



ACMFN CASE STUDY SERIES

A SNAPSHOT OF THE INDIAN CLEANTECH FINANCING ECOSYSTEM

BUILD. ACCELERATE. MAINSTREAM.



ABOUT THE CASE STUDY SERIES

The Case Study Series is part of the Asian Cleantech MSME Financing Network (ACMFN) project and was prepared by the project partner adelphi. The project is a four-year project co-financed by the European Union that aims to build and leverage a cleantech financing ecosystem to spark improved access to finance for Asian cleantech enterprises and enhance sustainable consumption and production patterns in Asia.

The Case Study Series accompanies the report “A Snapshot of the Indian Cleantech Financing Ecosystem. ACMFN Flagship Report Series” and provides in-depth case studies on the organisations interviewed for the report.

LIST OF ORGANISATIONS

Micro-, Small-, and Medium-sized Cleantech Enterprises

Atharva Polyplast Ltd.

Mangla Smart Energy Solutions

Ramakrishnaa Processing Mills

Shree Ashtavinayak Glass (SAG)

Syndicate Implex

Financial Institutions

TATA Cleantech

SIDBI Venture Capital Limited (SVCL)

Blume Ventures

Nexus Venture Partners

Global Environment Fund

International Finance Corporation (IFC)

Intermediaries

Godrej & Boyce

Tiruppur Exporter's Association (TEA)

Case Study



ATHARVA POLYPLAST LTD.

The raw material supplier for multinational corporations Atharva Polyplast Ltd. (part of the Rajmudra Group) manufactures plastic spare parts used in production of refrigeration and other electronic appliances. Following Godrej & Boyce's example, the GreenCo-certified enterprise has been implementing many cleantech initiatives as part of its Green Mission.



"Our Green Mission has strengthened our profile because we do something [good] for the environment."

ORGANISATION PROFILE



Cleantech Implementer



Started in 2015



Enable resource-efficient production

- ✓ Energy efficiency adaptations
- ✓ Raw & packing material reduction
- ✓ Transport optimisation
- ✓ Waste reduction
- ✓ Water recycling
- ✓ Plastic use reduction



90 employees



Based in Pune, India



Impact: Among other savings, 60% power saving through more energy efficient machinery; plastic use reduction of >1 tonne

CLEANTECH MODEL SNAPSHOT



INVESTMENT HISTORY & REQUIREMENTS



- Financing through conventional loans and equity from local corporate bank
- Require specific cleantech financing for solar rooftop investment in the future to achieve lower interest rate

CHALLENGE



- Finding time for cleantech initiatives, since the normal production takes up most time
- Customers environmental awareness is still lacking

BEST PRACTICES



Focus on improved operationalisation & skills training for employees



Create environmental awareness among suppliers



Improve branding and build a strong profile through Green Mission & GreenCo-certification

MANGLA SMART ENERGY SOLUTIONS

Mangla Smart Energy Solutions provides domestic and industrial solar PV systems, thermal and energy efficient solutions in Tirupur. The cleantech enterprise also offers energy consultancy services, cleantech training and financing facilitation with local banks for clean production enterprises.



Photo © Abbie Traylor-Smith / Panos Pictures / DFID

"We believe the private sector can be a driving force in promoting clean technologies."

ORGANISATION PROFILE



Cleantech Supplier



Started in 2008



Foster renewable & efficient energy use

- ✓ Offer renewable energy & energy efficiency technology
- ✓ Facilitate deals with local banks
- ✓ Offer consultancy for energy services
- ✓ Provide training & skills development



8 main staff, plus 12 project-staff

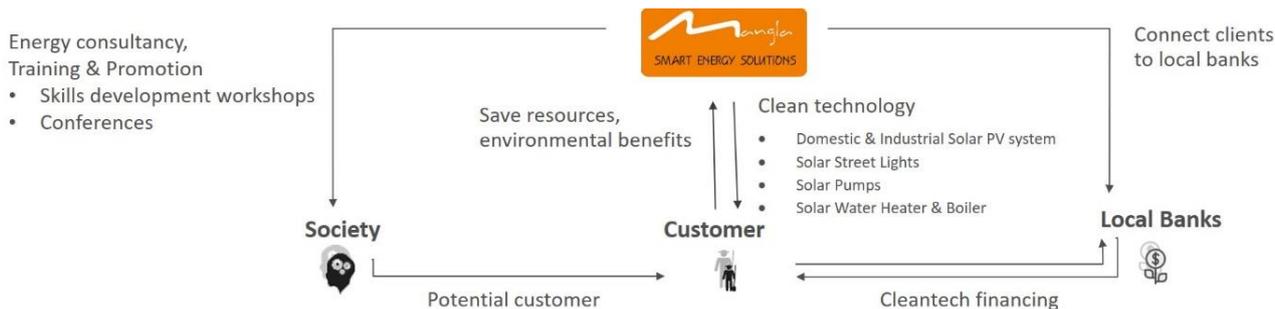


Based in Tirupur, India



Impact: Significant energy savings. Only with solar thermal, clients can reduce their biomass consumption by 70-80%.

CLEANTECH MODEL SNAPSHOT



INVESTMENT HISTORY & REQUIREMENTS

- Use of High Net worth Individual Arrangements: Invest in projects against a payment & share profits generated
- Self-financing of investments through revolving capital by the group (reinvestment in one of their own companies in the group)

CHALLENGE



- SMEs who consider implementing green technologies lack financial strength
- Lack of knowledge about technology among SMEs
- End consumers lack trust in technology

BEST PRACTICES



Provide training alongside technology to increase skills and knowledge about cleantech



Promote development of clean technologies



Address SME's financing problems by facilitating deals with local banks



RAMAKRISHNA PROCESSING MILLS

Ramakrishna Processing Mills is one of the leading textile processing company with several hundred garment processing units in the Tirupur area. Several small cleantech interventions on the thermal and electrical side have been implemented to optimise energy use in the mills.



"There are a lot of opportunities to optimise processing in the factory and based on the current state there is a lot of room for improvement."

ORGANISATION PROFILE



Cleantech Implementer



Founded in 1996



Optimise energy efficient production

- ✓ Coal compression
- ✓ Pressure optimisation
- ✓ Leakages reduction
- ✓ Boiler insulation
- ✓ Material handling & space optimisation



350 staff members

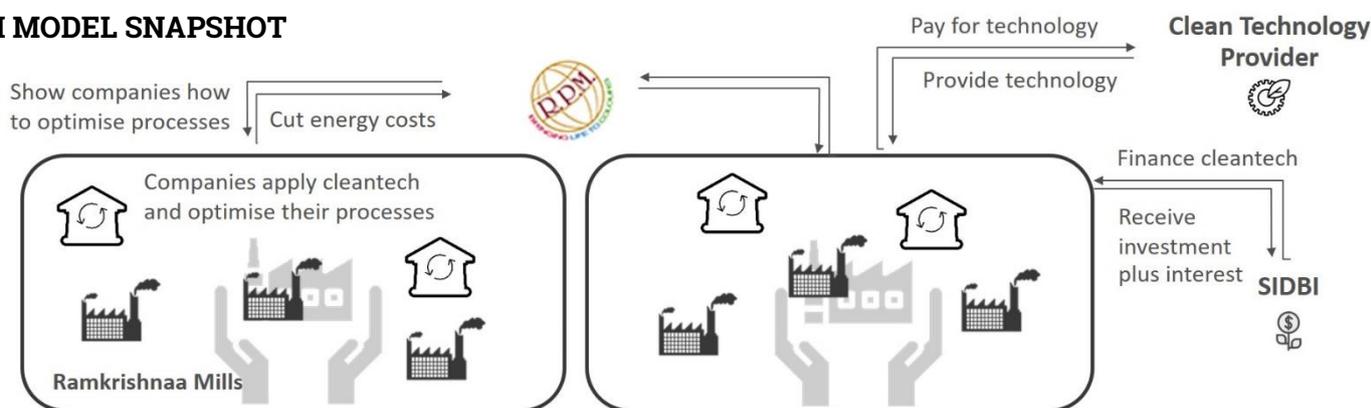


Based in Tirupur, India



Impact: In total, 21% of energy consumption has been cut and 10% of companies in their factories have started optimising their processes.

CLEANTECH MODEL SNAPSHOT



INVESTMENT HISTORY & REQUIREMENTS



- Financing through SIDBI SMILE scheme
- Motor replacement and water treatment initiatives planned
- Solar rooftop inputs planned to be implemented in less than six months (100-200 KW in initial stage)

CHALLENGE

- Lack of a knowledge exchange platform
- Knowledge transfer within the mills: Companies do not consecutively implement optimisation processes.

BEST PRACTICES



Large exposure: Work directly with hundreds of companies that implement cleantech

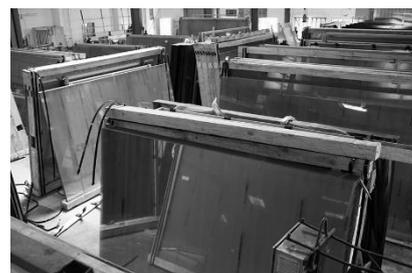


Focus on cost-effectiveness by realising less cost-intensive cleantech opportunities before larger investments



SHREE ASHTAVINAYAK GLASS (SAG)

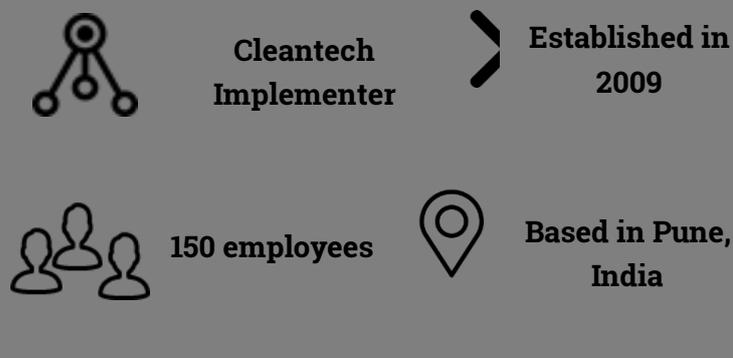
The GreenCo-certified glass processor SAG - a joint venture between the Royal Glass House and the Marigold Group of Industries - has taken numerous optimisation initiatives using cleantech to save resources and cut costs, with demonstrated impact on their savings.



Source: SAG (<https://www.saglass.in/>)

"Our goal is to inspire businesses to protect the environment."

ORGANISATION PROFILE

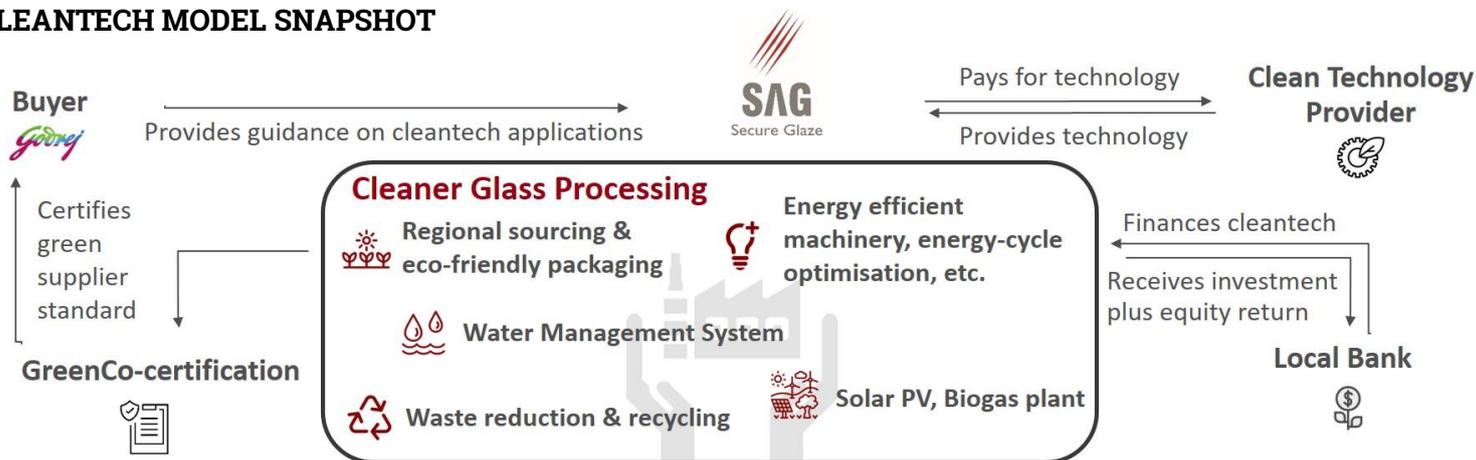


Maximise resource efficiency

- ✓ Resource-efficient machinery
- ✓ Energy & Water Management Systems
- ✓ Renewable energy technology
- ✓ Glass waste reduction & recycling
- ✓ Environmentally friendly material

Impact: A total of 10% water conservation; 7% waste reduction; and 6% power saved, only through efficient process technologies installation

CLEANTECH MODEL SNAPSHOT



INVESTMENT HISTORY & REQUIREMENTS

- Total investment of over US\$ 65,000 in cleantech measures; with an annual turnover of US\$ 12 million
- Cleantech financing through local bank

CHALLENGE



- No knowledge exchange platform to get information on how technology works, how it is implemented, etc.

BEST PRACTICES



Include staff & management in cleantech measure identification



Apply cleantech across many sectors



Stimulate cleantech adoption rates by promoting cleantech among other businesses

Case Study



SYNDICATE IMPEX

Syndicate is a manufacturer & exporter for apparel and knitted ready-made garment serving domestic and international markets. The enterprise is the first GreenCo-certified garment manufacturer and implemented many resource-saving initiatives. More recently, Syndicate created their own sustainability brand *Ecohike*.



"We wanted to get branded as a sustainability company, so we created the brand ECOHIKE."

ORGANISATION PROFILE



Cleantech Implementer



45,000 ft² factory with a capacity of 500,000 pieces per month



230 employees & 350 machines in operation



Based in Tirupur, India

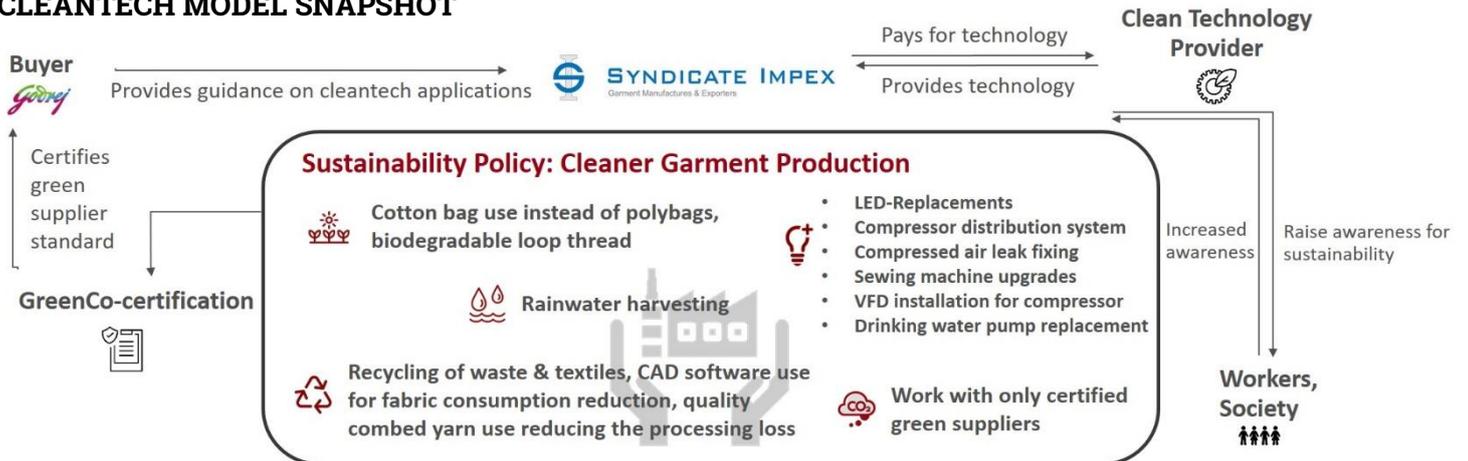


Carry out resource-efficient production

- ✓ Energy conservation
- ✓ Recycled waste and textiles
- ✓ Waste reduction
- ✓ Rainwater harvesting
- ✓ Eco-friendly packaging

Impact: 50% rainwater harvesting; savings of 2.600 litres of water per shirt; 100% waste recycling; fabric consumption reduction to <20%; processing loss reduction to 5%.

CLEANTECH MODEL SNAPSHOT

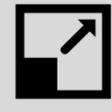


INVESTMENT HISTORY & REQUIREMENTS



- GreenCo-investments about US\$ 3,000 (Rs 2 lakhs)
- Installation of Solar PV, water level controller & capacity storage pump for rainwater collection planned in the future

CHALLENGE



- Currently, the value of sustainability initiatives is not valued yet.
- Changing the mindset of people (society, workers, etc.) and educating them

BEST PRACTICES



Work with only Global Recycle Standard certified suppliers



Contribute to environmental protection through environmental project support



Carry out awareness raising & trainings on environmental issues

TATA CLEANTECH

TATA CLEANTECH

Tata Cleantech is a private sector green investment bank and a joint venture between Tata Capital and the International Finance Corporation (IFC). Tata Cleantech does business in over 100 countries around the world to leverage renewable energy and other cleantech investments.



Photo © DENNIS SCHROEDER / NIREL

"We invest in cleantech because it is the right thing to do. In that way, Tata has a unique relationship with India's national goals."

ORGANISATION SNAPSHOT

Focus on large cleantech & renewable energy projects



Financial Institution (Private Sector Bank)



Established in 2011, started operating in 2013



- ✓ Solar, Wind & Water
- ✓ Looking into power provision & transport sectors to diversify their portfolio



Manage US\$ 650 million



Based in Mumbai, India



- ✓ In the future, 75% of the portfolio should remain in the green sector, with close to 90% in renewable energy.

CLEANTECH FINANCING MODEL SNAPSHOT



TATA CLEANTECH

- Joint venture of IFC and Tata Capital
- Focus on large renewable energy and other cleantech investments



Financing Instruments:

Loans, balance sheet lending, structured finance, partial guarantee (45-50%; for smaller enterprises)



Repayment, interest payment



Cleantech SMEs

Currently small part of portfolio



DISBURSEMENT



- Tata has financed almost 50% of the total renewable energy in India including 20GW of solar (almost 25% of total solar production in India)
- Focus is rather large-scale, only 1-2% invested into cleantech SMEs

CHALLENGE



- Long-term feasibility of businesses and projects, which guarantees financing
- Lack of accountability of unorganised project developers
- Lack of resources to focus on creating a sustainable model that is necessary for funding

BEST PRACTICES



Save over 8.4 million tonnes of CO₂ emissions annually



Demonstrate private sector efforts to realise cleantech returns



SIDBI VENTURE CAPITAL

SIDBI Venture Capital Limited (SVCL) is a wholly owned subsidiary of the Small Industries Development Bank of India (SIDBI), the most important governmental financial institution for the Indian SME sector. SVCL has managed funds focussed on topics including early stage technology businesses, manufacturing SMEs, agri-businesses and financial inclusion companies. The common string in all investments has been innovation-based business models & robust, scalable businesses.



Photo © UN Women/Gaganjit Singh

“There are a lot of opportunities out there that could be scaled globally”

ORGANISATION SNAPSHOT

Provide financing for SMEs



Focal Department within SIDBI



Incorporated in 1999



- ✓ India Opportunities Fund
- ✓ SME Growth Fund
- ✓ Maharashtra State Social Venture Fund



7 funds



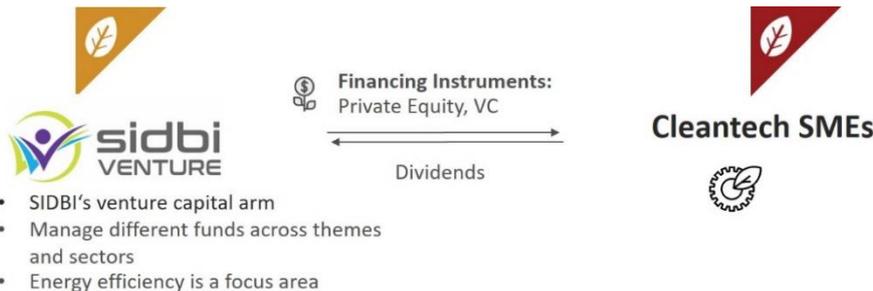
Head office in Mumbai, India



Prioritise financing towards energy efficiency projects

- ✓ Financing for enterprise expansion, modernisation, technology upgrade and new emerging opportunities
- ✓ For new or existing enterprises

CLEANTECH FINANCING MODEL SNAPSHOT



DISBURSEMENT

- Focus on promoting the SME sector in India
- Minimum Loan Size: Rs. 25 lakhs
- Interest rate: from 6.36%
- Repayment: Up to 120 months



CHALLENGE

- Remote locations of SMEs, e.g. lack of access to electricity grid
- Technical issues in guaranteeing technology maintenance over time
- Deficiencies in the technology delivery impact scalability & structured cash flow of enterprises



BEST PRACTICES



Provide cross-sectoral and broad-based financing for SMEs at each investment stage



Facilitate soft loans to meet SMEs investment needs



Contribute to increasing cleantech application rates



BLUME VENTURES

Blume Ventures is a tech-focused early stage venture capital that bridges the gap between local angel networks and larger global venture capital firms. The Micro VC provides broad-based category investments and finances cleantech as part of its general portfolio of technology-focused solutions that create impact in different areas.



Photo © Suzanne Lee

"Although we are no impact investors, adding benefit to how we live life through meaningful investment is important!"

ORGANISATION SNAPSHOT



Financial Institution (Micro VC)



Founded in 2010



Focus on technology applications

- ✓ Portfolio includes cleantech, agriculture, healthcare, social, biotech, etc.
- ✓ Regular learning events



Manage US\$ 150+ million across 3 funds



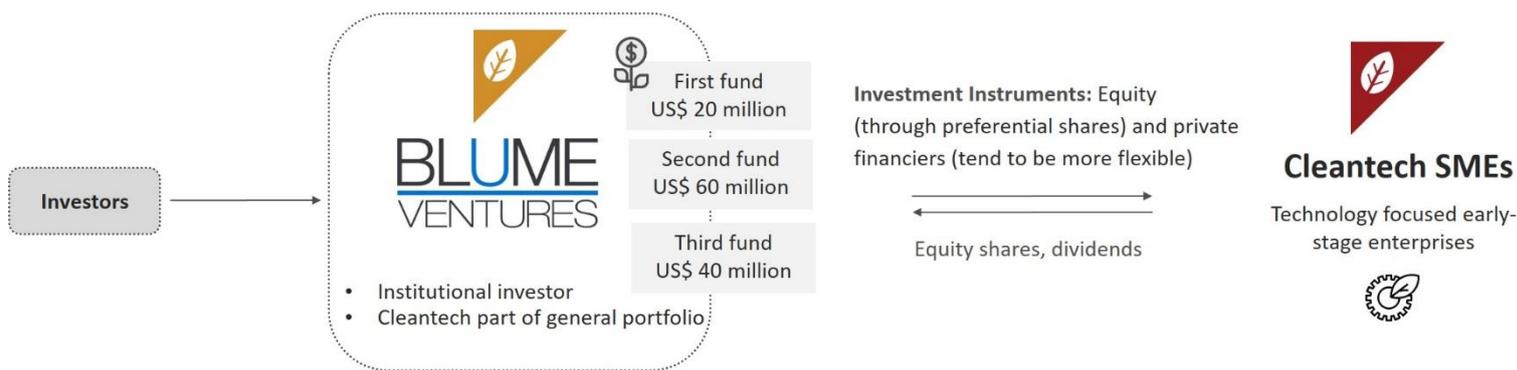
Based in Mumbai, India



Aim at increasing financing towards cleantech

- ✓ Aim: Increase by 10%, from 10 to 25% of funds

CLEANTECH FINANCING MODEL SNAPSHOT



DISBURSEMENT



- Focus on empowering tech-focused startups
- 130+ Startups backed
- Cleantech investments still a niche market in the portfolio (currently 15% of funds)

CHALLENGE



- Attracting investors for cleantech and renewable energy investments.
- Solving issues of cleantech SMEs takes more time and makes financing more difficult.

BEST PRACTICES



Consider impact in their investment decisions



Facilitate early-stage financing



Tap into innovative approaches by promoting tech-focused SMEs

NEXUS VENTURE PARTNERS

Nexus Venture Partners is a venture capital firm specialised in seed, start-up, growth capital, and early-stage investments. Nexus Venture Partners with exceptional entrepreneurs in the US and India who develop solutions which can be scaled globally.



"We invested in several cleantech projects because we saw great and strong entrepreneurial investment opportunities"

ORGANISATION SNAPSHOT



Financial Institution
(Venture Capital Firm)



Founded in 2006



Manage US\$ 1.5 billion across 5 funds

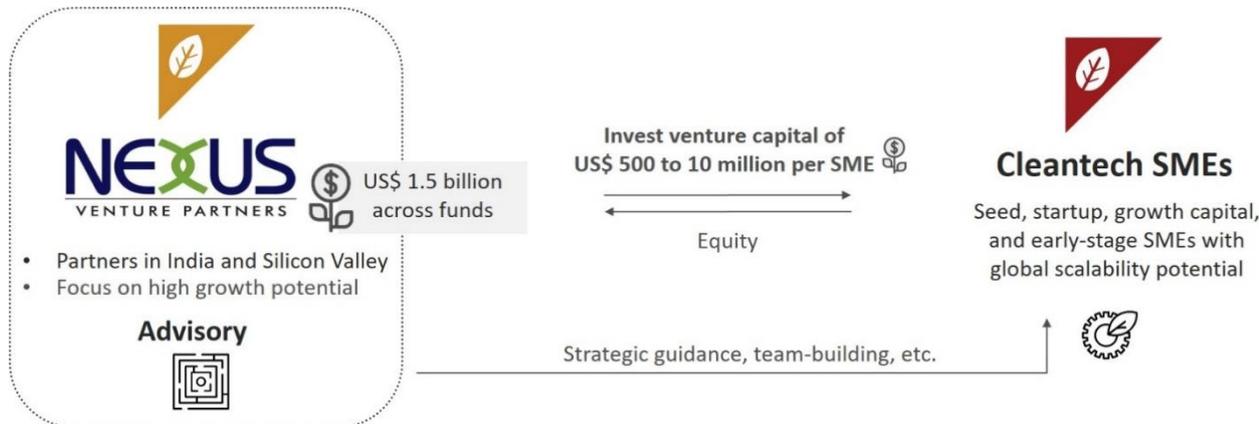


Based in Mumbai

Focus on entrepreneurial tech-solutions with global scaling potential

- ✓ Business Services
- ✓ Healthcare
- ✓ Consumer
- ✓ Data & Artificial Intelligence
-

CLEANTECH FINANCING MODEL SNAPSHOT



DISBURSEMENT

- Strong focus on companies which can compete globally; no specific cleantech or SME focus
- Investment of US\$ 500K to 10 million per customer in early-growth stage
- 4 big cleantech investments funded so far



CHALLENGE

- Brain drain in entrepreneurship in India
- Low scaling potential of companies in government-controlled spaces (due to subsidy provision, etc.)
- Cleantech companies' low ability to scale limits investors willingness to fund them



BEST PRACTICES



Demonstrate the ability to build world-class cleantech products from one company



Provide large investment sums, once there is a potential to compete in the global market

Case Study



GLOBAL ENVIRONMENT FUND (GEF)

GEF is a global alternative asset manager committed to delivering superior financial returns alongside positive resource efficiency and environmental footprint throughout the world, including India. Its focus lies on high-growth businesses with a proven business model.



“GEF’s philosophy is to invest into fundamentally financially viable businesses with Environmental and Social Governance standards or a renewable energy focus”

ORGANISATION SNAPSHOT



Financial Institution (Global Capital Investor)



Established in 1990



Focus on resource efficiency projects with global exposure

- ✓ High-growth clean energy
- ✓ Energy and resource efficiency
- ✓ Environmental resource management industries
- ✓ Renewable energy

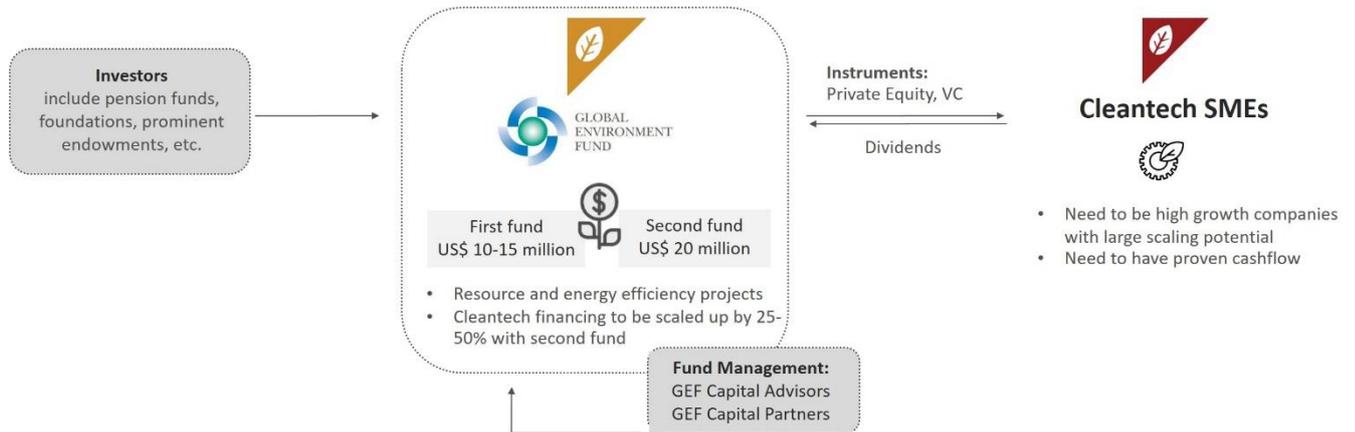


Managed US\$ 15 million in India (first fund)



Local presence in Mumbai, India

CLEANTECH FINANCING MODEL SNAPSHOT



DISBURSEMENT



- Strong focus on cleantech companies which have global exposure; no specific SME focus
- In total, US\$ 10-15 million were invested through the first fund
- All investments are cleantech-related

CHALLENGE



- Pessimism about the financial viability of cleantech business models among general investors
- Changing governmental regulations

BEST PRACTICES



Enable high environmental impact through cleantech investments



Demonstrate joint efforts of international institutions, civil society organizations and the private sector

INTERNATIONAL FINANCE CORPORATION (IFC)

IFC is an international financial institution that offers investment, advisory, and asset-management services to encourage private-sector development in less developed countries. In India, IFC works with the private sector to encourage entrepreneurship and the development of sustainable businesses by expanding access to finance for SMEs.



Photo © Abbie Trayler-Smith / Panos Pictures / DFD

“As an international development financial institution, one of our mandates is to fund the low carbon transition in India.”

ORGANISATION SNAPSHOT

Prioritise financial inclusion and SGD-related investments



Financial Institution (Private Sector Development)



Established in 1956



- ✓ Renewable energy
- ✓ Infrastructure development
- ✓ Job creation, etc.



Invested US\$ 16 billion in India

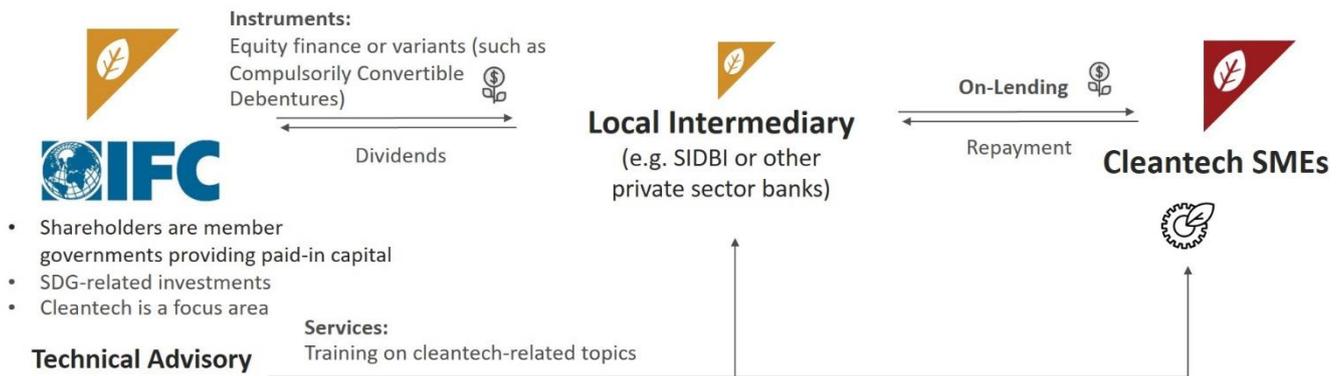


Headquarter in USA, local presence in Mumbai, India

Provide advice on cleantech-related topics

- ✓ ESG standards
- ✓ Energy and resource efficiency
- ✓ Supply chains

CLEANTECH FINANCING MODEL SNAPSHOT



DISBURSEMENT



- Invested in nearly 400 companies in India
- Provide US\$ 3-20 million of funding per customer
- Focus on second-stage VC investment

CHALLENGE



- Currently, IFC has no specific cleantech target which allow to focus on promoting cleantech

BEST PRACTICES



Facilitate finance to directly promote the low carbon



Boost cleantech financing through JV with Tata Capital



Work with local financial institutions to leverage cleantech SME financing

Case Study



GODREJ & BOYCE

Godrej & Boyce is an Indian manufacturing company with the commitment to green their entire supply chain. By working with only GreenCo-certified suppliers, their ultimate objective is to strengthen the Indian SME sector while reducing their carbon footprint.



"Our philosophy is to focus on the weaker ones, those that don't have the exposure like the big companies"

ORGANISATION PROFILE



Intermediary (Manufacturer)



Started green initiatives in 2004



Reduce their carbon footprint

- ✓ Environmentally friendly products
- ✓ Green sourcing
- ✓ Energy efficient production



250+ Suppliers



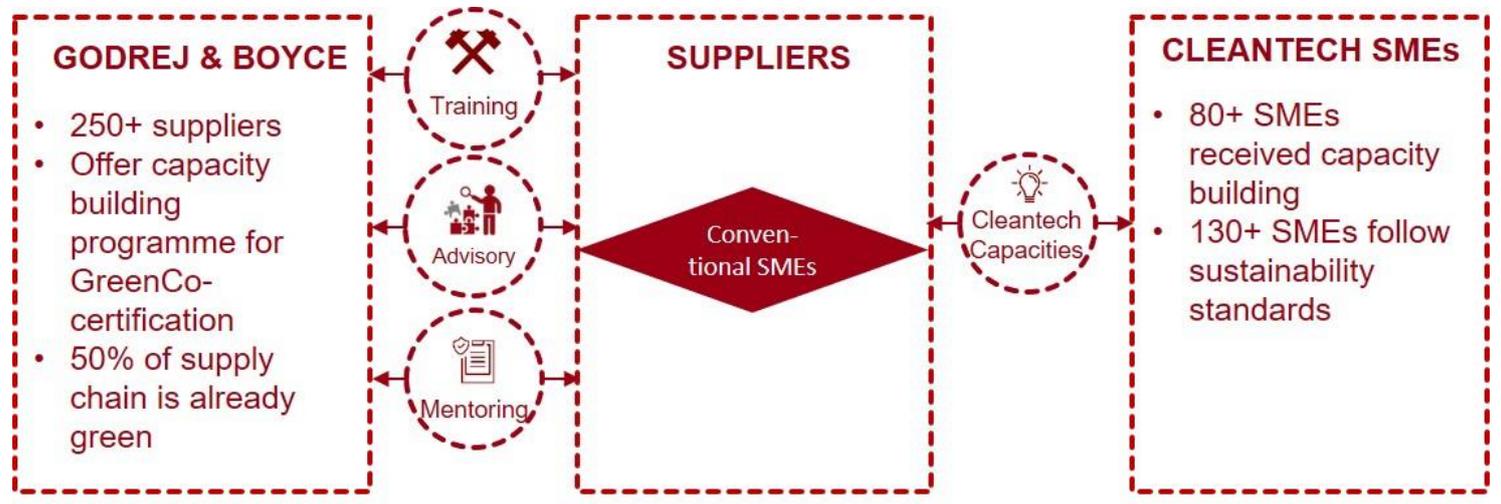
Based in Mumbai, India



Interact directly with SMEs

- ✓ Dedicated mentors
- ✓ Capacity building
- ✓ Market linkages

INTERMEDIARY MODEL



FINANCIAL HISTORY



- Have a total revenue of over \$US 4.1 billion
- 80+ suppliers have successfully invested in GreenCo-certification to green their business practices

CHALLENGE



- Suppliers lack mindset for sustainability issues and greening their business practices.

BEST PRACTICES



Building a community of green suppliers



Raising awareness for the benefits of cleantech among suppliers and consumers



Creating demand for cleantech products and applications

Case Study



TIRUPPUR EXPORTER'S ASSOCIATION

Tiruppur Exporter's Association (TEA) coordinates the ACMFN Cleantech Cluster in Tiruppur. The association exclusively for knitwear exporters is actively involved in platform building, providing stakeholder facilitation and capacity building as well as networking opportunities.



"We want to introduce voluntary sustainability commitments for SMEs across all sectors!"

ORGANISATION PROFILE



**Intermediary
(Exporter's
Association)**



**Established
in 1990**



**Promote clean technologies
and production among SMEs**

- ✓ Knowledge dissemination
- ✓ Deal facilitation



1100+ members



**Focus on
Tiruppur**



Interact directly with SMEs

- ✓ Stakeholder facilitation
- ✓ Mediation
- ✓ Market place

INTERMEDIARY MODEL



FINANCIAL HISTORY



- Members have generated over US\$ 3.6 billion (Rs 25,000 crores) in exports
- Exporter's have a total turnover of US\$ 72,650 (Rs 50 lakhs) spread across 5-6 industries

CHALLENGE



- Older generations are still resistant to applying modern technologies.

BEST PRACTICES



Building a cross-sectoral cleantech community



Raising awareness for cleantech among SMEs



Facilitating cleantech financing for SMEs

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