

SECO/SPACE

SECO/WARWICK'S NEWSLETTER

ECOLOGY is inscribed in our NATURE

SECO/WARWICK talks ECOLOGY

Opportunity for carbon footprint reduction

Technology & Ecology = IRA program

ECO/BOOK

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ECOLOGY IS INSCRIBED IN OUR **NATURE**



The **ECO** prefix is inscribed in our name and the Group's DNA. We don't talk nor think differently about ecology other than **Secology**, because we look at environmental protection so broadly.

Secology is, therefore a set of projects, **ecological** social initiatives, and ecological investments within the company, along with the **green** technologies that we use or create. **Secology**, thus, is not a new science or religion; it is the **SECO/WARWICK** Group attitude visible in every aspect of our operation.

SECO/PEOPLE



Ecology inscribed in our **DNA** means involvement in **green** social initiatives

SECO/COMPANY



SECO is **ECO**, which is why our production, buildings and activities turn green.

SECO/TECHNOLOGY



We've changed the heat treatment and metallurgy color to **green**.

SECO/WARWICK Talks 'Ecology'



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SŁAWOMIR WOŹNIAK
CEO of SECO/WARWICK Group.

'Care for the environment and the planet means responsibility for all of our actions affecting the natural environment now as well as in the future.

It is our duty to the planet and generations. So, we plant trees, clean forests, and care for environmentally friendly production as well as pro-ecological solutions and the products which we offer.'

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Opportunity For Carbon Footprint Reduction



SECO/WARWICK has signed a final agreement with GreenIron H2 AB for the delivery of a series of furnaces for processing metals from post-production waste without the use of fossil fuels. The most unique project in the field of green technologies related to metal recycling is entering a decisive phase of functional tests.

An ecological boost for post-production metal management

The final agreement assumes the delivery of furnaces manufactured by SECO/WARWICK, incorporating the technology developed by GreenIron. They will be used for emission-free recycling of oxidized metals. **They will directly contribute to the reduction of CO₂ emissions on an unprecedented scale** – according to data obtained as a result of the tests, each furnace has the ability to reduce emissions by 56,000 tons/year, which corresponds to over 80,000 round-trip flights for one person between London and New York. For comparison, the annual carbon footprint of an average person living in Europe is approximately 8 tons of CO₂.

The pursuit of zero emissions is one of the main pillars for current policy among Western countries. The European Union has been supporting programs that motivate companies to reduce emissions for several years. Last year, the United States has also placed great emphasis on supporting environmental protection. We are talking about the IRA anti-inflation program, the value of which is estimated at several hundred billion dollars, which will provide the support for domestic industries to reduce CO₂ emissions and support sustainable development.

The technology, whose originator and patent rights owner is GreenIron, is a unique solution which will help many enterprises implement **“green” solutions** and function in harmony with the natural environment.

The philosophy of reducing emissions is important to us. We try to make our solutions as ecological as possible to support our customers in the changes taking place in heavy industry. We bet on the green color, on wise, ecological innovations which not only protect the planet but also allow us to achieve greater efficiency.

„Cooperation with GreenIron is a natural way for us to develop this idea. We hope that the new furnaces line will become a new, independent segment in the future. The potential of using these solutions is huge: reduction furnaces will be available to industries that use iron and other metals in production processes – including mining, metallurgy, foundries, the metal processing industry, and incineration plants where production processes produce difficult waste streams requiring storage.

Thanks to GreenIron and SECO/WARWICK, this waste will be recycled without the use of fossil fuels and will return to circulation in the economy as green steel or iron.” - said Sławomir Woźniak SECO/WARWICK Group CEO.

Valuable resources should not end up in landfills

Currently, much of the primary metal supply is not fully recycled. Conventional reduction processes in current technology usually require a constant oxygen content in a single return material, so waste and residues often end up in landfills. Moreover, conventional iron and steel-making processes are designed typically without consideration of carbon dioxide emissions. **As a result, the iron and steel industry is responsible for approximately 7% of global carbon dioxide emissions**, while the ecological transformation taking place around the world requires an urgent change in technology to one using renewable energy sources.

“Our vision is a closed-loop system where metals never reach an end-of-life point. A world where metals are recycled endlessly without emitting greenhouse gases. The proven GreenIron technology enables metal production from ores and industrial by-products such as slags, filter dust, oxide scale and others. The technology itself is based on a reduction process based on hydrogen. The technology makes the process modular and scalable. The reduction plant can be installed near iron or steel processing plants. Therefore, the need for transport is reduced, which allows for a reduction in energy demand throughout the entire production chain,” - explains Edward Murray, GreenIron CEO.

The solutions that will be developed in cooperation with GreenIron have not been available on the market before and may potentially constitute a new line of furnaces. Their great value is that they contribute to carbon dioxide reduction, as well as significantly reducing the costs of recycling residues and post-production waste.

This project was unique in terms of commercial readiness and the wide range of minerals that can be processed.

Technology & Ecology = IRA Program



Since signing the Inflation Reduction Act (IRA) in the USA, this situation is changing. The program, worth USD 369 billion, in practice means, above all, there are now subsidies and tax credits supporting the American renewable energy sector and electromobility development. The SECO/WARWICK Group USA branches offer products which are in line with these industries and the ecological trend.

According to current assumptions, the **IRA program will contribute up to a 40 percent reduction in CO₂ emissions** compared to 2005 level by the end of this decade. Its most spectacular effect is the increase in investment in the energy and transportation sectors generated by this program in American industry. At the end of November 2022, according to Bloomberg's calculations, projects worth about USD 26 billion were announced thanks to government preferences.

SECO/WARWICK implements ecological solution for American industry

We have an ecological approach inscribed in our mission, in which we declare that 'we create innovative products providing our customers with reliable, safe and pro-ecological solutions for heat treatment and metallurgy.'

„The SECO/WARWICK Group's American companies perfectly understand these market needs, offering innovative and ecological solutions for vacuum, CAB, or aluminum brazing in the Western Hemisphere,” said Sławomir Woźniak, President of the SECO/WARWICK Group's Management Board.

“On the American market, green vacuum technologies, e.g.: LPC, nitriding and high vacuum fit perfectly into the IRA program. SECO/VACUUM furnaces work for the energy and aviation industries, contributing to increasing environmental protection. How? Vacuum as a protective and technological atmosphere eliminates the need to use harmful process gases with their subsequent emissions into the environment. These systems shorten carburizing time which reduces costs and energy consumption, offers operational flexibility, and enables work on demand,” according to Piotr Zawistowski, SECO/VACUUM Managing Director .

For years, SECO/WARWICK, a manufacturer of industrial furnaces for metal heat treatment, has been implementing innovations, including green technologies. So far, European enterprises have been the main beneficiaries of these solutions, with encouragement for implementation by the European Union.

SECO/WARWICK USA, the SECO/WARWICK Group's second US company, may also be a beneficiary of the IRA program.

“SECO/WARWICK USA's business is focused on CAB and aluminum brazing equipment. A well-designed furnace means greater efficiency, and thus lower media consumption. So, ecology also means economy.”

For the implementations protecting the environment to be accepted, they must also bring real profits. That is why we make sure that the innovation brings benefits in the form of shortening the processes time, greater efficiency, or lower gas consumption.

„We recently finalized an order for an aluminum manufacturer for a new aluminum melting furnace. The furnace will complete one full cycle in less than 6 hours, four batches per day, yielding a total of 154,000 to 180,000 kg (about 396831.6 lb) per day. This is an impressively high production capacity, and achieving it requires equally impressive low fuel consumption. However, this efficiency is not limited to brand new furnaces. SECO/WARWICK USA can also equip old furnaces from any manufacturer with the latest clean burner technology, heat recovery, loaders, insulation, PLCs and more,” commented Marcus Lord, SECO/WARWICK USA Managing Director.

Among the new investments in the USA, factories related to the production of batteries and electromobility dominate. Japanese corporations including Honda, Toyota and Panasonic, Korean LG and Hyundai, German BMW, Chinese Envision and American Our Next Energy have invested in our technologies. In the photovoltaic sector, our customers include American First Solar, Swiss Meyer Burger Technology, Italian Enel, Korean Hanwha Q Cells and Indian Waaree Energies.

The IRA has the potential to bring a new perspective to American industry, including those states which seemed to have their industrial heyday behind them. This revitalization will occur in the following states: Michigan, Indiana, Ohio and Pennsylvania, home to both SECO/VACUUM and SECO/WARWICK USA.

Furnaces that change the face of heavy industry

The innovations implemented at the SECO/WARWICK Group directly related to the manufactured furnaces concerns, among others, ecology. **Vacuum furnaces use vacuum (vacuum created by air evacuation) as protective atmosphere for heat treated part surfaces.**

For aluminum technologies, an example of an ecological solution is the **patented Vortex® technology for aluminum coil annealing utilizing nozzle heating, which reduces processing time by up to 30% compared to other available technologies.** The SECO/WARWICK Group is a leader in the implementation of ecological solutions in metal heat treatment systems. We focus on created and traditional green solutions, and an ecological approach that is included in the company’s mission, where the company declares that SECO/WARWICK strives to create innovative products that provide customers with reliable, safe and environmentally friendly solutions for heat treatment and metallurgy.

EXTRA MATERIALS



ECO/BOOK



VIDEO



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