

The First Clean Technology  
Company in India





TeamSustain's projects are engineered for Reliability and Performance by Design.

## TeamSustain

Established in 1994 as Solar Tech, we were the first Clean Technology Company in India. Since then, we have been instrumental in developing and promoting various clean energy solutions for the global market.

The last decade saw us evolve into a company specializing in Design and Engineering Services in the Clean Technology domain. We are today one of the most credible Design & Engineering companies, establishing benchmarks in the industry through our innovation and implementation of challenging projects and solutions.

Our impressive client list includes Fortune 500 companies, the world's top companies in Telecom Infra, RE developers and technology, major Banks and few of the world's top 50 resorts. We help our clients in reducing and mitigating their carbon footprint, through energy efficiency, energy management and implementation of clean energy solutions.

## Our Domain of Expertise

TeamSustain strives in all its endeavours, one common goal "A global market where green, environment friendly, low-carbon products and solutions complement Sustainable Growth and Development"



- ▶ **Solar PV system Design, Engineering & Integration – 1 KW to 100 MW**
- ▶ **Telecom**
  - ◆ Energy Efficiency Solutions,
  - ◆ Energy Storage – Macro & Micro
  - ◆ Energy Management
- ▶ **Solar Water Heaters Design, Engineering & Integration – 500 LPD to 500,000 LPD (Commercial Installations)**
- ▶ **Waste to Energy Solutions**
  - ◆ Biogas Plant
  - ◆ Integrated Sewage Treatment Plant (STP)
  - ◆ Industrial Waste to Energy
- ▶ **Energy Efficiency Solutions & Management**
  - ◆ Energy Audit - Commercial and Residential (large)
  - ◆ Process Audit
  - ◆ LED Lighting
  - ◆ HVAC
- ▶ **Sustainable Solutions in Boating**
  - ◆ Solar Boat
  - ◆ Electric Boat
- ▶ **Green Building Consultancy**
- ▶ **Eco-Tourism**
- ▶ **Carbon Neutral Tourism's Net Zero Buildings and Resorts**
- ▶ **Corporate Carbon Management**
- ▶ **Renewable Energy (Hybrids)**
  - ◆ Sustainable and rural development.
- ▶ **Energy Storage**
  - ◆ Utility – Macro & Micro
- ▶ **Energy Building Consultancy**
- ▶ **Bio remediation**

## Why TeamSustain Limited?



We are today one of the most respected and credible Design & Engineering companies in the industry.



- ◆ India's first Clean Technology System Integrator, established in 1994.
- ◆ Technologically "agnostic" since inception – TeamSustain's focus has been solution centric, always choosing the right technology, which will be both technically and financially viable on a stand-alone basis.
- ◆ TeamSustain is rated as one of the world's top Clean Technology companies by its international technology partners.
- ◆ With ₹170 Million revenue from Design & Engineering Services in FY 2015-16, TeamSustain is the largest Design and Engineering Company in India, in the Clean Energy space.
- ◆ Fortune 500 Companies as its clients.
- ◆ All projects undertaken by TeamSustain are commercially viable on stand-alone basis, not dependent on any subsidies or grants.
- ◆ Zero debt since inception
- ◆ TeamSustain is an authorized Channel Partner of MNRE in 'A' Category.
- ◆ TeamSustain was rated as SP-2B by ICRA Credit Rating Agency in 2015.
- ◆ TeamSustain was selected for the Kerala State Energy Conservation Commendation Certificate 2012 – in recognition of Research and Development in the field of Energy efficiency.
- ◆ One of the few companies in the world to have the expertise, skill set and experience in all the domains of Clean Energy – Solar, Wind, Small Hydro, Waste to Energy technologies.
- ◆ The first company to have a fully integrated Network Operating Centre, working 24x7, for its installations.
- ◆ The only company in the world, with more than 10 years of performance data of its installations across the world, using different technologies for diverse applications. This priceless archive of data is a gold mine of performance information, which helps TeamSustain have the distinct advantage of accurately forecasting system performance over the life cycle of any proposed plant - this is the key factor deciding on the viability and bankability of projects.
- ◆ TeamSustain's installations are prime examples of 'Performance by Design', with commissioned projects working optimally for periods as long as two decades.
- ◆ TeamSustain is the most awarded company in its sector. It was awarded the Best Company in the Off-Grid sector – Energize Award by CNBC 18 and E&Y. It was the only company to have six of its projects nominated for the InterSolar Award for three consecutive years.

## Timeline of Excellence

TeamSustain since 1994 with its expertise in design, engineering, development and execution has made significant first-time contributions in various sectors. By 2017, we have completed the execution of more than 25,000 solar PV and 14,000 solar thermal installations of different capacities across the world. It has also done innovative and pathbreaking projects like solar powered boats, people carriers, waste treatment, raw water treatment, micro-hydro, waste to energy, energy efficiency & management, etc. Our commissioned projects have not only solved energy and environmental crises for clients all over the world, but have also gone on working past periods as long as a decade. The testimonials that we receive univocally from our clients make us proud of the strides we have been taking.

1994

2000



- ◆ Founded as Solar Tech Enterprises in 1994.
- ◆ Designed and installed the world's first Centralized Solar Hot Water System for a resort covering 12 acres in 1995 which was endorsed as a unique engineering feat by Ministry of New & Renewable Energy.
- ◆ Designed and engineered the first fully Off-Grid and Autonomous system in India- a Solar PV System of 3.6 kWp capacity for an Estate Bungalow in Munnar, Kerala.
- ◆ Designed and engineered the first Solar PV Power Packs for House Boats in the Kerala Backwaters.
- ◆ Designed and engineered the first Solar-Powered Sodium-Vapour Street Lighting Systems in India in 1996.
- ◆ Designed and Integrated 100 numbers of Solar Powered Water Purifiers for Lakshadweep Islands in 1997.
- ◆ Involved in developing and using bio-diesel from non-edible oil seeds for powering 1Mw diesel engine in Dandily, India in 1998.
- ◆ Designed and installed one of the largest Solar Drying projects in the world (900 square meter collector area) for Marigold Flower Drying Plant at Karamadai, near Coimbatore in Tamil Nadu in 1999.
- ◆ Designed and integrated Solar Power Packs for all six Light Houses in Kerala.
- ◆ Consultants for Design and Engineering of 100 KW Solar Power Plant in Lakshadweep Island in 1999.
- ◆ Consultants for Design and Engineering of 25 KW Solar Power Plant in Andaman in 1999.
- ◆ Largest Solar Rural Electrification project in Mundanmudi, Idukki, Kerala in 1997.

2001

2005



- ◆ Through Smart School Project- a CSR initiative, 18 schools in remote un-electrified villages across India were converted into smart schools with internet facility, computers, lightings, fans, RO water purifiers, etc.
- ◆ Designed and engineered India's first Warm/Cool Swimming Pool at the Willingdon Club, Mumbai.
- ◆ Entered into partnership with Ecosmarte for Asian regions for chlorine free swimming pool projects.
- ◆ Submitted design and engineering project for treatment and handling of toilet waste (night soil) in Indian trains for Indian Railways. The design was selected as the best and practicable design by WHO Water & Sanitation units and recommended to the Indian Government for implementation and adoption.
- ◆ Designed and engineered the first solar power (RO) renewable energy treatment plant for disaster regions.
- ◆ Conducted feasibility survey for Hydro Power potential and Biomass Power potential for Kannan Devan Plantations, Kerala for its property in Munnar, Kerala.
- ◆ Consultants for Design and Engineering of 20 KW Solar Power Plant by Central Electrochemical Research Institute (CECRI - A Constituent Laboratory of CSIR Ministry of Science & Technology) in Karaikudi, Tamil Nadu.
- ◆ Design & Engineering Consultants for the World's largest Solar Telecom initiative in UP, Bihar, Jharkhand & Leh totalling 60 MW of Solar PV Deployment. The project was funded by IFC, OPIC and other leading PE companies.
- ◆ Conceptualized and carried out preliminary survey of world's first carbon negative resort -Casino Group of Hotels (CGH), Andaman Nicobar Islands.
- ◆ Designed and engineered the world's first project to convert Live-in board in yacht house loads, including air-conditioners powered by battery bank instead of Diesel Generators in Yachts.
- ◆ Designed and engineered floating anchor stations for House Boat Tourism which included collection of toilet waste in house boats and treatment & disposal through anchor stations.
- ◆ Conceptualized, engineered and initialized farm tourism using cottages -Floating and Stationary.
- ◆ Designed and engineered waste to energy solutions for converting coir pith into briquettes to be used in gasifier for power generation – 100kW.
- ◆ Designed and engineered waste to energy solutions for treating water hyacinth and converting it into power and manure.

2006      2010



- ◆ In 2006, we introduced the technology to the world that allowed Telecom Towers to be powered entirely by Solar Power in an economically viable manner.

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- ◆ Asia's Largest & Fastest Solar PV Off Grid Solar Powered Boats  
We were the first and the only Company to design, engineer and commission Solar Powered Boats for commercial applications:

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- ◆ **SURYA – Asia's Largest Solar Powered Boat (25-Seater) in 2008:**  
Designed and built the Largest Solar Powered boat (25-Seater) in Asia - SURYA, a commercially viable alternative to conventional ferry boats, with safety features and facilities, exceeding inland boating standards in the country. The boat was purchased by CGH Group of Resorts, Kerala. This boat is being re-launched with higher capacity and the latest technology.

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- ◆ **SUNRIDER – Asia's Fastest Solar Powered Boat (10-Seater) in 2009:**  
Designed and built the fastest Solar Powered Boat (10-Seater) in Asia - SUNRIDER. The boat was purchased by Kerala Hydrel Tourism, Munnar, Kerala.

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- ◆ TeamSustain has been awarded the International Boating Award (IBA) for Responsible Tourism in the year 2009.

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- ◆ The solar boat Surya, developed by TeamSustain has been included in the Limca Book of Records in the year 2009 as the largest solar boat in Asia.

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- ◆ TeamSustain has been awarded with SE - 1A rating by NSIC ONICRA Credit-Rating Agency in 2009. TeamSustain became the first Clean Tech Company in India to achieve the highest rating.

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- ◆ TeamSustain was the pioneer in the installation of fully Autonomous Solar Powered BTS Towers in Bangladesh in the year 2009. This comprised of 7 towers located in remote islands, and the implementation proved to be very economically viable.

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- ◆ TeamSustain showed the world that Air Conditioners could be powered using Solar PV through our project at Dayalbagh University Nano Lab in Agra - making it the only lab in the region to be off-grid completely for the last 9 years.

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- ◆ Designed and engineered solar PV System to power 7 nos. of remote Telecom BTS Towers in Bangladesh.

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- ◆ Designed and engineered 1MW Solar PV Plant in Orissa.

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- ◆ Designed and engineered 1MW Solar PV Plant in Kerala.

2011

2016



- ◆ Through innovative engineering and energy efficiency measures, we designed and engineered the world's first Net Zero Resort- "Spice Village". (Commissioned 2012)
- ◆ Bharat Petroleum Corporation Limited ( 15.6 kW Grid Tie System ) (Commissioned 2012)
- ◆ Hibiscus Villa – World's first Net-Zero Home Stay ( 6 kW Captive Solar Power Plant ) (Commissioned 2012)
- ◆ Malankara Plantations ( India's first Net Zero office building – 25 kW ) (Commissioned 2012)
- ◆ Designed and engineered the largest Solar Powered petrol pump of 65kW in Nigeria in 2013.
- ◆ Designed and engineered energy recovery system from night soil of college hostels to power the street lights of the campus in 2010-2011.
- ◆ Installed the first fully off-grid Solar Powered petrol pump in Bihar in 2010-2011.
- ◆ Developed, designed and engineered the world's first FRP tower mounted structure for solar PV system for BTS Telecom tower sites in 2013-2014.
- ◆ We presented concept note on transforming Chandigarh into an Eco City by 2020.



## The results speak for themselves

We have set ourselves the challenge of constantly pushing our boundaries to deliver quality products, services and innovations that not only meet, but far exceed customer expectations.

Our competent service team offers 24x7 service support to all our clients. We regularly monitor the performance of all our installations and the results indicate that our projects executed over two decades ago continue to perform well beyond their life cycle. The testimonials we receive from our clients corroborate this fact which proves our legacy to remain committed and solution focussed. Gaining the trust and loyalty of our esteemed clients, some of them over the period of 2 decades, has been the foundation of our success.

## Our Technology Partners

TeamSustain is the Engineering Partner of the world renowned technology providers and market leaders who are well-known for their customer focus and support. This enables us to provide nothing less than the finest technology and equipment for our clients to make sure that the units continue performing at optimal levels for long periods of time. The company and its team are rated to be among the world's top five by its technology partners.



### OUTBACK, USA – Inverters and Charge Controllers

Outback Inverters and Charge Controllers are considered to be the World's best and most efficient in the Off-Grid applications category. In India, Outback has 80% market share in the Solar Telecom Space due to its high reliability in harsh conditions and high yield in shade and in low light conditions.



### TROJAN, USA – Deep Cycle Batteries

Trojan has existed for 91 years and is one of the oldest battery companies in the World. Trojan is considered as the best manufacturer of Deep Cycle batteries in the world and has a specialized range for Solar Application with up to 8 years warranty.



### SMA, GERMANY – Solar Inverters

SMA makes the most efficient and advanced Grid-Tie Inverters. It is also the largest Solar Inverter Company in the World.



### VICTRON ENERGY, THE NETHERLANDS – Inverters and Charge Controllers

The world's favorite company in the field of Autonomous Solar Energy systems. For the last 30 years, Victron has been the leader of innovations in this domain.



### STION, USA – High-efficiency Thin-film Solar Modules

Stion is a leading manufacturer of high-efficiency thin-film solar modules based on state-of-the-art materials, device technology and proven production processes.



### SUNPOWER, USA – Solar Panels

Sunpower has been leading global solar innovation. Sunpower solar panels consistently deliver more energy and long-term peace of mind with the highest performing solar power systems available. Sunpower is the solar energy choice of more homeowners and businesses around the world.



### SAMSUNG SDI, SOUTH KOREA - Creative Energy & Materials Solution Leader

Global leaders in Energy Domain, who have set a paradigm shift of future energy industry, by creating a new world of green energy with environment friendly production of electric power.



### ECOSMARTE, USA – Chemical Free Swimming Pool Water Purification System

ECOsmart is the largest genuine provider of Chemical Free Solutions for Water Purification- A technology invented by Honeywell for NASA's Apollo Moon Mission.

## Our Green Milestones

What sets TeamSustain apart from the rest is its constant thirst for innovations in the domain of clean technology. Over the years, Teamsustain has made valuable breakthroughs and achievements in this field. The technologies and solutions are developed to meet the specific requirements of its clients by optimizing energy consumption based on available resource utilisation.

2016

Waste to Energy project, first of its kind in India with comprehensive Designing and EPC, based on Gasification technology of 40 tpd capacity plant to process waste and generate power

2015

We have completed solarisation of 450 Telecom Towers across India.

2014

Developed analytical tools to interpret the massive data uploaded from remote units of installations.

2013

Engineered and initialized Samsung Energy Storage division for doing initial survey of key anchor projects in India.

2012

- Facilitated the World's first Net Zero Homestay - Hibiscus Villa, Kerala. Facilitated the World's First Net Zero Office Complex - The Malankara Plantations, Kerala. Facilitated the Worlds' first Net Zero Resort - The Spice Village, Kerala. (2012)
- Received commendation from Outback USA for excellence in engineering and integration for Malankara Plantations (Off-grid).

2011

- Developed shade analysis tool and process for conducting shading analysis and determining technical and commercial viability of installing solar PV hybrid systems for Telecom.
- Entered into partnership with Trojan Battery Company USA, the oldest and largest deep cycle battery manufacturers in the world. Set up the first Trojan Tech Support Centre outside of the USA.

2010

Entered into partnership with SMA, Germany, TeamSustain engineers received training and certification from Solar Academy in Germany. The Off-grid and Grid-tie designs by TeamSustain for Indian projects were approved by SMA, Germany.

2009

- Entered into partnership with Torqeedo Germany, engineers of TeamSustain were trained and certified by Torqeedo.
- Entered into partnership with GetWatt, Korea for promotion of thin film a-Si modules.

2008

Designed and built Asia's Largest Solar Powered boat.

2007

Entered into partnership with Outback Power Systems for their range of invertors and charge controllers. Set up the first authorized service centre in Asia for Outback.



for a  
**better**  
**w****orld**

Today, more than ever, our world is battling the adverse effects of climate change. Couple this with the rate of depletion of fossil fuels, and it paints a clear picture about the relevance of switching to clean energy sources. TeamSustain is committed to making a positive difference in this domain, and over the years, our projects reduced the use of 420 million kgs of fossil fuel which helped save nearly 350 million kgs of CO2 equivalent gases from being emitted into our atmosphere.

Switch to Clean Energy sources for your residential and/or commercial uses and you will find that your long term expenses are at par or below the cost of conventional sources of energy. Also, it provides added benefits like trivial maintenance, long periods of operation and extremely high efficiency of energy production. The historic Paris Agreement on climate change, the recent development on global scale further highlights the urgency of transition of energy production from conventional to clean energy.

# Accolades



Mission Energy Award -2016



InterSolar 2015-SunRider



InterSolar 2014-Telecom



Limca Book of Awards



Limca Book of Awards-2013



IBA-International Boating Awards 2008



OutBack 2015-Integrator



ENERGIZE AWARD 2012-13



Kerala State-2012 Energy Conservation

# Partners



# Clients





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