



# Energy from Waste

Siemens Answers

[www.siemens.co.uk](http://www.siemens.co.uk)

**SIEMENS**



Imagine a future where human activities enhance our environment, clean our water, reverse the growth of greenhouse gases and create diverse, active and healthy communities. We can do this, but it's going to take a sea change in behaviour. As Einstein so clearly stated, the world will not evolve past its current state of crisis by using the same thinking that created the situation. This requires us all to think and to act differently, and that's the challenge.



With a reputation as a green infrastructure giant and with many years of experience in the process sector, Siemens has a good understanding of the demands placed on the Energy from Waste sector. We can address these demands with systems that guarantee high availability and robust processes at Energy from Waste plants. Our technologies deliver highly integrated solutions across the entire plant, minimising project implementation risk and maximising plant operational efficiency. Our unique position stems from our extensive range of products and services using the same core technologies and networks to deliver unified solutions.

#### Process Control and Plant Automation

Process Control and Plant Automation are vital elements of any Energy from Waste plant, whether this be the control of the energy conversion process itself or the automation of a material recovery facility. Siemens provides a standardised approach to both the continuous and discrete worlds of plant control and automation based on a standard hardware platform and open network systems such as Profibus designed to add value to the operation of the plant.

High availability DCS systems offer the required plant up times, whilst the ability to combine safety and standard communications on one network significantly reduces commissioning to achieve a fully validated safety system without any additional hardware. A standardised approach means that you can minimise the operational expenditure of the plant over the life of the control system. This is achieved through open network systems such as Profibus, easy integration of products such as instrumentation, intelligent motor controls and variable speed drives to give full plant diagnostics and provide the operator with information to make informed, predictive maintenance decisions. The ability to route down to devices in the field means that the plant can be monitored and controlled from a central location or remotely via the internet.

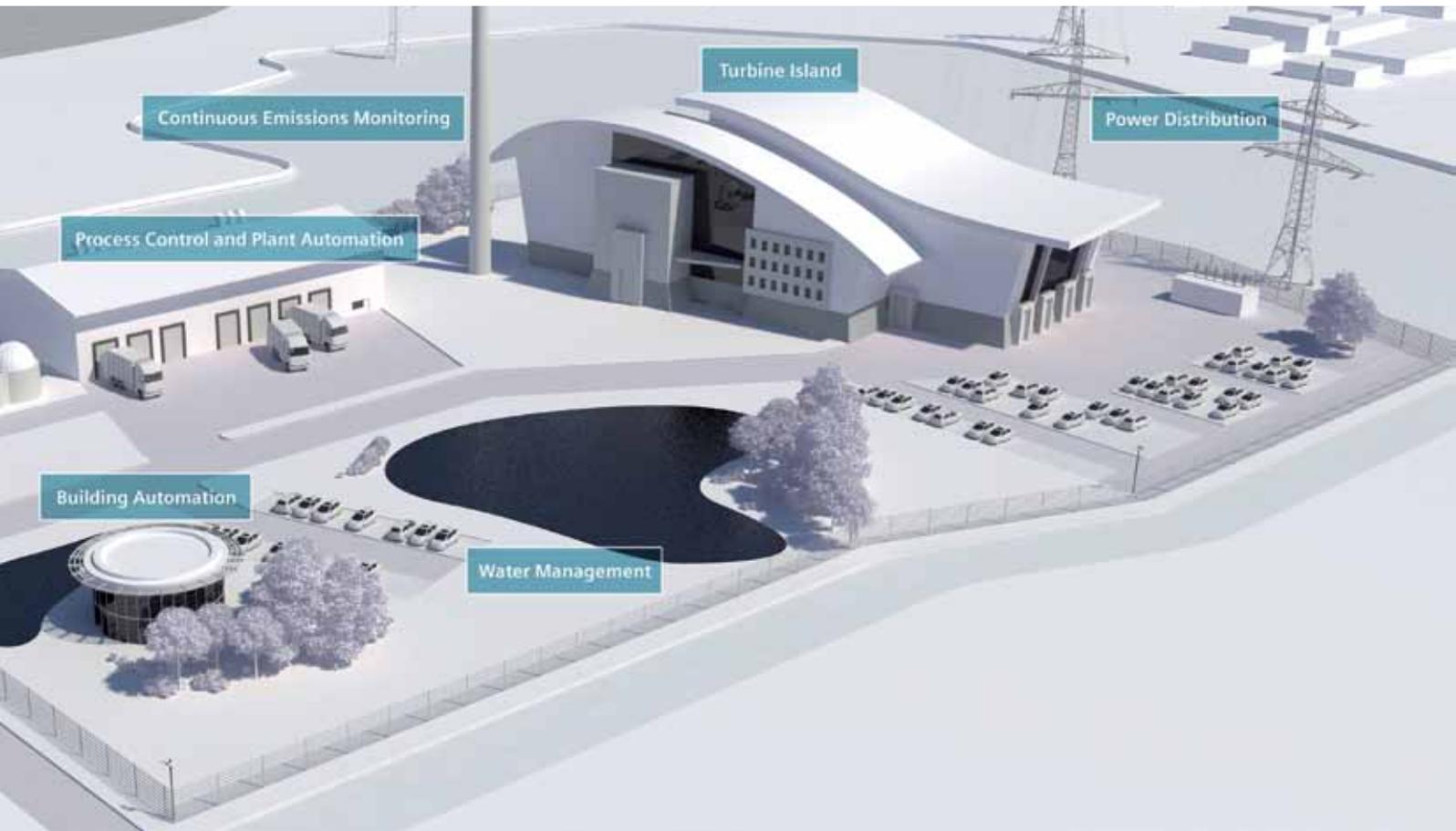
#### Process Instrumentation

Measuring, positioning, recording and controlling are key requirements for all industrial processes. Process instrumentation from Siemens satisfies these demands and provides an efficient means to increase plant efficiency and improve process quality.

Competitive advantage in the process industry relies on the ability to make processes faster, more flexible, more efficient and, above all, more cost effective. Siemens has decades of experience in the measurement, analysis, and control of all areas of process engineering. We are the global market leader in the process gas chromatography, level measurement, and positioners sectors.

Through continuous innovation and improvement of our product portfolio, we





offer you reliable and profitable solutions for every process automation application. Whether the application requires individual customised products or a complete system solution – our field-proven “Totally Integrated Automation” platform means full integration into data management, communications, configuration and programming

### Continuous Emissions Monitoring

Siemens expertise in process analytics can help you to meet all the legislative requirements for a Large Combustion Plant (LCPD), Waste to Energy unit (WID) or other pollution control needs (IPPC). We can also help you to make your installation as efficient as possible.

Our expertise includes products and solutions for –

- emissions monitoring. Comply with LCPD, WID and IPPC requirements with our MCERTS-approved emissions monitoring systems
- process efficiency. Save over 20% on raw material costs (such as fuel, lime and urea) with our laser monitoring analysers
- integrated control and reporting. Increase efficiency by integrating process control and emissions reporting into our PCS 7 Distributed Control System

- combustion optimisation using laser technology to analyse flue gases in real time.

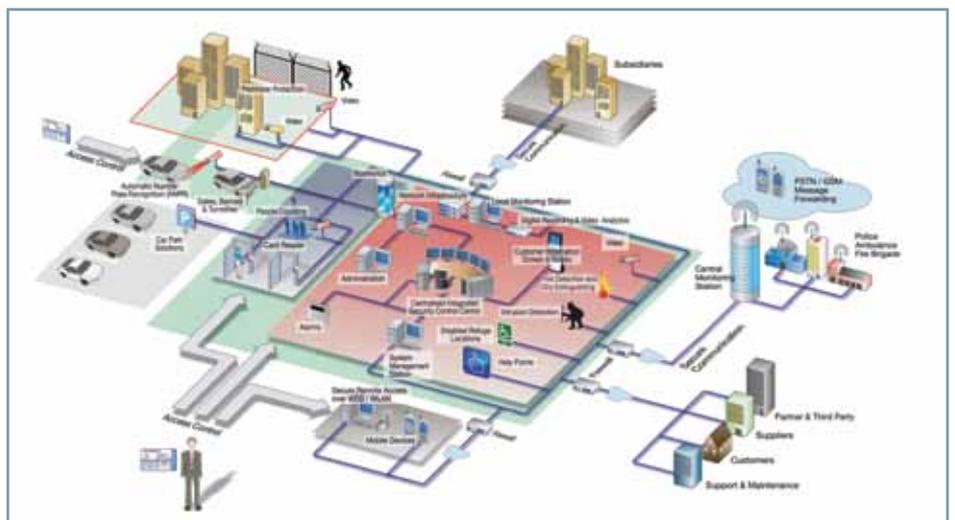
### Fire and Security Solutions

Siemens designs, installs, and maintains security and fire protection solutions that deliver improved operational performance, greater economies of scale, and safeguard your people, processes, information and assets. We focus on your requirements, risks and business procedures and deliver fully integrated systems that will add real value, as well as protecting your organisation.

By working in close partnership and employing some of the most advanced technology in the world, we can meet the short and long term needs for security, safety and sustainability within the waste management industry.

We understand that your requirements, risks and business processes will change over time and as a result, our solutions are designed to adapt to meet these emerging needs and legal obligations.

You can expect reduced systems costs, access to leading-edge expertise and the best in technology and support.



## Energy Management

Siemens will work with you to help use energy more economically across your buildings, not only making the workplace more comfortable and able to react automatically to weather conditions but also to reduce energy consumption. We have developed a complete toolkit of products, services and solutions to assist all areas of industry and commerce to optimise energy and utility consumption:

- professional energy and utility audits
- direct energy saving products
- measuring and monitoring tools
- management and control solutions

Our energy management systems deliver complete control of heating, ventilation, air conditioning, lighting and blinds – from individual rooms to whole floors, complete buildings and campuses. The key principle behind our solutions is that buildings should only be working when the people inside them are working.

## Water Management

Siemens provides a range of water technologies for the Energy from Waste



market, including anaerobic digestion, water disinfection, odour abatement, membrane technology based solutions for boiler feed water make-up, biological wastewater treatment, water re-use and rainwater harvesting.

We apply our extensive process knowledge and product expertise, analysing the efficiency of each process, the interaction with other components, while optimising the overall efficiency of the entire system from start to finish, offering a unique solution to a specific wastewater application or design issue.

The Siemens range further includes, gas chlorination, UV, chlorine dioxide, on site hypochlorite generation, dry and liquid polymer feed, metering pumps and a range of supporting single and multi parameter analysers and controllers. Our extensive portfolio is designed to meet your most rigorous demands in virtually any water application and give you access to both

the latest advances and the widest range of proven technologies. The complete portfolio of water and wastewater treatment technologies means that Siemens can design the most suitable system for every customer requirement.

## Power Transmission and Distribution

Reliable energy supply is the key to success for every business. Grid owners and utilities today face a number of challenges such as reduced expenditure and loss of in-house knowledge. Furthermore, the operation of equipment at higher levels of output affects lifespan and reliability, yet the same level of performance is expected.

Siemens provides customised solutions to the individual requirements of your substation and monitors all relevant components of your electricity supply network – from transformers and switchgear to overhead lines and cables.

This provides seamless integration with Siemens substation communication and visualisation infrastructure, from simple bay controllers to high-end control centre applications. Siemens offers one integrated solution for all network assets.

## Turbine Islands

At Siemens we recognize your obligation to deliver low cost energy around-the-clock and ensure high reliability of the plant. We have the competence to become a key partner in delivering innovative solutions that safeguard your energy supply.

We can help you to:

- ensure an energy provision to best match the community's needs
- find the solution of optimal price/efficiency ratio
- reduce and stabilise your energy costs into the future
- protect the local environment by harnessing modern emission and noise control techniques. Whether you are developing combined cycle plants, district heating schemes, or considering using your waste or biomass to produce energy, we have a solution to solve your energy needs.



On an ongoing basis, we will support you over the lifetime of your plant to ensure that you meet the community's energy needs, day in, day out.

## Financial Services

Investment in Energy from Waste technology has become an economic imperative for many organisations.

In order to maximise the return on investment Siemens offers financing solutions flexible enough to deal with the design, installation and commissioning of plants as well as the plant components. In fact the whole Siemens solution can normally be financed.

Siemens offers a range of innovative finance mechanisms to public sector, private companies and other special purpose ventures that can support Energy from Waste projects, including equipment finance, leasing, larger scale project finance schemes and debt financing.

The benefits of using Siemens Financial Services as an alternative or even complementary method of capital for an Energy from Waste initiative are:

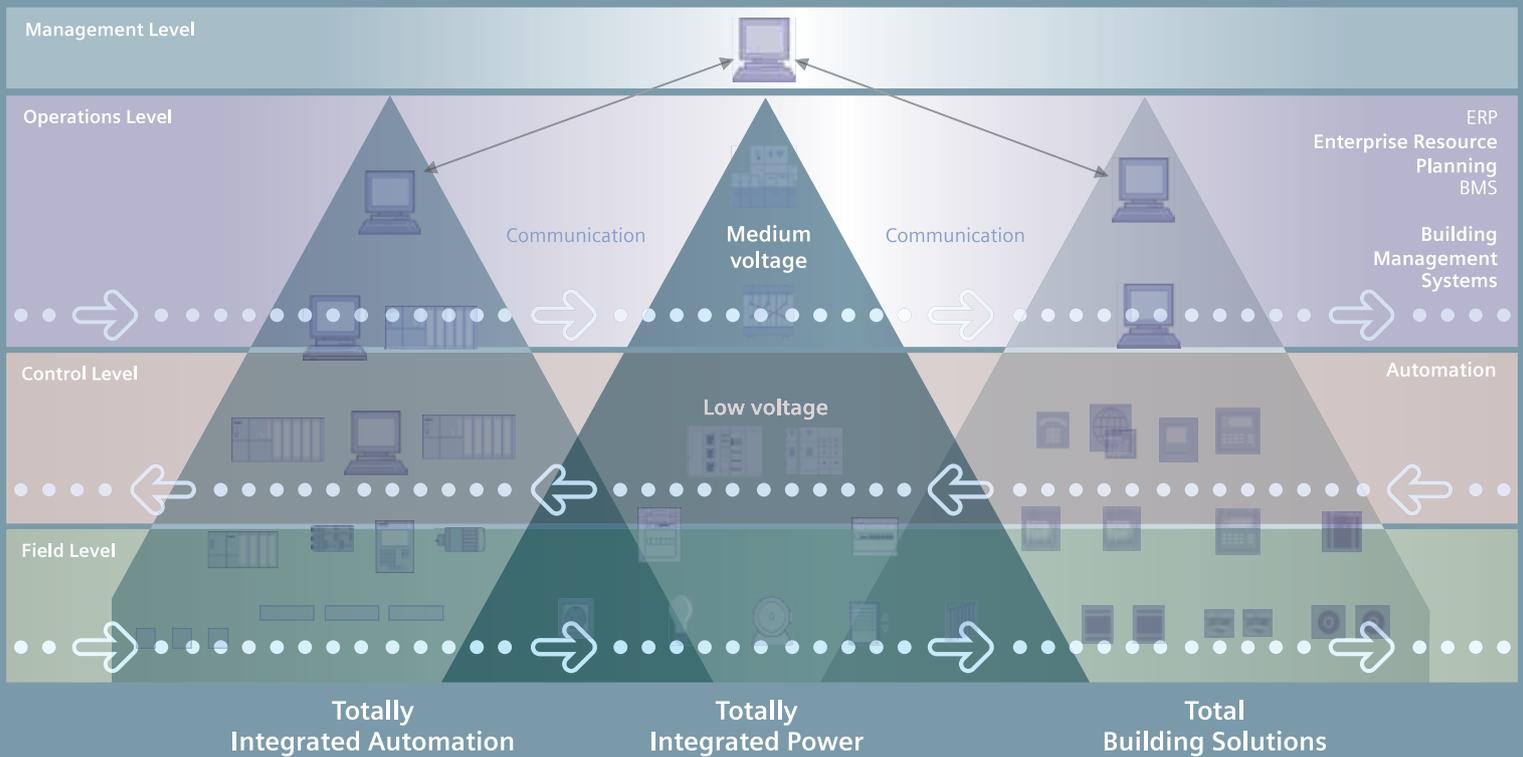
- your own capital remains available for alternative opportunities
- existing funding lines remain untouched or are relieved of the full financial commitment
- financing can be closely linked to a project's payback period - enhancing the return on investment
- installation costs, associated and related equipment can be included
- we can contribute to either a club of financial providers, as part of a mix or work on a stand alone basis
- the reassurance that we are completely aligned with and a specialist in working with Siemens solutions

## Solution Partners

Solution Partners are an integral part of our delivery strategy, providing a comprehensive portfolio of services for efficient and state-of-the-art solutions that protect existing investments - ranging from consulting and implementation, to operation and service.

We assess our partners by the performance characteristics of their portfolio, enabling us to guarantee you a proven and defined Solution Partner portfolio. In addition, we work systematically together with the partners to extend this portfolio, so that it is geared exactly to your requirements.

# Total Plant Solution



## Totally Integrated Automation (TIA)

With Totally Integrated Automation you will benefit during the entire lifecycle of machines or plants – from engineering to operation, expansion and modernisation. Totally Integrated Automation provides perfect interplay of all integrated automation components in your enterprise and thus allows continuous manufacturing optimisation.

With its open system architecture, Totally Integrated Automation is perfectly aligned to customer requirements and international market trends. With holistic solutions and completely integrated automation during the entire lifecycle, you can optimise performance in every automation segment level using products from our complete range, thus achieving sustainable productivity improvements.

## Totally Integrated Power™ (TIP) – Products, Systems and Support for Integrated Power Distribution

The power supply system is integral to all electrically operated building installations. If it works reliably and efficiently, the power flows are secured and so too is the operation of all electrical equipment. Electrical power distribution therefore requires integrated solutions. Our answer: Totally Integrated Power.

This includes tools and support for planning and configuration and a complete, optimally harmonised product and system portfolio for integrated power distribution from medium-voltage switchgear through to wall outlets.

The products and systems can be interfaced to building or industrial automation systems via communication modules, allowing full optimisation to be achieved through an integrated solution during the planning and configuration stages through to installation and operation.

## Total Building Solutions

Unlike in the past, today's buildings must satisfy a wide range of criteria. Building technology with its integrated disciplines such as building automation, fire safety, security, lighting and low-voltage power distribution is often indispensable and forms the heart of a Total Building Solution. Siemens knows how to effectively coordinate the disciplines and thus make buildings safer, more comfortable, more economical, and more efficient. This involves defining specific scenarios, then testing suitable solution packages and finally making them Siemens certified. This ensures flawless functionality and seamless interfaces.

Please attach  
your business card  
here!

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