research
- ✓ Technology development
- ✓ Student innovation
- ✓ Joint validation

COLLABORATION AREAS

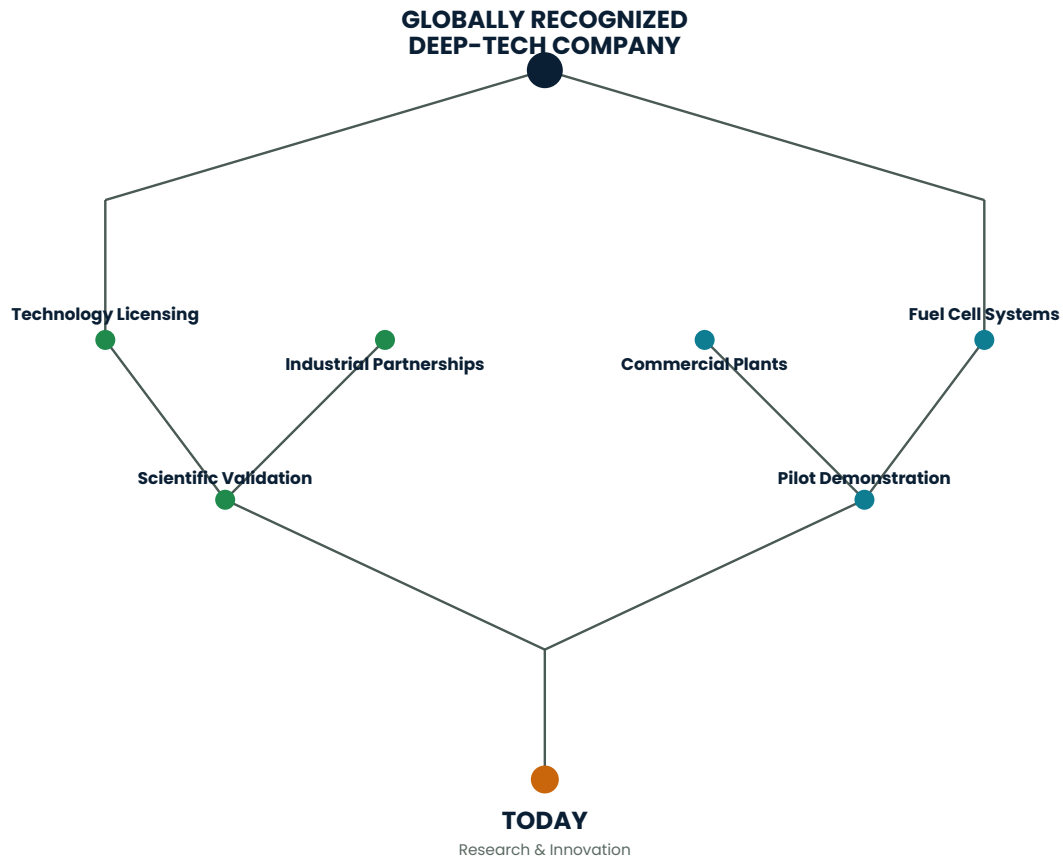
Pilot Plants · Joint Research · Technology Licensing · Industrial Demonstrations · Commercial Deployment



Great technologies grow through meaningful partnerships.

Vision 2035

Engineering Tomorrow — A Growth Ecosystem, Not a Timeline



This is presented as a **vision**, not a guaranteed outcome — a growth ecosystem where everything begins with research, and each capability builds toward the next: scientific validation and pilot demonstration, technology licensing and industrial partnerships, commercial plants and fuel cell systems, converging toward global recognition as a deep-technology company.



CHAPTER

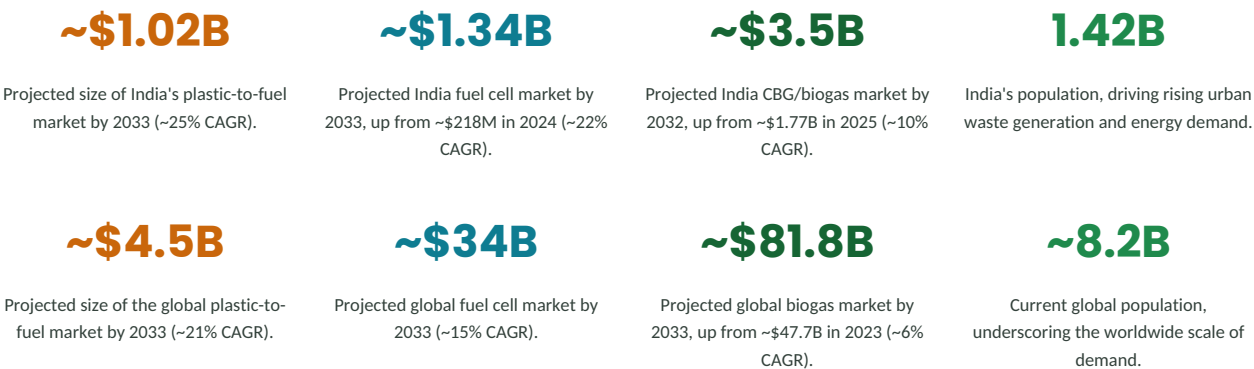
TRANSFORM

Market & Future Growth

"Progress is measured by the value we create for society."

A Market Defined by Urgency and Scale

The convergence of the global plastic waste challenge, the accelerating energy transition, and the shift toward renewable gas is creating one of the fastest-growing categories in clean technology.



Global Plastic Waste Challenge

Millions of tonnes generated annually with limited recycling capacity.

Energy Transition

Rising demand for low-carbon, distributed power generation.

Clean Technology Market

Accelerating investment in circular and decarbonization technologies.

Circular Economy

Policy and industry alignment toward resource recovery models.

KEY DRIVERS

Government push for clean energy infrastructure, and industrial demand for low-carbon fuel, renewable gas, and energy solutions, are together accelerating adoption of integrated waste-to-energy platforms across India and comparable emerging markets.

Driven by Vision. Guided by Engineering.

Sayali Sameer Kulkarni

DIRECTOR

B.E. (Chemical)
Technology Development
Waste-to-Energy Systems
Process Design
Innovation Strategy
Clean Technology Research

Shrinagesh K. S.

DIRECTOR

35+ Years of Industrial Experience
Instrumentation & Control
Industrial Automation
Manufacturing Systems
Business Strategy
Technology Commercialization

COMPANY CULTURE

At Poly Transform, leadership is defined by curiosity, technical excellence, and the belief that innovation should create lasting environmental and societal value.





CHAPTER

INSPIRE

The Future We Are Engineering

"The future isn't predicted. It is engineered."

Let's Build the Future Together

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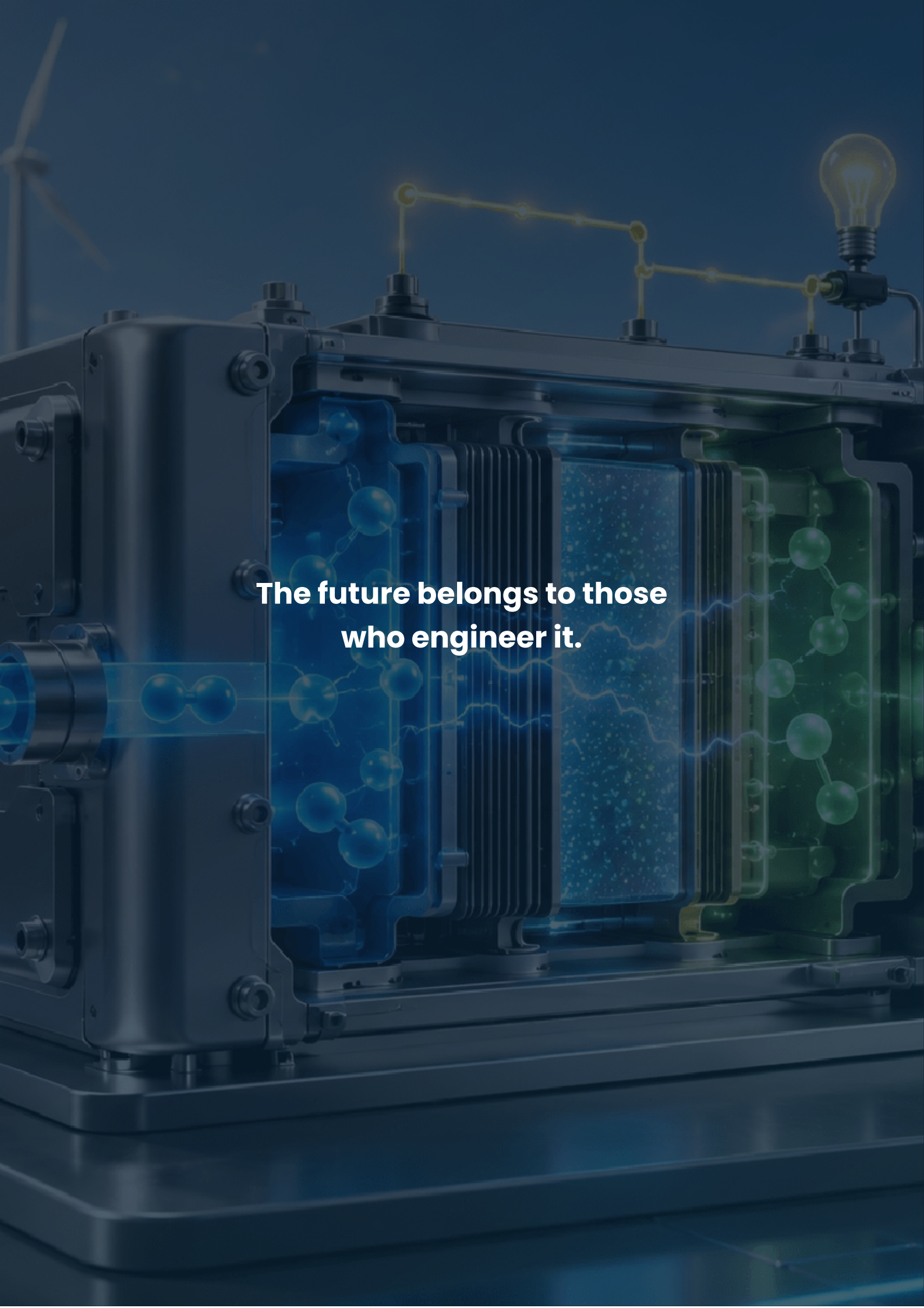
LINKEDIN

linkedin.com/company/poly-transform-pvt-ltd



 Headquarters

FUTURE GLOBAL EXPANSION



**The future belongs to those
who engineer it.**

OUR MANIFESTO

We believe innovation carries responsibility.

We believe that engineering should create solutions — not just products.

We believe that waste should be viewed as a resource, not a burden.

We believe that cleaner energy must be practical, scalable, and accessible.

We believe that scientific research becomes meaningful only when it improves lives.

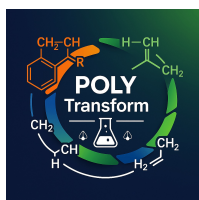
We believe that sustainable technologies will define the industries of tomorrow.

And above all,

**We believe that every meaningful transformation begins with the courage to
imagine a better future.**

This is the future we are engineering.

Poly Transform Pvt. Ltd.



Closing the Loop with Clean Energy Innovation

Pune | Maharashtra | India

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