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Sustainable Finance and Insurance:
EU Principles, Practices and Challenges

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## Green and Sustainable Solutions for Smart Cities

According to the projections, by 2050, world's urban population will increase to 66%. People living in cities is expected to consume over 70% of energy and emit just as much greenhouse gases. As urban population grow, the demand for services, but also the pressure on resources will increase. This demand puts a strain on energy, water, waste, mobility and any other services that would be essential to a city's prosperity and sustainability. How innovative technologies and digitalisation can help in solving this issues explains Dr. Theodoros Anagnostopoulos.

Smart Cites or Cities 2.0 is the future of urban habitation, which emerged due to the development of Industry 4.0. Actually, 70 percent of human population will move towards urban areas by 2050 thus forming vast cities. Such cities will need advanced technical infrastructure exploiting research inventions and business innovations to provide a viable solution for earth population. Core technology of Smart Cities is based on Internet of Things (IoT), which provide the physical test-bed for such achievement. With the and IoT, smart cities have seen a tremendous growth in data generated, including real-time and Big Data. Thefore, IoT without back-end intelligence is a flat technical approach between human needs and surrounding infrastructure. This gap is eliminated by the incorporation of Artificial Intelligence (AI) as a back-end technology used to interpret and understand human needs to provide a viable green ecosystem for citizen well-being.

Such green ecosystem is able to face certain inefficiencies in Smart Cities' infrastructure and provide sustainable solutions. Viable solutions are enhanced by the exploitation of AI and surrounding technologies like Machine Learning (ML), Data Analytics, and Pervasive Data Science to treat the needs of Smart Cities' building components like: (1) Smart Business and Industry, (2) Smart Education, (3) Smart Mobility and Wi-Fi, (4) Smart Digital Citizens, (5) Smart Open Data, (6) Smart Health, (7) Smart Farming and Agriculture, (8) Smart Grid and Energy Utilities, (9) Smart Transportation, and Smart Waste Management.

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## European Policies on Water

Protecting Europe's shared water and marine environments, resources and ecosystems from pollution, over abstraction and structural changes will need coordinated action at EU level.

The WFD provides a framework for water protection and management in the EU. In 2010, EU Member States released 160 river basin management plans for the period 2009-2015, which aimed to protect and improve the water environment. The second set of river basin management plans covering the period 2016–2021 were finalized in 2016/2017.

In 2012, the European Commission published A Blueprint to Safeguard Europe's Water Resources (COM(2012)673). It focuses on policy actions that will improve how current water legislation is applied in practice and on integrating water policy objectives with other policies. The Blueprint builds on water policies relating to water resource efficiency and sustainable water management in the same timeframe as the EU's 2020 Strategy up to 2050.

In addition to the WFD and the Blueprint, there are four water directives to ensure the good status of Europe's waters:

- the Urban Waste Water Directive (91/271/EEC)
- the Bathing Water Directive (2006/7/EC)
- the Nitrates Directive (91/676/EEC)
- the Drinking Water Directive (98/83/EC)

The Floods Directive (2007/60/EC), which encourages the development of flood risk management plans, also significantly supports the objectives of the WFD.

*Source: https://www.eea.europa.eu/themes/water/european-waters/water-management*


# Sustainable water resources management under climate change

Water deficiency represents a challenge for the environment, life quality and economy. Increase in demand for available water resources generates conflict between various water consumers. The conflicts are the most prominent during long and intensive droughts. The drought problem has been acknowledged at the global level.

Water is a crucial input for successful economies and vital to human survival in general. Therefore, it is not easy to measure water value for sustainable development (Garrick et al., 2017). It requires innovative, interdisciplinary and trans-boundary approach to be applied in water-dependent sectors.

Climate that is constantly changing (IPCC, 2018) threatens water resources management and water-related sectors, decreasing the quality of water and increasing water scarcity. Evident changes in hydro-climatic parameters (Blöschl et al., 2017) and projected global warming of 1.5 $^{o}$C will have as a consequence increasing demand for water and spreading of water-related diseases. Thus, reaction to water issues and climate change which are strongly interconnected requires good water governance and inclusive water resources management at the country level.

In order to improve water resources management and meet the water management goals outlined in Sustainable Development Goal 6, science community and water-related institutions should apply for using national or multilateral climate finance intended to water projects (UN-Water, 2020). Implementation of two mutually complementary strategies (adaptation and mitigation) can rapidly speed up accessing to safe water, sanitation and hygiene services, increase water system resilience and reduce climate-related risks in the future. Also, water experts should integrate climate change analysis into their planning of water resources. Finally, sustainable water solutions should be based on the most up-to-date scientific knowledge and anchored in long-term strategies and action plans.

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# Car recycling in the Republic of Serbia

## Potentials and challenges of the circular economy

By adopting a special document "European Investment Plan Green Agreement" which is expected to increase investment in the field of climate change mitigation, improvement of the circular economy, and encouragement of a green transition for the period 2021-2027 in the amount of as much as EUR 1,000 billion, the European Union pointed out the great importance of this area for the future development of the EU. This plan is first expected to increase the funds for the transition of activities that are most responsible for the current pollution towards to the activities that emit less CO2 gases, the so-called low-carbon activities.

The concept of circular economy enables companies to reuse and recycle used products, which are thus re-included in the production process, which ultimately aims to significantly reduce the emission of harmful CO2 gases. The financial stimulation of the process of e-waste recycling in the Republic of Serbia in previous years has provided significant results, since the total amount of recycled e-waste has multiplied since the beginning of the implementation of financial support to recyclers.

Moreover, according to the latest publication of the Serbian Environmental Protection Agency, which refers to products that after use become special waste streams, the number of recycled e-products in 2019 is almost three times higher than the number of e-products first placed on market of the Republic of Serbia (35,509 t versus 13,404.5 t). In this manner, a responsible environmental protection policy considers recycling not only e-products that in this period become obsolete, but also a good part of the stocks of used e-products that have been disposed of for years and did not enter the recycling cycle due to lack of incentives.

Used cars represent a significant raw material base in all economies in the world. The fact that the lifespan of these products has been drastically shortened, as is the case with a large number of other products we use every day, further emphasizes the importance of adequate treatment and recycling of ELV. This is supported by the fact that as much as 5% of the total industrial waste generated in the world refers to waste generated by car recycling, so the potential losses for society from that aspect are immeasurable.

By intensifying the process of vehicle recycling through a transparent policy of financial stimulation, multiple effects would be achieved.

First, in terms of reduced pollution, then energy savings, both through the reuse of entire parts of used vehicles, and through the recycling of those parts that cannot be reused.

Ultimately, rejuvenating the vehicle fleet would also indirectly contribute to raising the general level of traffic safety, which is also important.

When the fact that one of the inevitable consequences of the application of strict environmental standards in the field of exhaust gas control in the EU will be the intensification of imports of such worn-out vehicles to the Republic of Serbia, the potential pressure on the recycling industry will be huge.

Therefore, it is necessary to stimulate and motivate all official car recycling centers as soon as possible in order to compensate for this increased pressure, increase the number of recycled cars in authorized centers, and thus reduce environmental pollution and enable sustainable development.

## EYE ON IT

### Current Car Recycling Trends in the Republic of Serbia

According to the report of the Serbian Environmental Protection Agency, it can also be seen that the situation in the field of car recycling is alarming. Only 1.54% of the total number of cars put on the market for the first time in 2019 or 2,109 t end-of-life vehicles (ELV) has been recycled in the official plants.

It is estimated that every year in the Republic of Serbia about 150,000 – 170,000 vehicles (127,000 – 145,000 t) pass into the ELV category, but the key problem is that, due to the lack of financial support in this area, most of these vehicles are disposed of in illegal car waste without respecting basic environmental standards.

The above data clearly indicates that the Republic of Serbia has a significant raw material base for the development of the recycling industry in the field of ELV.

*Source:* Djordjević, L.; Radovanović, N.; Redžić, N.; Jovanović, G. *Waste Management in the Republic of Serbia in the Period from 2011 to 2018.* Environmental Protection Agency of the Republic of Serbia. 2019. Available online: http://www.sepa.gov.rs/download/Otpad_2011_2018.pdf

ProCredit Bank

## ProCredit Bank

At ProCredit Bank, responsibility means providing high quality services and, above all, thorough credit analysis. But responsibility does not stop there. As groups of individuals, and as institutions, all banks that belong to the ProCredit group apply high standards with respect to the impact of their business on the environment. Adherence to these standards starts with internal education and informing staff, and it is continued through all bank activities.

*Source: https://www.procreditbank.rs/en/about-us/environmental-approach*

## Upcoming Events


- **Competition for the best student papers on the EU**

  The Ministry of European Integration of the Republic of Serbia is announcing a competition for the best individual student papers on Serbia's European integration and EU accession process. The aim of this competition is to directly involve young academic citizens in an open argumentative debate on important aspects of the accession process and membership of the Republic of Serbia in the European Union.

  More info: https://www.mei.gov.rs/eng/news/1250/193/463/details/competition-for-the-best-student-papers-on-the-eu-opened/


- **Citizens' Dialogue online with the Executive Vice-President Frans Timmermans**

  Just weeks after the German Presidency began, Executive Vice-President will hold an online citizens' dialog on the Green Deal. Join live on Thursday, July 16th, at 16.30 CEST with Executive-Vice President Frans Timmermans and Fridays for Future Deutschland activist, Carla Reemtsma, to discuss the European Green Deal and how EU can become the first climate-neutral continent by 2050.

  More info: https://ec.europa.eu/info/events/citizens-dialogues/citizens-dialogue-online-executive-vice-president-frans-timmermans-2020-jul-16_en

With the support of the Erasmus+ Programme of the European Union