



Јапска амбасада у Србији
Embassy of Japan in Serbia



Влада Републике Србије



Праведна зелена транзиција
и декарбонизација у Србији

Just Green Transition and
Decarbonization in Serbia



1. DESCRIPTION OF THE PROJECT

"Just Green Transition and Decarbonisation in Serbia" is a project implemented by the United Nations Development Programme (UNDP) in cooperation with the Ministry of Environmental Protection and the Ministry of Mining and Energy, and with financial support from the Government of Japan.

The aim of this 1,010,000 USD initiative is to advance the process of decarbonisation, i.e. the phase-out of coal as the dominant energy source in Serbia, while ensuring that the costs and benefits of this transition are shared equally across society.

The project issued a Challenge Call for Proposals inviting interested organisations to submit their innovative project ideas and participate in a competitive process that provided both technical assistance and co-financing for the top ranked project proposals. By investing in innovative business models, the selected projects will be co-financed with a total amount of 600,000 USD. These projects will help reduce greenhouse gas (GHG) emissions and environmental pollution, promote the development of "green" industries that provide an alternative to the coal industry, and support workforce training and reskilling.

At the end of the acceleration phase, an expert evaluation was carried out. At the Project Board meeting on November 18th 2022, agreement was reached and 8 projects were selected for co-financing.

2. TOYO TIRE TAIYO SOLAR PLANT

Project description

The tyre industry is a major consumer of energy. By building its own solar power plant, "Toyo Tire Serbia" aims to reduce the burden on the public energy grid, contribute to decarbonisation and reduce environmental impact, as well as trigger the introduction of new technologies in the local community. The "Toyo Tire Taiyo Power Plant" will be designed and built as part of this project as the largest solar (photovoltaic) power plant in Serbia to date, with a capacity of 7.2 MW. The power plant will be built on a plot of land in the municipality of Inđija. The electricity generated will be used primarily to supply the factory in order to minimise the consumption of electricity from the grid. If there is a surplus of "green solar electricity" after the factory's needs have been met, it will be fed into the distribution grid according to the consumer-producer principle ("prosumer").

Goals and impact

Toyo Tire Corporation's global goal is to become carbon neutral by 2050, and investing in renewable energy sources is the first step towards achieving this goal. The estimated emission reduction is 205,438 tonnes of CO₂ over a 20-year period. In addition, the company intends to promote green energy and/or environment-related CSR activities by being a role model for investment in solar panels.

"Toyo Tire Serbia" will provide training for new workers for the installation of solar panels, creating new employment and reskilling opportunities.

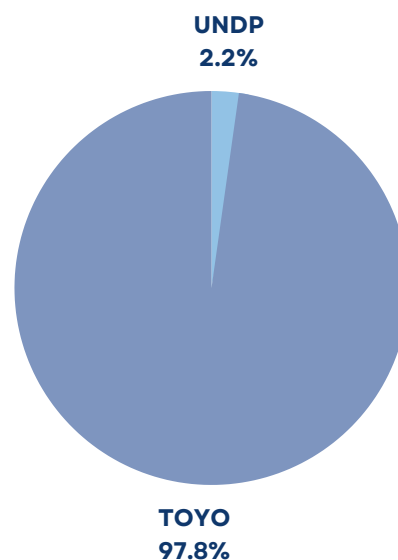


Innovative activity

The plant will use state-of-the-art solar panels (monocrystalline silicon, bifacial) that absorb solar energy on both sides to maximise energy production. Once built, it will be the largest ground-mounted solar plant in Serbia.

Financing

"Toyo Tire Serbia" will finance the bulk of the project through a loan of 7,689,000.00 USD provided by its parent company Toyo Tire Corporation, while UNDP will contribute with 175,000.00 USD.



3. MILŠPED SOLAR POWER PLANT 2022

Project description

Milšped aims to reduce its indirect impact on GHG emissions through the use of renewable energy sources. This will be achieved by installing solar panels on Milšped's facilities in Krnješevci. This solar power plant will replace the dependence on electricity generated by coal combustion.

The Krnješevci site is used for various logistical services. By using the new solar panels, two of the warehouses will be equipped with new power generation and supply systems with a total installed capacity of 600 kW. The solar plant will cover up to 34% of the total annual demand of these facilities and will be used mainly for the charging systems of the batteries of forklifts and other internal transport equipment.



Goals and impact

By switching to renewable energy sources, the Milšped Group aims to reduce its carbon footprint.

The basic principles of the project and the lessons learned will be shared within the Milšped business system,

including the two sister companies, interested customers, as well as the general public, in order to raise awareness and educate citizens on the use of solar energy.

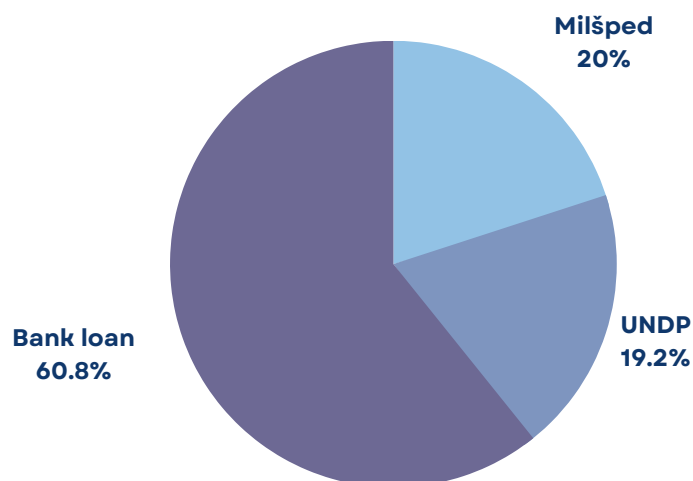


Innovative activity

This project will enable a new business model for the provision of logistical services with an innovative approach to the application and use of the system.

Financing

The value of this project is expected to be 520,000.00 EUR, of which 20% will be provided by Milšped, an amount of up to 100,000 USD dollars by UNDP, and the rest through a bank loan.



4. UŠĆE SHOPPING CENTER COMPOST MACHINE

Project description

The UŠĆE Shopping Center is part of the UŠĆE Multipurpose Complex, which generates a large amount of organic waste that needs to be properly stored and used. The solution to this problem is the purchase of the ECOCREATION composting machine.

The machine, with its special technology using unique bacteria that accelerates the composting process to 24 hours, has a positive impact on the environment and contributes to decarbonisation by saving an estimated 10 t CO₂e/year and about 200 t CO₂e for a time horizon of 20 years. In addition, the project will contribute to the creation of new green jobs as well as knowledge transfer through various educational workshops. Finally, the project itself helps to promote the micro circular economy with CSR projects.



Goals and impact

The UŠĆE Shopping Center will contribute to the common goal of decarbonising the economy, protecting the environment, spreading "green" ideas, providing training for "green" jobs on the territory of the Republic of Serbia, and creating better living conditions for citizens.

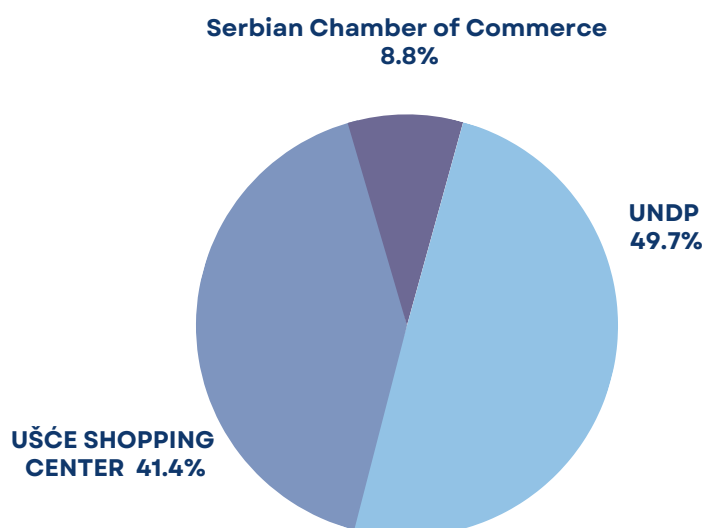
This project will lead to the creation of new jobs, opportunities for training and reskilling, and the possible involvement of local companies and experts.

Innovative activity

The ECOCREATION composting machine is a great example of innovation and the possibilities it offers. The technology that powers the machine is based on special bacterial cultures that are resistant to heat, salt and acid - the secret behind its unique and rapid action. The bacteria convert all organic waste (including citrus peels, processed food, coffee grounds and biodegradable products) into dry compost with only 15% of the original volume within 24 hours, without producing methane.

Financing

The total budget of the project is 100,000.00 USD, with UNDP co-financing half of this (50,000.00 USD). The company UŠĆE SHOPPING CENTER will provide 41,673.00 USD from its own funds, and the Serbian Chamber of Commerce will donate another 8,877.00 USD which will be used for workshops, seminars and promotional activities



5. BUILDING R&D CAPACITIES FOR ZERO CARBON EMISSION IC ENGINES IN THE TRANSPORT SECTOR

Project description

The transport sector is responsible for significant GHG emissions due to the extensive use of internal combustion engines (ICE). For the light and heavy-duty vehicle sector, as well as for shipping, the most promising technology to avoid GHG emissions is based on engines that run on carbon-free fuels IC. The project aims to create an R&D infrastructure for testing and developing new technologies for future hydrogen-powered ICE in a short period of time by upgrading the existing ICE test laboratory at the Innovation Centre of the Faculty of Mechanical Engineering at the University of Belgrade.

The project will be implemented with the knowledge and expertise of the Faculty of Mechanical Engineering of the University of Belgrade and AVL List GmbH (Austria).

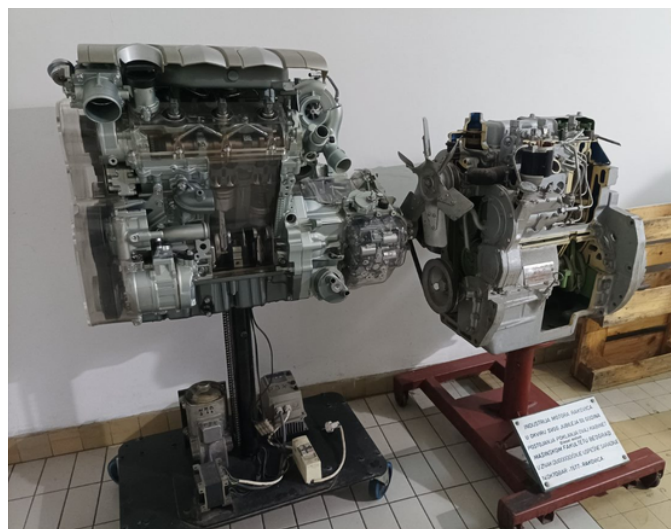
Goals and impact

The project will bring significant benefits to the goals of “Just Green Transition and Decarbonisation in Serbia” by minimising GHG emissions, increasing revenues and contributing to a greener local economy, engaging additional young engineers in R&D activities for global automotive clients, and building a strong base for a knowledge hub on hydrogen ICE in Serbia.

Innovative activity

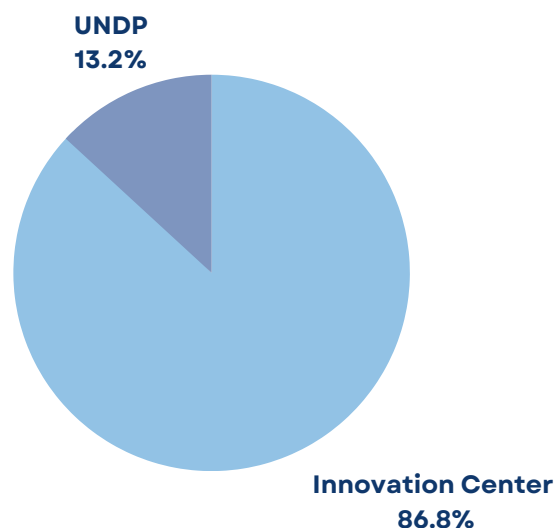
In the Republic of Serbia, 6.5 million tonnes of CO₂, or about 14% of total CO₂ emissions, are generated almost entirely by the combustion of common fossil fuels in internal combustion engines.

Replacing fossil fuels for internal combustion engines with carbon-free fuels, such as hydrogen, holds enormous potential for zero GHG emissions in the transport sector.



Financing

The total budget of the project is 684,000.00 USD. The Innovation Centre of the Faculty of Mechanical Engineering will provide 594,000.00 USD from its own funds and the funds of the partner company AVL List GmbH. The contribution of UNDP amounts to 90,000,00 USD.



6. INTRODUCTION OF PRIMARY SEPARATION OF WASTE FROM COMMUNAL WASTE ON THE TERRITORY OF THE CITY OF PANCEVO

Project description

Within the framework of the ongoing project "Primary waste separation in four regions" (SS4R), the PUC "Higijena" Pančevo organises the allocation of household waste fractions into new containers for wet and dry waste. Currently there are 6,260 bins and 285 containers in three zones of the city.

In order to introduce the same waste management system in the whole area of Pančevo, the project proposal foresees the installation of scales in the facilities of one of the new car manufacturers. It is also planned to expand to the remaining four zones of the city that are not covered by dry waste containers by introducing "houses" (space for separation of packaging waste) based on the Japanese model.

The material and energy savings from the application of recycling and the reduction of GHG emissions are calculated on the basis of the measured kilogrammes of retrieved packaging.



Goals and impact

By applying circular economy, this project will transform waste into raw materials and energy sources.

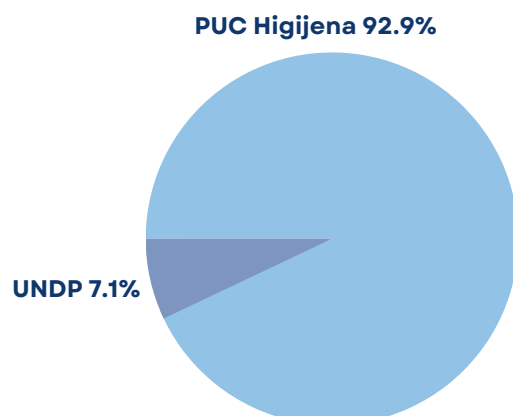
The expected impact is threefold - reduction of water and electricity consumption and reduction of CO2 emissions. It will provide new training and employment opportunities, especially for the informal sector of collectors who currently collect packaging waste from municipal waste without a permit. By employing the informal collectors, the project aims to solve their existential and social problems.

Innovative activity

The system of separate bins for dry and wet waste has been piloted before, but due to the lack of containers, it was revamped with the idea of "houses" for waste. Informal collectors will bring packaging from municipal households to these "houses" and hand it over to representatives of the PUC "Higijena" in exchange for money. The "houses" will reduce the operating costs of the PUC "Higijena", which will allow the reallocation of funds for the implementation of the system of primary separation of secondary raw materials from waste.

Financing

The PUC "Higijena" Pančevo is financing the project with its own funds amounting to 922,840.00 USD, while UNDP's participation will be US \$ 70,000.00 USD.



7. TRAKEN

Project description

TRAKEN is developing an innovative software infrastructure based on blockchain technology that will provide encrypted, secure and transparent access to prosumers' smart metres and metering records. It will enable faster reconciliation and trading between stakeholders.

By using the latest technology that complies with the current regulatory framework, it offers a way to expand the energy market and ensure liquidity.

Goals and impact

Due to climate change, electricity grids experience frequent and random increases in consumption, which are extremely expensive to fix and affect the stability of the electricity supply.

By increasing efficiency and supporting the transition from fossil fuels to renewable energy sources in electricity generation, and by efficiently rebalancing demand, TRAKEN expects to impact the annual reduction in emissions intensity by 0.5%.

The project will be piloted in Pirot where, with the support of the project partners, a solar power plant will be built and integrated into the system, the impact of which will subsequently be measured both during and after the project.

Innovative activity

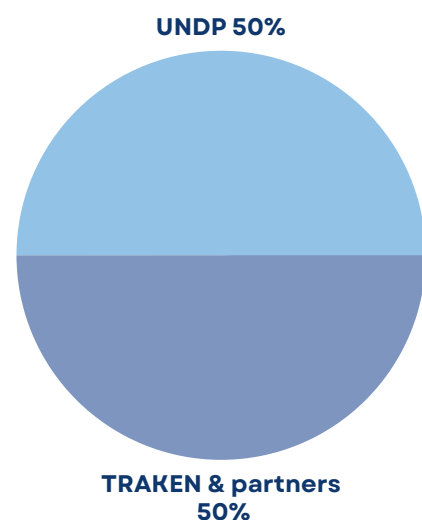
TRAKEN is a digital solution that introduces an innovative approach that enables distribution system operators (DSOs) and electricity suppliers to improve their services in a simple and affordable way.

Using advanced blockchain technology in combination with smart and Ricardian contracts, it creates an efficient process for buying electricity from consumers in real time, enabling a completely new business model for electricity suppliers and traders.



Financing

The total budget of the project is 80,000.00 USD. TRAKEN TECH, together with its partners, will cover 50% of the estimated project value, while UNDP is expected to contribute the other 50%.



8. PHOTOVOLTAIC POWER PLANT WITH CHARGERS FOR ELECTRIC CARS - RESIDENTIAL COMPLEX MAGDON NIŠ

Project description

The aim of the project is to build a photovoltaic power plant on the roofs of the three residential buildings in Niš, which together form a residential community.

The power plant will be connected to the electricity grid according to the "prosumer" model. Three charging stations for electric and plug-in hybrid cars will also be installed.

Goals and impact

By switching to renewable energy sources, the expected reduction in greenhouse gas emissions over the lifetime of the photovoltaic power plant will be 1,650 tCO₂e.

This project will not only educate the local community, but also encourage them to switch to electric or hybrid cars by providing easy access to charging stations. In addition, new jobs will be created in the short and long term.



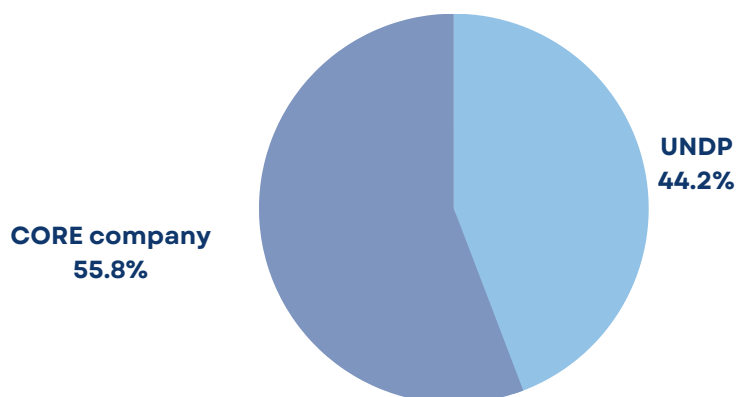
Innovative activity

The project aims to establish the first residential community in the "prosumer" model with installed charging stations for electric and plug-in hybrid cars.



Financing

The expected total value of the project is 90,500.00 USD. The CORE Company will contribute with 50,500.00 USD, while UNDP's contribution will be 40,000.00 USD.



9. TELEMEDICINE IBD

Project description

The telemedicine project offers patients with inflammatory bowel diseases (Crohn's disease and ulcerative colitis) the opportunity to have their check-ups with specialised doctors via videocall.

The videocall appointment is set in consultation with the doctor. The patient then receives a link to the call via SMS or email. The doctor performs the examination via the health information system and simultaneously writes an examination report while calling.

The pilot project at the Zvezdara Clinical Hospital Centre was successfully implemented and resulted in a reduction of CO2 emissions by 2.29 tonnes by performing 71 examinations within a short period of time.

Goals and impact

The aim of this project is to reduce greenhouse gas emissions by an estimated 45.5 tCO2e per year by reducing the need for patients to travel to their check-ups.

Providing this service in 8 health facilities across the country will not only reduce GHG emissions, but also save patients' time and money, alleviate pressure on health facilities by reducing the number of patients in waiting rooms, and make immunocompromised patients less exposed to other diseases.

The project also saves money of the Health insurance Fund (as these patients are entitled to medical transport), which can be used to further improve the Serbian healthcare system.

Innovative activity

Videocall examinations are fully recognised by the Ministry of Health as regular health examinations and are legally equivalent to those conducted in person.



Financing

The total budget of the project is 71,000.00 USD. Heliant's contribution is provided from its own funds amounting to 31,000.00 USD, while the partner company Takeda Ltd.'s funds amount to 5,000.00 USD. UNDP's contribution is 35,000.00 USD.

