Resalta™

Renewable energy & energy efficiency solutions

Renewable energy & energy efficiency solutions

Who we are

7+ markets

60+ experts

90+ clients

160+ projects

Renewable energy and efficiency solutions

Resalta is a leader in the field of energy services and a developer of renewable energy sources. We develop, finance and implement large-scale renewable energy projects and energy efficiency solutions. In addition to generating renewable energy, we offer our services to optimize energy efficiency, increase savings and reduce CO_2 emissions for our clients, using an integrated approach.

Turnkey solutions

We help identify energy problems and opportunities for improvement. Based on thorough analyses, we develop solutions and design energy efficiency projects. We finance and implement the projects, and manage and maintain all installed equipment. We also take on all the associated technical risks and the responsibility for delivering energy savings.

With a deep understanding of the different sectors our clients come from and the specifics of their work and energy needs based on our extensive experience, we offer a variety of tailor-made solutions for each client.

As a client-oriented company, we make sure to:

- Know our clients and have an in-depth understanding of their particular circumstances, taking these into account when developing solutions
- Implement solutions with minimal intrusion so as not to impact production times or operational processes
- Keep response times as short as possible, both in the initial stages of project development and during the implementation, operation and maintenance of the project
- Execute projects from beginning to end, allowing our clients to focus on their core business
- Assign a project team our clients can trust – the same Resalta engineers will see your project through from A to Z so you can always rely on a familiar face for support, someone who knows your company and your energy requirements inside out

Specialized energy solutions

Industrial clients

Our expertise

Industrial companies are major consumers of energy. This consumption can be analysed in order to define their real needs and implement measures for a more efficient use of energy. The appropriate solutions can ensure energy savings and cost reduction and directly affect the profitability of companies.

Today's highly competitive business environment means that companies are under intense pressure to increase profitability, lower production costs, all while taking good care of employees and their safety, reducing CO_2 emissions and going green. Unsurprisingly, many of these goals are difficult to achieve all at once and require major investments.

Resalta is here to help. We consider the cheapest energy to be energy saved, and a well implemented and judiciously chosen system can guarantee reliability and peace of mind for years to come. This is exactly what we provide. Not only will our solutions reduce your energy consumption, in many ways they can also optimize your production processes and shorten production cycles, improve working conditions for your staff and increase work safety. The reliability that comes with new equipment and the fact that Resalta takes care of operations and maintenance, means you can focus on growing your bottom line without worrying about energy efficiency and everything it impacts.

Talum

"In order to carry out a targeted energy review, we were looking for a partner to meet the key criteria of expertise and experience in primary industries. Resalta's engineers carried out an in-depth energy audit in very a professional way and confirmed the great potential for energy savings in our buildings' heating systems."

Boštjan Korošec
Director of Energy Management, Talum d.d. Kidričevo

Technologies and solutions

Certain services and solutions are particularly well suited for industrial companies, providing savings and reducing negative environmental impact:

- Energy audits
- Project design with investment and savings estimates
- Optimizing the production of compressed air
- Optimizing the production of process cooling media
- Waste heat recuperation
- Industrial lighting
- Optimizing steam production
- Combined Heat and Power
- Power equipment and infrastructure
- Motor-driven systems

Financing

Unfunded liabilities and ageing infrastructure are always a source of concern. When budget constraints are an issue for energy project financing, Resalta can turn these fiscal strains into sources of cash through different contract options that allow reinvestment into core assets and the reduction of operating costs.

As leaders in energy efficiency in the industrial sector, we strive to provide our customers with unequalled energy solutions, of the breadth and scope that work best for you. There are multiple funding solutions available that may help make your energy projects more financially feasible, without adversely impacting your operating budget. Resalta applies the ESCO model to energy efficiency projects. For projects realized with the ESCO model, the implementation of solutions designed to upgrade facilities and infrastructure and reduce operating costs is paid for by guaranteed energy and operational savings. New technologies replace older, inefficient systems to help reduce the consumption of electricity, natural gas and water. The savings that the upgrades generate fund the project for the length of the contract. Resalta guarantees the savings.

Savings opportunities

In addition to energy, all of the above measures also result in technological savings. When better conditions for the operation of production lines are achieved thanks to improved energy systems, production cycles can be shortened, the share of defective products reduced, and working conditions for employees improved.

Compressed air

By upgrading the production of compressed air, electricity savings of up to 10% can be achieved.

Energy recovery

70% of consumed electricity can be recovered as heat energy and used for the preparation of technological hot water, facility or sanitary water heating.

Technological cooling

The renewal of technological cooling systems can save manufacturing companies up to 50% on electricity consumed for the operation of cooling units.

Waste heat

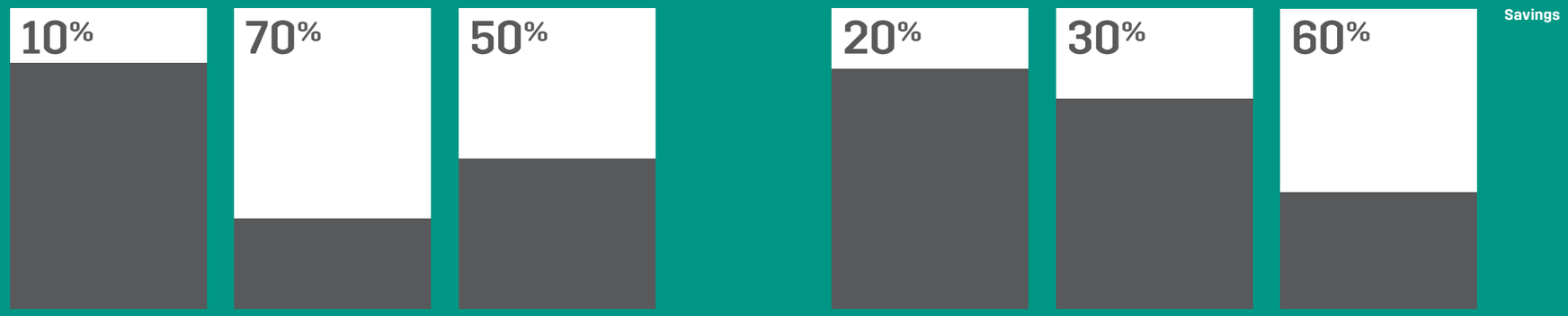
In energy-intensive industries, waste heat recovery can generate energy savings of up to 20%.

Cooling systems

In the food industry, the renewal of cooling systems can save up to 30% of energy.

Lighting

Replacing outdated lighting systems with automated and durable LED lighting can save up to 60% of electricity used for lighting.



Specialized energy solutions

Hospitality, retail and business clients

Our expertise

For clients in the hospitality, retail and business sectors, the comfort of their own clients is one of the most important considerations. Guests' and visitors' comfort can drive business and sales, while employee comfort can greatly increase staff productivity. Resalta understands this need for seamless, reliable solutions, implemented without interrupting operations or disturbing visitors and guests. Thus, all our solutions are adapted specifically for the service industry and can be realized with minimal discomfort, taking into consideration all the needs of your company and staff.

Our experience with leading hotels and resorts throughout the region has demonstrated Resalta's ability to carry out even the most complex energy renovation projects, with innovative solutions. The client's advantage is that besides financing, Resalta also brings its expertise and know-how to the project, delivering the best solutions to reduce costs and improve efficiency and reliability.

Sava Hotels and Resorts

"We have worked with Resalta on three separate occasions, for three of our hotels. In each case, the services rendered have had an immediate positive impact on our energy consumption. Resalta has proven they are capable of delivering a variety of solutions depending on our requirements, and we hope to benefit from their expertise again in the future."

Andrej Pogačnik
Director of Property Development and Maintenance, Sava Turizem d.d.

85%

Exceed efficiency

Combined Heat and Power

CHP units are far more energy-efficient than systems that produce electricity and thermal energy separately – efficiency can exceed 85%.

Technologies and solutions

Among the solutions for hospitality, retail and business clients that can substantially reduce energy costs and environmental impact are:

- Heating solutions: the cogeneration of heat, cold and power (CHP & CHCP), heat pumps, biomass boilers, gas boilers
- Cooling solutions: chiller replacements, icebank storage, free cooling, connecting process and comfort cooling to achieve maximum efficiency
- Ventilation unit replacements and operation automation
- Lighting replacement with LED lights and operation automation
- Wastewater filtration and reuse
- Reactive energy reduction
- Building energy management systems
- Energy audits

Financing

Resalta provides complete energy solutions to hospitality, business and retail clients, with a holistic approach that focuses on the entire energy system. By analysing the entire energy system, mutual effects are taken into account and the most appropriate solutions are offered.

Whether upgrading cooling and heating systems, making high-efficiency lighting retrofits, or installing a solar photovoltaic system, improving energy efficiency at your facilities comes with a high price tag. Clean energy projects depend on significant upfront investment and face a long payback period through energy bill savings. We offer access to an array of funding solutions that will not affect your balance sheet.

Savings opportunities

Biomass boilers

By switching from traditional heating systems to sustainable biomass boilers, commercial building owners can save up to 20% on heating costs.

Gas boilers

By replacing gas boilers with new gas boilers with condensation technology, energy savings of up to 20% are easily achieved.

Heat pumps

Heat pumps allow users to draw energy from the environment in order to provide heating and cooling for their facilities, which can result in primary energy savings of up to 50%.

LED lighting

By replacing existing lighting with energy-efficient and durable LED lighting and automating lighting systems, commercial clients can save up to 60% on lighting costs.

Wastewater filtration and reuse

By recuperating, filtering and reusing wastewater, hospitality facilities can save up to 85% of water used and greatly diminish their environmental impact.

Specialized energy solutions

Municipalities and public clients

Our expertise

Resalta is a trusted and reliable partner of cities and municipalities throughout the SEE region. With a thorough understanding of tender processes and the public-private partnership (PPP) system in each individual country where we operate, we have helped a vast number of public partners improve their infrastructure and achieve savings through energy renovation projects.

Among the most common solutions we offer public clients are:

Technologies and solutions

- Energy audits
- Energy management system installation
- Public lighting renovations
- Gas boiler renovation/installation
- Biomass boiler renovation/installation
- New heating substations
- Combined heat and power unit installations
- Air/water and water/water heat pumps
- Energy reconstruction of building thermal envelope
- Complete energy renovations of multiple or all public buildings

Financing

For cities, municipalities and public institutions, the safety, sustainability and comfort of inhabitants and visitors are clear priorities. Unfortunately, with limited budgets, some measures for improving infrastructure and energy efficiency are not always within the scope of local governments. This is why Resalta, as a private partner, is there to provide not only its technical expertise but also financing.

The ESCO model is gaining popularity in the public sector. It empowers cities and municipalities to achieve energy efficiency and improve performance without increasing capital expenses or burdening taxpayers. A range of funding options are available, including the public-private partnership model (PPP). Through the PPP model, Resalta can take on all the risk of an energy efficiency project in the public sector and provide the technical know-how that public partners often lack. With experience from previous projects, a dedicated team of experts and a commitment to green development, we can provide your city or municipality with a chance to improve its energy efficiency, reduce CO_2 emissions and reduce energy costs.

City of Pirot

“Compared to budget or loan financing, the advantages of the PPP model are evident and numerous. Starting from the fact that the funds for implementing the project are provided by the private partner, that the majority of the project risks fall on the private partner, that the city's balance sheet is not affected, that it obtains quality and efficient service and that following the expiration of the contractual period the public partner receives operational, quality and efficient equipment that will be in use for an additional period of time, it is undoubtable that the PPP model will have an ever growing and wider application.“

Vladan Vasić
Mayor of Pirot, Serbia

Opportunities for savings

Public lighting

By replacing outdated lighting systems with new, energy-efficient and durable LED lighting, cities and municipalities can achieve up to 40% savings.

Building energy retrofits

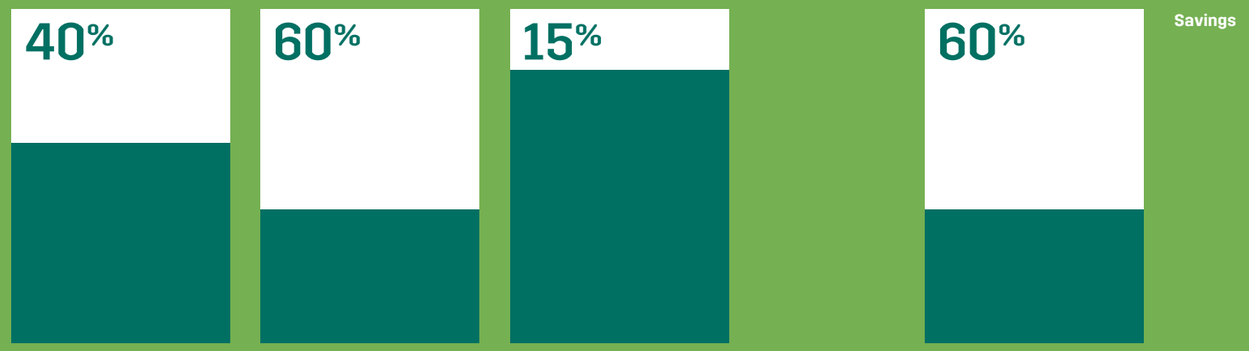
By undertaking energy retrofits of administrative and public buildings, clients can save up to 60% of energy.

Biomass and gas boilers

By switching to biomass or gas as primary heating sources, public clients can save up to 15% of heat energy.

Heat pumps

With air/water and water/water heat pumps, clients can easily save up to 60% of primary energy.



Developing renewable energy sources

Heat and power generation

Sustainability and reducing CO_2 emissions have always been crucial parts of Resalta's mission. In recent years, developing renewable energy sources has become an important and ever-growing part of our operations. To achieve this, we have expanded our portfolio to include different sources for renewable energy that are underutilized in the markets in which we operate. Our goal is to increase the share of clean energy consumed and to protect the environment.

We focus on the following renewable energy sources in our large-scale heat and power project development:

Combined heat and power

Today's technology allows us to produce heat and power on-site simultaneously, thanks to a process called cogeneration or combined heat and power (CHP). Electricity produced is released into the electric grid or to nearby facilities that require additional power, while the heat is sometimes reused by the plant and often channelled to nearby communities or facilities.

The benefits of CHP are numerous: the process increases energy efficiency, reduces energy costs, and uses renewable and easily accessible locally sourced fuels such as biomass and biogas. CO_2 emissions are kept to a minimum and exhaust fumes are treated in order to be environmentally friendly.

Resalta develops CHP projects of 5 MW and upwards.

Biogas

Methane from biogas, a natural by-product of sewage treatment, landfill and animal-waste facilities, is a ready source of renewable energy. Rather than burning this gas, which consumes energy and increases local emissions, Resalta can help commercial and public facilities use this biogas as a form of renewable energy.

Landfill gas

We design, build, maintain and operate renewable energy plants for facilities near landfills. These renewable energy projects safely divert landfill gas through extraction wells and pipe it to a landfill-gas-to-energy plant, where it is cleaned before specialized engines convert it to energy for use by the facility and, in many cases, the nearby community.

Large-scale heat pumps

The thermal power of rivers, as well as wells and other underground bodies of water, can be exploited to produce heat for consumers in cities, district heating and private clients.

Solar Energy Solutions

Solar power is energy generated from the sun's radiation, which is then converted into electricity or used to heat air, buildings and more.

We utilise solar photovoltaics in many of our energy performance contracts. Resalta has developed, installed, financed and maintained several solar energy systems across SE Europe, including innovative industrial and public school solar energy systems.

Biomass

Biomass, or renewable energy from waste such as forest debris, agricultural waste and scrap lumber, is quickly gaining popularity as an energy source across SE Europe. Resalta helps clients and communities harness the potential of biomass energy by building power and cogeneration facilities that cleanly burn renewable waste to fuel specialized engines that generate power and heat.
We can create large, utility-scale biomass-to-energy plants, as well as smaller on-site biomass cogeneration and distributed generation plants that can fulfil a significant portion of a facility's energy needs, reducing energy costs, water consumption and carbon emissions.

Municipality of Slatina

"A big advantage of the Slatina combined heat and power project is that we as a city provide everything that is needed for this project in its initial stages, including the natural resource biomass available here, which is an added benefit required for this type of energy production."

Denis Ostrosić
Mayor of Slatina, Croatia

Turnkey solutions

We take care of every step on the path to energy efficiency

Step 1

Identifying energy savings potential

Every project starts with a thorough analysis of the current energy situation, consumption and needs.

Step 2

Developing solutions to reduce costs

What can be done in your facility to preserve energy and reduce costs?

Step 3

Project design

Based on precise calculations, we propose the best solutions for your particular case, allowing you to optimize your energy consumption.

Step 4

100% project financing

We finance the entire energy renovation project, with no investment required from you. Once the new systems are operational, you repay us from the savings achieved.

Step 5

Project implementation and installation

We take care of all the mechanical and electrical installations, as well as potential construction work.

Step 6

Energy supply and management

We provide you with clean, reliable and cost-effective energy adapted to your needs.

Step 7

Operations and maintenance

All the equipment installed remains our responsibility for the duration of the contract – we operate and maintain it, and undertake repairs if necessary.

Step 8

Real-time data monitoring and reporting

Real-time monitoring allows us to make informed decisions and actively manage all of the equipment and facilities, further optimizing your energy efficiency.

An energy-efficient and successful business

- Improved energy efficiency and guaranteed energy savings
- Trusted experts creating tailor-made solutions
- Complete solutions allowing clients to focus on their business
- Investment that does not reflect on the balance sheet
- Solutions that reduce environmental impact

The ESCO business model

ESCO
Energy Service Company

The term ESCO stands for energy service company. The model allows companies like Resalta to carry out energy services without clients having to invest their own capital into the projects. Using the ESCO model, we carry out an energy audit of your facilities, propose a solution, implement, operate and maintain it, but most importantly we provide the financing so that you can keep focused on your core business. We guarantee results, and clients repay us from the achieved savings.

The ESCO model is implemented through Energy Contracting. There are several benefits to using Energy Contracting to improve energy efficiency and achieve the highest possible energy consumption and cost savings:

- guaranteed energy savings – savings that are carefully calculated, predictable and can be incorporated into the client's financial plans; Resalta provides a contractual guarantee of achieved savings
- no upfront financing on part of the client is required, the investment is covered by Resalta
- the investment does not appear on the client's balance sheet
- Resalta takes care of planning and implementing the investment, energy management, energy supply, operations and maintenance, and assumes all the technical risks and responsibilities
- clients can focus on their core business

Public-private partnerships

The ESCO model can be applied to public projects through the public-private partnership model. With slight adjustments, the concept remains the same: Resalta finances the project, designs and implements it, taking on all the risk. The public partner gradually repays Resalta from the savings achieved.

Before the contract

Total OPEX.

During the contract

The implementation of energy saving measures lowers energy costs and creates savings that allow us to finance the investment.

After the contract

At the end of the contractual term, the equipment and total energy savings are transferred to the plant/ business owner.

Success Stories

Gorenje Group

60%

Savings on annual cooling energy costs

Gorenje is one of the leading European home appliances companies. Its long-term collaboration with Resalta has enabled it to achieve higher energy efficiency and significantly reduce its environmental impact. The results of the implemented measures are reflected in the financial and energy savings achieved, CO_2 emission reduction, improved working conditions and shorter manufacturing cycles in some sectors.

Implemented measures	Achieved savings	Environmental impact
Industrial lighting renovation	66% savings on electricity costs for lighting and reduced maintenance costs	Annual reduction of CO_2 emissions by 283t
Cooling system renovation	60% savings on cooling energy	Reduced use of electricity
Combined heat and power unit installation	Annual savings of 5% on energy costs	Annual reduction of CO_2 emissions by 517t
Energy management system installation	Annual savings of 2% on energy costs	Indirect effect due to reduced energy consumption

“ Resalta's industrial expertise has proven it to be the ideal partner for energy efficiency projects covering areas as diverse as CHP, cooling, lighting and energy management systems. In each case, Resalta delivered a turnkey solution, covering everything from energy analysis to financing, implementation, operation and maintenance.“

Franjo Bobinac
CEO, Gorenje Group

Livar

24%

Reduction of annual electricity consumption for the production of compressed air

Livar specializes in mechanical processing and the production of ductile cast iron. The company has several production sites in Slovenia. Following the realization of Resalta's energy efficiency project in Livar's Ivančna Gorica facilities, an energy audit revealed that the Črnomelj site had an even greater potential for savings.

The solutions that Resalta created were based on a detailed energy audit and have brought energy savings to the client, as well as a reduction in emissions and an increase in the reliability of compressed air production, a key component of Livar's production.

Implemented measures	Achieved savings
The installation of new frequency-regulated air compressors	24% reduction of annual electricity use for compressed air production
Installation of waste heat recovery systems	1,000 MWh of heating energy saved annually

City of Ljubljana, Slovenia

8,245

MWh energy saved annually

The public tender for the energy retrofit of the City of Ljubljana included 49 buildings, among which were elementary schools, kindergartens, libraries, cultural institutions, healthcare centers, sports centers and administrative buildings.

The aim of the city was to improve the energy efficiency of the buildings with minimal investment, in accordance with the environmental policies of Ljubljana and the city's reputation of European Green Capital. In order to successfully carry out the implementation of such an ambitious project, Resalta entered a consortium.

Resalta's solutions have had a positive impact on the environment while allowing for higher energy efficiency as well as lower energy consumption.

Resalta has renovated heating, ventilation and cooling systems, replaced interior lighting with more efficient solutions, replaced existing heating systems with systems using renewable energy sources, replaced doors and windows, renovated facades and isolate roofs.

> "We expect the project to increase energy efficiency in the renovated buildings, as well as the share of energy from renewable sources. This will be achieved by the many heat pumps installed and the units connected to the district heating network, which will reduce greenhouse gas emissions."

Zoran Janković
Mayor of Ljubljana

Implemented measures	Achieved savings	Environmental impact
Energy retrofit of buildings	Annual energy savings: 8,245,534 kWh	2,956t of CO_2 emissions cut annually

City of Pirot, Serbia

60%

Savings on heat energy

The City of Pirot announced a public tender in order to reduce the heating costs in four schools and improve energy efficiency. All four schools had obsolete and unreliable crude oil boilers, a solution that wasn't environmentally friendly.

In order to improve efficiency and reduce environmental impact, Resalta installed two biomass boilers in each school:

- Dairy high school: 360 kW + 120 kW
- Elementary school "8. septembar": 450 kW + 120 kW
- Elementary school "Duško Radović": 550 kW + 120 kW
- Elementary School "Sveti Sava": 240 kW + 120 kW.

Biomass is an efficient, locally sourced and environmentally friendly fuel.

This project is the first public-private partnership for energy supply realized in Serbia.

> "The fact is that this way of realizing and financing projects has many positive aspects and represents a combination of the positive experiences and knowledge of the private and public partners. We expect additional positive aspects of the PPP model to come to light by the end of our cooperation with Resalta."

Vladan Vasić
Mayor of Pirot

Implemented measures	Achieved savings	Environmental impact
Installation of biomass boilers	60% annual savings on heat energy	Annual reduction of CO_2 emissions by 420t

Terme 3000 Moravske Toplice

25%

Savings on annual heating costs

The Terme 3000 spa is situated above the underground spring MT1, water from which is used to fill the thermal pools open to the guests.

The spa was cooling thermal waters for guest use with plain water, and heating sanitary water with thermal water then cooling it with plain water – both inefficient methods. These processes used to be undertaken with geothermal energy from the spring, but the system was obsolete and malfunctioning.

Resalta's long-term solution was to direct the heat energy of the MT1 source more efficiently.

Two new water circuits were installed using heat exchangers to extract heat from the source in order to simultaneously cool thermal waters for spa use and heat sanitary water, as well as non-mineral pools in the hotel.

The contract duration is set at 5 years. Resalta installed all the new equipment and is supplying Terme 3000 with the exchanged heat.

Implemented measures	Achieved savings	Environmental impact
Installation of a new geothermal exploitation system and heat exchangers	Annual reduction of heat energy costs by 25%	172,351 m^3 of groundwater and 65,000 m^3 of drinking water saved annually

City of Kruševac, Serbia

Kruševac is a city in southern Serbia, as well as the seat of a wider administrative area with 128,000 inhabitants.

Its public lighting infrastructure was outdated and the city published a tender for a public-private partnership to renovate the systems in the smaller towns surrounding the city that fall under its jurisdiction. Resalta won the tender with its technical partner.

Resalta replaced 12,545 old luminaires with 12,545 energy-efficient LED luminaires. The luminaires were carefully selected following photometric measurements to fill all the requirements of the city and its surrounding towns.

Resalta has also replaced the obsolete systems for switching public lighting on and off in all 330 substations in the municipality with an automated system regulated by an astronomic clock adjusted for the conditions in Kruševac, enabling optimal energy savings as well as the required 4,000 operating hours per year (all lights are switched on and off at the same time).

The PPP contract lasts 12 years, with Resalta providing an added 3 years of guarantee on the lighting equipment.

12,545

Luminaires replaced

2,773

Tons of CO2 emissions cut annually

1,306

kW reduction in installed capacity

Implemented measures	Achieved savings	Environmental impact
Replacement of 12,454 outdated luminaires with LED luminaires	• 80% annual savings of electricity for lighting once the contract expires • Reduction of installed wattage from 1,664 kW to 356 kW	Annual reduction of CO_2 emissions by 2,773 tons

Slatina municipality combined heat and power plant

40

GWh annual electricity production

The Slatina project was launched to build a combined heat and power plant that runs on biomass. It will be located in the northern part of Croatia in the Slatina municipality.

Consisting of a steam boiler running on wood chips, with a steam turbine and a generator for electrical power, the plant will produce both electric and heat energy. It will have a 5 MW capacity and will produce 40 GWh of electric energy annually, which is enough to power 500 households. The Croatian energy market operator (HROTE) has signed a 14-year contract for the purchase of the electricity produced.

This commercial technology for the simultaneous production of heat and power will be one of the largest projects of its kind in the region. The total investment in this project is €24 million and the newly built cogeneration plant will employ 15 people from the municipality once it begins operating.

“This is a huge project for the city of Slatina: 24 million euros have been invested. It’s very important since, among other things, it is the first project in this industrial zone. Another important thing for the city of Slatina is that this project will create 15 new jobs.”

Denis Ostrosić
Mayor of Slatina, Croatia

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