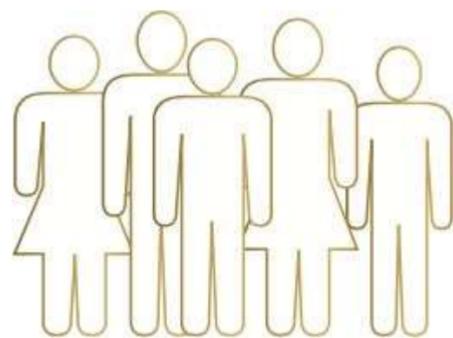




# WES BIOGAS<sup>®</sup>

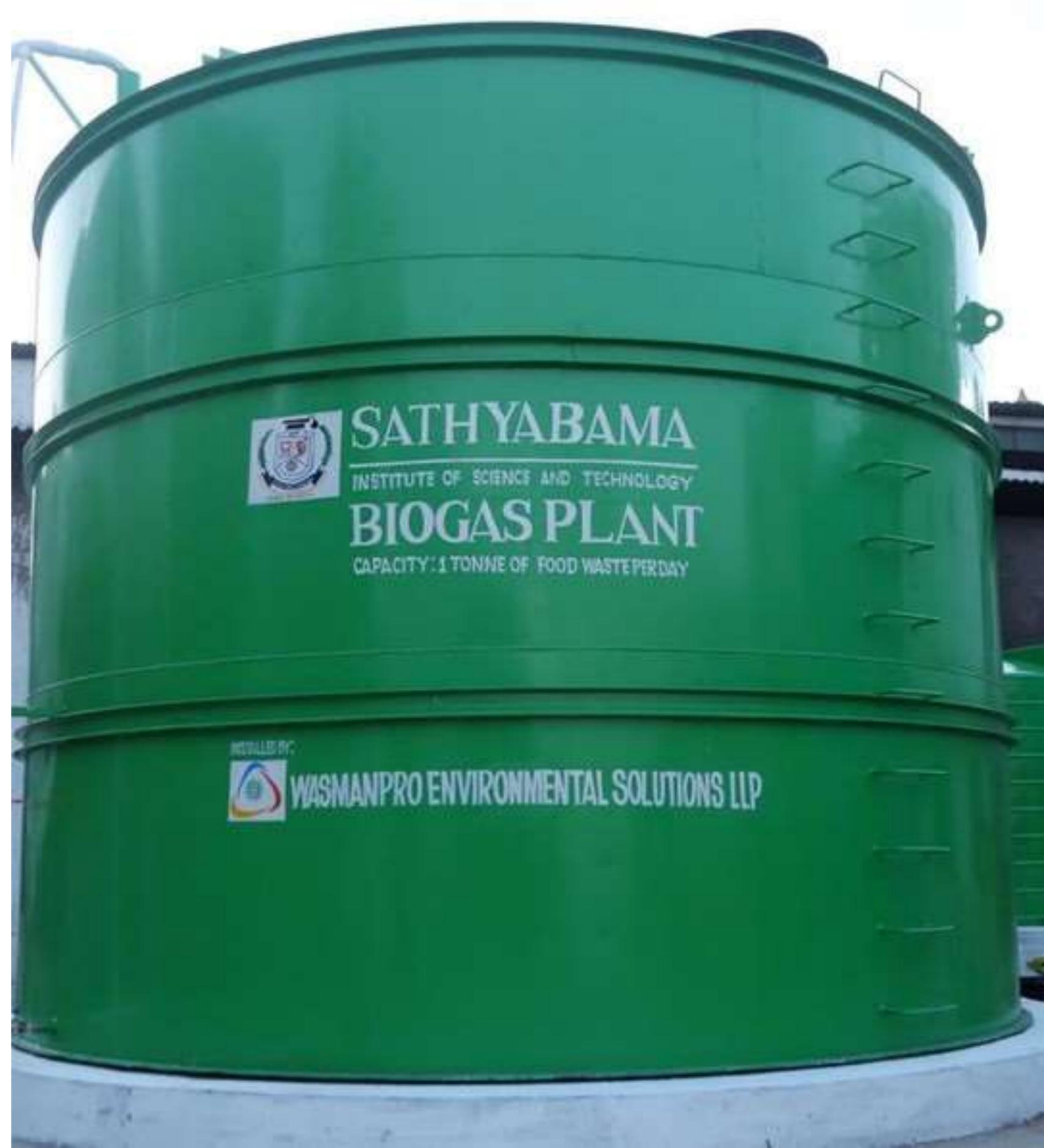
"We build climate resilient foundations with rapid and inclusive developments."



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# About WasmanPro Environmental Solutions LLP.

WasmanPro has in-depth understanding and practical experience with environmental policies, regulatory programs, remediation strategies, water and waste-water treatment, solid waste management and energy from the waste system. Our team of Environmental Experts have provided environmental compliance and remediation services for a variety of Commercial and Industrial Facilities. Our firm has been in the construction of biogas engineering expertise for over 7 years in various agro-food and municipal organic waste management sectors and other varied verticals.

**WES BIOGAS<sup>®</sup>**

Most of these easily avoidable errors are due to initial misconception, lack of knowledge and information on the subject of biogas plant engineering. Over the years, these technical aspects have receded to the background as we've focused our work on equally complex issues such as project planning, financing, procurement, permitting, policies and operation. It is these subject matters that are the primary focus of our approach. Hence, we've redesigned the concept of factual engineering in our WES Biogas which would create a sustainable era of climate resilience. Based in Chennai, India, our team is highly capable and together have designed and built biogas plants for noticeable educational institutions such as Anna University & Sathyabhama Institute of Science & Technology, in recent times.

## EQUIPMENT SUPPLY

Our key strengths are in the adaption and supply of technology for the Indian market; as well as end-to-end project development from concept development and feasibility studies, to detailed design and planning, procurement, construction management and commissioning of plants. Since, we live in a world of finite resources and ever more daunting challenges, thence we're so passionate about creating and delivering effective engineering solutions that benefit businesses in a variety of industries, while also working in harmony with the environment.



**Dr. K. Karthikeyan**

**Chairman, WasmanPro Environmental Solutions LLP.**

# WHY BIOGAS?



+A step towards sustainable development

The advantages of biogas are many and varied. As a plant operator, you are assured of a calculable source of income from generating a power supply & gas that is not dependent on the weather and that is not subject to price fluctuations. At the same time, you are making an active contribution to protecting the environment and to the energy mix of the future with a biogas plant.



+ + Climate-friendly energy

Biogas is a natural degradation product which is produced when organic matter ferments. Energy generation from biogas is especially environmentally-friendly as it does not cause any additional greenhouse gas CO<sub>2</sub> emissions. This way, biogas represents an important contribution to achieving climate protection goals.





# HOW BE BUILD ONE

We ensure optimum operational procedures – from the very beginning and at all times, whether for compact systems for institutions or for industrial-scale plants. And we continue to give you support even after construction.

## + Concept development

Special local conditions, available input materials, different legal requirements or different biogas usage possibilities – no two plants are identical. We develop a customized concept for your project according to your requirements which accounts for the respective conditions.

## ++ It's not Easy to be Different

For years, we have achieved pioneering work in plant optimization to permanently improve the economic efficiency of biogas plants. In the process, we have developed many forward-looking processes to increase biogas production. It was all worth the effort: As the technological leader in the industry, we can offer numerous additional techniques that allow you to increase the value creation of your plant even more.



**WES BIOGAS<sup>®</sup>**

**HAVE A LOOK AT OUR 1TON BIOGAS PLANT AT SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY CAMPUS, CHENNAI.**

**✔ Our Movement**

Moving away from the standard approach of landfills, WasmanPro has set up a 1Ton at the Sathyabama campus to create a sustainable waste management program that will address various forms of waste through an integrated transformation cycle, resulting in usable energy – Cooking gas and chemical-free food. The entire project is a humble effort by Sathyabama Institute and WasmanPro towards reducing dependency on conventional fossil fuel, increase the dependency on clean fuel, reduction scope 1, 2 & 3 emissions and to align with India's NDC goals at National Level and Paris Agreement at Global Level.

The state-of-the-art biogas plant constructed, will process all the food scraps in a hygienic and environmentally friendly way. The produced gas will be used as cooking gas in the kitchen. The slurry output from the biogas plant will be combined with dry leaves and garden scraps resulting in high-quality manure through composting. This compost will be used by farmers who are guided on the adoption of organic farming versus a chemical approach. Farm-fresh healthy produce from these non-chemical fields will come back to the campus creating a closed loop cycle of biodegradable waste.



**WES BIOGAS<sup>®</sup>**

## +Cooking gas from food waste at Biogas Plant in SIST, Chennai.

### LOCATION

:Sathyabhama Institute of Science & Technology, Chennai

### CAPACITY

:1Ton/Day

### FEATURES

: Food waste

### INPUT MATERIALS

: The canteen stoves get ignited by the cooking gas from food waste. (Three commercial cylinders have been replaced.)



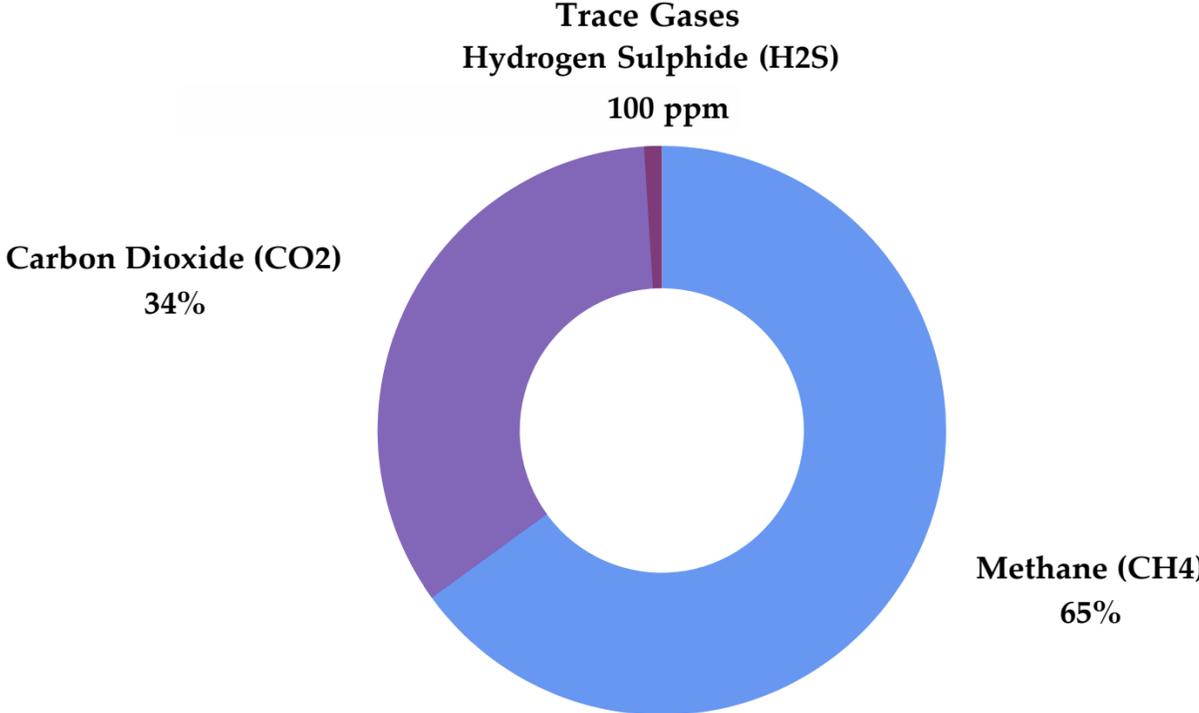


**WES BIOGAS**

# SALIENT FEATURES OF THE RENEWABLE ENERGY PLANT (BIOGAS PLANT)

## ACHIEVEMENTS OF THE SATHYABHAMA BIOGAS UNI

- 300+ tons of Biodegradable waste will be diverted from landfills, reducing the burden on the city corporation.
- 36,000 kgs of Greenhouse gases will be prevented from entering the atmosphere including 14,400 kgs of methane (a Greenhouse gas 20 times worse than CO<sub>2</sub> in terms of contributing to global warming).
- 50+ tons of high-quality manure will be produced and provided to marginal farmers helping them pivot from the clutches of chemical farming and adopt sustainable farming systems.



Composition of Biogas from SIST Unit.



**++ Achieve continuity with regard to your previous investment and ensure a sustainable future with biomethane.**

**WES BIOGAS<sup>®</sup> IS AVAILABLE  
TO CONVERT  
YOU EXISTING  
PLANT  
BY ADAPTING IT TO THE  
NEW REGULATIONS.**

**WES BIOGAS<sup>®</sup>**

**WHY GO FOR NEW  
WHEN YOU  
ALREADY HAVE  
ONE?**



**In Anna University,  
we've revamped an  
existing 1ton  
Biogas Plant**



**If you wish to find out more about this opportunity, we can do the following for you and with you:**

- Submission of an offer that is tailored to your needs
- Development of a Sustainable Plan.
- Analysis of by-product yields with our Lab and our team of biologists
- Verification of the yield and re-development of a new power supply solution.
- Revamping of the existing plant.
- Waste to Energy concept plan.



**WES BIOGAS<sup>®</sup>**

**WHILE WONDERING  
HOW TO MAKE THE  
MOST OF YOUR  
INVESTMENT, WE CAN  
HELP YOU DECIDE HOW  
TO FACE THE FUTURE!**

# Why WES BIOGAS®

## + Technical service

Regular maintenance work increases the technical availability of your plant and thus reduces any downtime. Our goal is for your biogas plant to run smoothly and profitably. At the customer's choice, we offer our services according to cost or by way of maintenance contracts.

## + Hotline

For technical assistance we shall be contacted and our experienced technicians will arrange for the fastest possible delivery of spare parts.

**++ Put it up quick and leave** - this is not our motto. We are there to help in matters relating to the daily operation of your plant. We pride ourselves on the high efficiency and reliability of our biogas plants. So that they stay that way, our service people are always ready to help.

As a company, WES Biogas is constantly growing. This is because more and more institutions and industries are recognizing the benefits of biogas. But also because potential plant operators and energy providers prefer to have an experienced partner. Throughout the world a growing number of governments are recognizing the advantages of biogas as a renewable source of energy, which can be part of a de-centralized supply network, and are creating attractive conditions for production. Getting an early foothold in these countries is a main objective of our growth strategy.



# Other Services

Because we value the challenges be it Before, during or After construction

## ☑ Design and Procurement

At the core of any good anaerobic digestion facility is good engineering. Our team is focused on designing and building plants that meet all relevant Indian Standards, while producing maximum return on investment. For some this may mean maximum gas production and utilization, while for others this may mean reducing operating expenditure, and dependence on external sources of energy.

We design entire anaerobic digestion facilities from process conceptualization right through to technical specifications and equipment selection, construction drawings, and operation and maintenance plans. Being acutely aware of our client's needs, we can incorporate future expansion plans, provisions for shut-down and maintenance, and optimal use of capital and operating expenditure.

## ☑ Construction and Commissioning

During the construction and commissioning of your plant, our team will be on hand to answer any queries you may have, as well as manage suppliers and contractors to ensure a quality, to-specification build takes place. Our intimate knowledge of specialized equipment, design and digestion processes allows us to have a very good handle on the underlying process engineering of the plant, and be able to resolve issues quickly and correctly.

Building on our strong relationships with suppliers and regulators, our team is well versed in delivering waste- to-energy projects on time and in budget, and will be with the project through construction, commissioning, seeding and start-up as well as handover.

**\*\*After the plant has been built, it is monitored continuously and optimized if needed, to ensure maximum efficiency.**



## Contact Us

**CONVENTIONAL ENERGY IT IS TO  
NOTCONVENTION IT.**



**Email [wasmanproglobal2020@gmail.com](mailto:wasmanproglobal2020@gmail.com)  
[www.wasmanpro.in](http://www.wasmanpro.in)**

++ Worldwide, customers rely on us since our concepts can easily adapted to meet local require- ments and our plants are able to produce clean energy from various sources like organic waste, manure, slurry and renewable input materials.



**+91 -88254 20855**



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WasmanPro Environmental Solutions LLP.  
No.7, F3, 1<sup>st</sup> Floor, Sanjeevi Flats, 4<sup>th</sup> Main  
Road, Thillaiganga Nagar, Nanganallur,  
Chennai - 600 061.**

\*\*\* WES has ever been specialized to handle the complex tasks of planning, designing, procuring, permitting, building and is by all getting on the trail to the operating an efficient and viable biogas plant.