

Green

Horizons

Policy Pathways to a Sustainable Future

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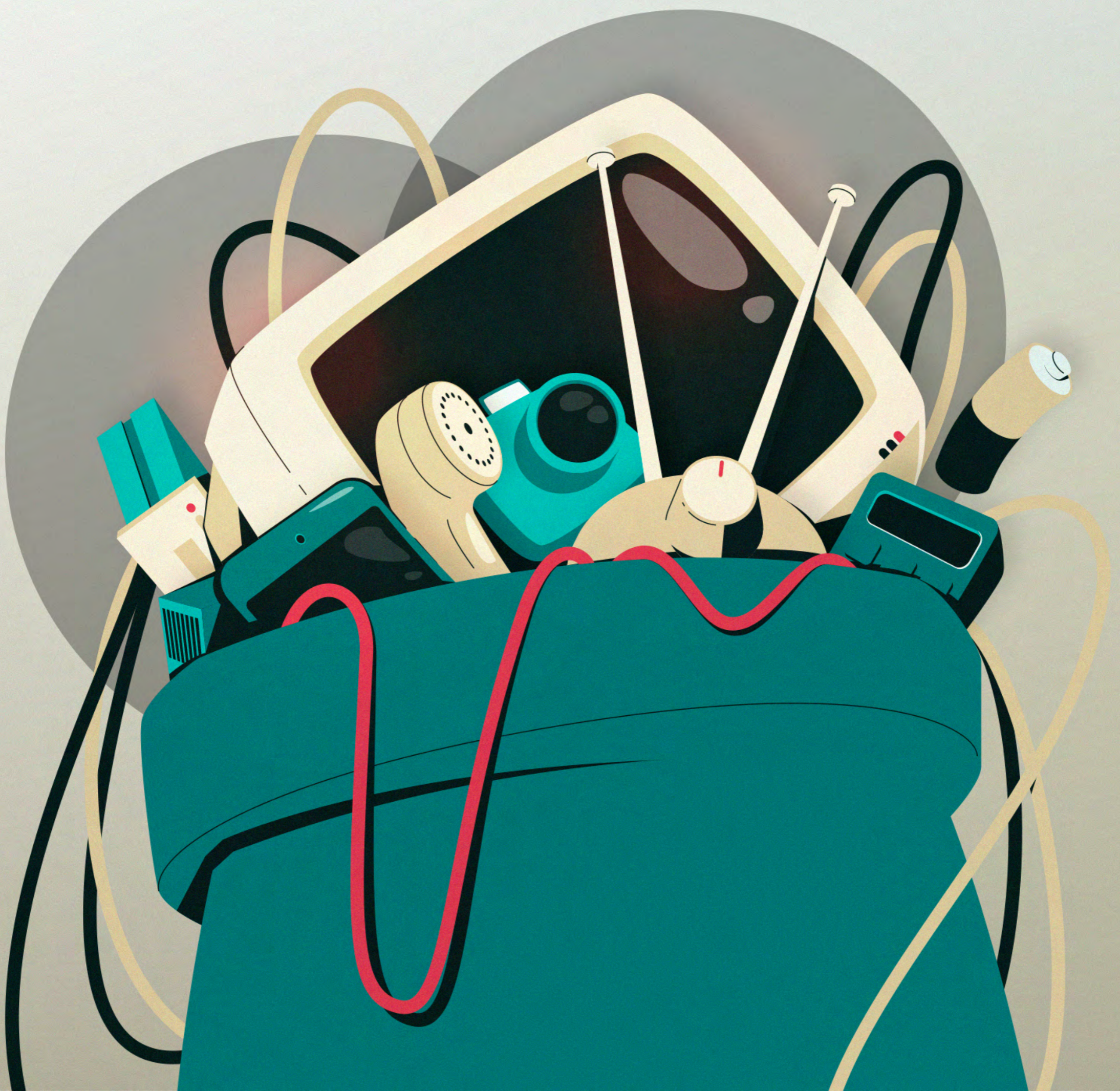
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DON'T BE WASTE-D, BULK SMART

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Executive Summary

The goal of this work is to find ways to dispose of bulky waste in Croatia, Serbia and Macedonia. Wild landfills stand out as a major problem in the preservation of the environment and biodiversity. We propose the opening of centers for the storage of old things. The paper highlights the key stakeholders and their role in the implementation of this policy process. At the same time, the paper also proposed a media campaign and the steps for its implementation. Through this policy proposal, we have identified the key audience and highlighted the benefits for the environment and its preservation.

Analysis of Current Situation

The current state of waste management in many local communities, while functional to some extent, reveals significant shortcomings, particularly regarding bulky waste. Although municipal companies occasionally organize bulky waste collection campaigns, a considerable amount still ends up in illegal dumpsites or directly polluting the environment. For example, people often leave bulky waste next to regular containers, hoping someone in need will take it. However, in many cases, this waste is collected by secondary raw material gatherers, raising the question of whether the waste is later properly disposed of afterward.

In Croatia, the disposal of bulky waste in public areas is prohibited by the Act on Sustainable Waste Management. Despite a 66% increase in bulky waste collection from 2017 to 2021, rural areas still face insufficient access to these services.¹ Public campaigns have successfully raised awareness, but further efforts are needed to improve recycling rates and expand infrastructure.

Serbia's progress in bulky waste management remains limited, despite regulatory frameworks like the 2009 Waste Management Law.² In 2020, 1,359 tons of bulky waste were collected, but only 418 tons were recycled.³ Challenges include low recycling rates, illegal dumping, and insufficient public awareness about reuse, despite the potential for reusing bulky items.

North Macedonia faces growing waste volumes with waste management systems lagging in both infrastructure and public awareness. Bulky waste is often disposed of illegally, and recycling rates are extremely low, at about 0.3%.⁴ Public campaigns have been initiated, corruption, inefficiency, and lack of enforcement of environmental laws hinder progress.

Additionally, informal waste collection is associated with social

¹ [Waste Management Plan of the Republic of Croatia for the Period from 2023 TO 2028](#)

² [Zakon o upravljanju otpadom, Službeni glasnik RS \(2009\)](#)

³ [Program upravljanja otpadom u Republici Srbiji za period 2022-2031, Službeni glasnik RS \(2022\)](#)

⁴ [Waste Management Strategy of the Republic of Macedonia \(2008 - 2020\)](#)

stigmatization. Members of the Roma community, who often engage in collecting secondary raw materials, face prejudice and discrimination, making it harder for them to access education, employment in other sectors, and healthcare. This stigma further complicates their integration and improvement of living conditions.

Besides the social issues, such practices carry environmental risks. If collectors are unaware of proper ways to process or dispose of certain materials, it can lead to environmental problems. For instance, improper disposal of hazardous materials or electronic waste can contaminate soil and water, leading to long-term consequences for the environment and public health.

Each country needs to invest further in infrastructure, education, and enforcement to meet environmental targets and reduce the impact of bulky waste on their ecosystems.

Proposal of Strategy and Policy Measures

Given the aforementioned problems, we propose establishing a *Reuse Center for Old Items and Furniture* as part of a broader strategy to improve bulky waste management. This center would allow citizens to donate items they no longer use, but which are still functional, instead of leaving them by containers or dumping them at illegal sites. The establishment of such a center brings multiple social and environmental benefits:

Reducing waste is a crucial goal of our initiative, as it aims to ensure that instead of old items ending up in landfills, they can find a new purpose. The center would facilitate the reuse of items, significantly reducing the amount of waste that needs to be processed or disposed of. An example to this is the Riperaj (Repair) project – a repair/reuse center in Rijeka, where citizens can repair defective small household appliances, broken and damaged furniture, clothes, toys and other for free with the help of craftsmen who possess the necessary knowledge and skills.

Assisting socially vulnerable groups can be a key benefit of the initiative, as items collected at the center could be distributed to those in need. This includes donations of furniture, appliances, or clothing to those in need, directly contributing to poverty reduction and improving living conditions.

The environmental benefits of this initiative are significant, as reusing old items reduces the demand for manufacturing new ones, thereby lowering the consumption of raw materials, energy, and the release of carbon emissions and other harmful gasses. In addition, the whole concept enables the active involvement of interested experts of various profiles who possess the necessary knowledge and skills, with the added value of direct socializing with interested users and social vulnerable groups.

This approach directly contributes to environmental protection and aligns with the goals of the circular economy, particularly those related to the reuse of items. Through this we support low-income families with necessary goods (furniture, appliances, clothing). In addition to recycling, our focus is on extending the life of products—especially those that may be damaged but can be repaired at the Reuse Center. This further reduces the carbon footprint by minimizing the need for new resources and preventing unnecessary waste.

Another of our proposals is the *organization of reuse markets*, which will help foster social solidarity. Organizing markets where people could bring items they no longer use, and others can take them, would encourage a sense of community and solidarity. Such events promote interaction among citizens and raise awareness about the importance of recycling and reuse. This approach provides a sustainable solution to the bulky waste problem while helping those in need of basic household items. The bazaars would also present an opportunity to raise citizens' awareness about the importance of recycling and reuse. We expect the long-term benefits of the center and bazaars to be multifaceted. In addition to the obvious environmental benefits, this approach could contribute to reducing social inequalities.

Advocacy Plan

Analysis of Stakeholders

Proposing the Reuse/Repair Center concept will result as a cost-saving and socially responsible initiative. In order to implement our initiative, it is important to contact the relevant stakeholders who can assist us with this proposal. These primarily include the Public Utility Company (JKP) and the municipality. Establishing good communication with the municipality—specifically with the municipal president and their associates—where the initiative will be implemented is essential. The *local government* is directly interested in reducing the amount of waste that goes into landfills, meeting environmental protection goals, and cutting costs associated with waste disposal.

By approaching the local government with a clear plan, highlighting both the environmental and social benefits of the Reuse Center, we can demonstrate how the initiative aligns with their sustainability goals and waste reduction strategies. The institutions play a critical role in providing the necessary infrastructure, funding, and regulatory support.

Our key concern in preventing the disposal of bulky waste is ensuring that it is disposed of properly and in accordance with regulations, so that it does not end up in illegal landfills. The *public utility company* plays a crucial role in this process and should carry out the disposal of bulky waste appropriately.

Establishing communication with relevant civil society organizations that focus on sustainable development will help us in implementing initiatives and raise awareness among citizens about green topics. We would like to leverage *non-governmental organization networks* to recruit volunteers and expert craftspeople for repair workshops.

The citizens themselves are integral to the success of the Center. We would organize community meetings and outreach campaigns to inform the public about the center's mission and how it will benefit not only the environment but also vulnerable social groups. During these sessions, we would explain how they can contribute by donating functional, reusable items instead of discarding them, and how this small action can have a significant impact.

As part of the awareness campaign, *educational institutions* would also play a pivotal role. We would collaborate with local schools and universities to promote the Reuse Center as a learning opportunity, offering workshops and apprenticeships where students can develop practical repair skills or learn more about sustainability.

Communication strategy

The target group for this project includes citizens aged 35 and older, as well as educational institutions. We assume that individuals over the age of 35 are more likely to have bulky waste that requires proper disposal. Additionally, educational institutions offer opportunities for hands-on learning for students, allowing them to contribute to the community while gaining valuable skills in sustainable waste management.

Public Awareness Campaign

The objective of this project is to raise awareness and educate the public about the importance of sustainable solutions, such as reusing old furniture, in order to gain support for the establishment of a Reuse Center. To achieve this, we will focus on publishing educational content on social media and highlighting examples of good practices from neighboring countries, such as the Reuse center in Croatia. Additionally, we will organize free or low-cost workshops where citizens can learn how to repair household items under the guidance of skilled craftsmen. Live demonstrations at public events will showcase how easily everyday items, like furniture, electronics,

and clothing, can be repaired rather than thrown away. Moreover, we aim to collaborate with schools to integrate these repair workshops into sustainability programs or extracurricular activities.

Media Outreach

The objective is to engage individuals over 35 on social media through targeted public awareness campaigns on Instagram and Facebook, with the aim of reducing bulky waste. To achieve this, we will post educational content and promote the organization of markets where bulky furniture can be given away. Additionally, we will highlight the environmental impact by sharing reports, case studies, and metrics on waste diverted from landfills. We will reach our audience by leveraging existing Facebook groups used by specific residential communities and neighborhoods, ensuring direct engagement with those most likely to benefit from and participate in the initiative.

Conclusion

Addressing the issue of bulky waste management requires a multifaceted approach that integrates both social and environmental solutions. Through the establishment of Reuse Centers and the organization of community reuse markets, this policy proposal aims to reduce illegal dumping, foster environmental sustainability, and promote social inclusion. By encouraging the reuse of old items, we can significantly reduce waste while supporting vulnerable communities with necessary household goods.

The proposal highlights the importance of collaboration with key stakeholders, such as municipalities, public utility companies and humanitarian organizations, to ensure effective implementation of this initiative. Additionally, a targeted public awareness campaign will be essential in educating citizens and raising their awareness of the importance of sustainable waste management as well as in engaging them in a circular economy.

This strategy not only addresses the immediate need for improved bulky waste disposal but also aligns with the core principles of circular economy – *maximizing the use of resources by keeping items in circulation and use for as long as possible*. By extending the life cycle of products and reducing the demand for new resources, we contribute to a cleaner, greener future, while promoting long term environmental and social resilience. By investing in reuse centers, advocating for policy changes and actively participating in reuse markets, we can reduce illegal dumping, repurpose valuable items and transform bulky waste into a resource and a catalyst for both environmental protection and community growth.

YOUR ENERGY, YOUR POWER CLEAN ENERGY FOR A CLEAN FUTURE

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Analysis of the Current Situation

Southeast Europe possesses significant solar potential, particularly Croatia, Serbia, and North Macedonia. Croatia benefits from abundant sunlight and has made strides in renewable energy technologies as part of its commitment to the European Green Deal. The country has a comprehensive legal framework for energy communities through its Energy Act, allowing local entities to engage actively in energy generation and consumption. However, challenges persist, including the integration of renewable energy into the national grid, reliance on external sources, and bureaucratic inefficiencies that hinder project realization.

Serbia has considerable solar and wind energy potential but heavily depends on coal and outdated practices. The government has initiated a €7B investment plan and introduced a new Law on Renewable Energy Sources in '21, to enhance renewable capacity and energy security. While provisions for renewable energy communities have been established, bureaucratic limitations and a lack of financial incentives deter citizen participation in renewable initiatives.

North Macedonia holds substantial solar potential, yet it relies heavily on fossil fuels, with renewables comprising only 7.8%. Although the legal framework aligns with the EU standards, bureaucratic hurdles, and outdated infrastructure obstruct the expansion of solar projects. The lack of clear regulations creates uncertainty for potential investors, limiting opportunities for community participation in energy generation.

Despite these challenges, each country has unique opportunities. Croatia's robust legal framework can drive innovation in community-driven renewable projects, leveraging its geographic advantages. Serbia can capitalize on international funding and partnerships with NGOs and local businesses to foster investments in renewable energy. North Macedonia can utilize its strategic position and natural resources, particularly solar and hydropower, to develop community-based initiatives.

Addressing regulatory gaps, enhancing public awareness, and promoting regional cooperation can maximize potentials for sustainable energy development and contributing to a resilient energy future.

Proposal of Strategy and Policy Measures

Objectives

This Proposal aims to establish Energy Cooperatives as a community-driven model for promoting renewable energy in North Macedonia, Serbia, and Croatia. These cooperatives will empower local communities to generate, manage, and distribute renewable energy, thereby reducing reliance on centralized systems and fossil fuels. The initiative seeks to lower carbon emissions, decrease energy costs, and foster a sustainable energy framework.

Key objectives include increasing community ownership of renewable energy by transitioning from a centralized production model to a locally controlled system that involves citizens in decision-making. The proposal also aims to contribute to national climate goals by supporting cooperatives that produce renewable energy and fostering cleaner environments. Additionally, it seeks to lower energy costs for members in regions with high or unstable prices, providing financial relief and enhancing energy security.

Public engagement will prioritize educational campaigns, social media outreach, and community events to raise awareness and encourage participation, ensuring an inclusive transition to renewable energy.

Desired Changes in the Approach to Policy: The proposal advocates a shift from centralized energy systems to decentralized, community-controlled models. A supportive regulatory framework is essential, including tax incentives, government subsidies, and simplified licensing procedures to lower barriers to forming energy cooperatives.

Effects of These Changes: Implementing these changes can reduce carbon emissions, aiding in meeting national and international climate commitments. Energy cooperatives can decrease reliance on fossil fuels, promote cleaner environments, lower energy costs, and stimulate local job creation and community reinvestment.

Measurable Indicators: To effectively establish Energy Cooperatives in North Macedonia, Serbia, and Croatia, a comprehensive approach involving collaboration with the business sector is necessary. The following policy measures detail the actions required to create a supportive environment for these cooperatives.

Strategy

The strategic approach to establishing Energy Cooperatives in North Macedonia, Serbia, and Croatia focuses on empowering local communities to enhance renewable energy adoption. By launching educational campaigns and fostering public-private partnerships, the initiative aims to create a supportive regulatory framework with tax incentives and streamlined licensing. This will promote community ownership and reduce reliance on centralized energy systems, lowering carbon emissions and energy costs. The approach emphasizes social inclusion through capacity building and engagement, ensuring that the transition to renewable energy is accessible to all.

A key component of this strategy is a comprehensive public outreach campaign designed to inform citizens about the benefits and possibilities of joining energy communities. This campaign will focus on raising awareness about how individuals can actively participate in these cooperatives, offering them the knowledge and tools to transition to renewable energy sources in their homes and businesses. By highlighting success stories and providing accessible information, the campaign seeks to demystify the process and encourage widespread community involvement. It aims to empower citizens with clear guidance on available financial incentives and the regulatory steps needed to join these initiatives, ensuring that the adoption of renewable energy is not only encouraged but made feasible for everyone.

Ultimately, these interventions aim to stimulate local economies, enhance energy security, and align with national climate goals by promoting sustainable energy practices at the community level.

Policy Measures

Social and Cultural Measures: Nationwide awareness campaigns should educate communities on benefits of energy cooperatives and renewables. These campaigns can showcase successful collaborations between businesses and communities, providing practical examples inspire participation. Community workshops and training sessions can involve local businesses as trainers, equipping community members with essential knowledge on renewable energy technologies, cooperative governance, and business management. Fostering partnerships with local NGOs and businesses will promote grassroots initiatives, building community trust in energy cooperatives. Networking platforms can facilitate resource sharing and best practice exchanges among energy cooperatives and local businesses.

Economic/Fiscal Measures: Offering incentives for businesses that partner with energy cooperatives, such as tax breaks or grants, will encourage corporate social responsibility. Additionally, subsidies for community projects focused on renewable energy generation can be introduced. Corporate sponsorships may also be promoted to strengthen ties between cooperatives and the business sector.

Legal Measures: Legislation should encourage public-private partnerships in energy cooperatives, clarifying the roles and responsibilities of businesses involved in cooperative projects. Simplifying the regulatory process will facilitate collaboration and innovation.

Institutional Measure: Establishing a dedicated regulatory body to oversee partnerships between energy cooperatives and businesses will provide guidance and support. Funding research initiatives focused on optimizing cooperative models will enhance the overall effectiveness of energy cooperatives in the region.

Implementation

Over the next five years, the implementation will commence with planning and awareness campaigns in Year 1, followed by the enactment of supportive legislation and the establishment of regulatory bodies in Year 2. Year 3 will focus on capacity building through workshops and expanding community engagement. By Year 4, successful pilot projects will be scaled up, and partnerships with local governments and businesses will be strengthened. The final year will include comprehensive evaluations and the development of long-term sustainability plans.

Progress will be monitored through regular reports from cooperatives and specific performance indicators. Annual evaluations will assess the impact on carbon emissions, energy costs, and local economies. Stakeholder feedback will be collected through surveys and meetings, fostering collaborative reviews to enhance cooperative performance and ensure successful policy implementation.

Advocacy plan

Analysis of Stakeholders

Local Governments: They play a crucial role in establishing legal and regulatory frameworks for energy cooperatives. Local governments facilitate partnerships, provide necessary permits, and ensure compliance with national policies. Their involvement is essential for community engagement and trust-building.

Regulatory Bodies: These entities ensure that energy cooperatives operate within the legal framework and meet compliance standards. Their oversight is critical for maintaining accountability and facilitating the development of supportive policies that encourage cooperative initiatives.

Community Members: Residents are the backbone of energy cooperatives, as their participation in decision-making and investment is vital. Engaging citizens helps foster ownership of local projects inspire participation. Community workshops and training sessions can involve local businesses as trainers, equipping community members with essential knowledge on renewable energy technologies, cooperative governance, and business management. Fostering partnerships with local NGOs and businesses will promote grassroots initiatives, building community trust in energy cooperatives. Networking platforms can facilitate resource sharing and best practice exchanges among energy cooperatives and local businesses.

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Advocacy Strategies

1. Public awareness campaigns

Educational campaigns: Organize events, workshops, and lectures on benefits of cooperatives, including lower energy costs, reduction of CO2 emissions, and energy independence.

Online campaigns and social networks: Use social platforms to spread information, videos, and infographics and create hashtags (#ZeleneZadruga, #RenewableEnergija) that attract attention and stimulate discussion.

Cooperation with the media: Encourage the media to cover topics related to green cooperatives through articles, interviews, and documentary shows.

2. Lobbying

Direct meetings with politicians: Organize meetings with local and national representatives to inform them about the benefits and needs of establishing a supportive legislative framework.

Preparation of political proposals: Develop specific proposals for laws and initiatives that would be submitted to the government or parliament.

Building alliances with other associations: Teaming up with environmental organizations, NGOs, and energy experts to strengthen the voice to promote such initiatives.

3. Cooperation with local communities

Pilot projects: Launching pilot projects within smaller communities or local municipalities that serve as a proof of concept and show how green cooperatives can work in practice.

Partnerships with businesses and schools: Collaborate with schools, colleges, and entrepreneurs to explore renewable energy investment opportunities and share knowledge and resources.

4. Political pressure through elections

Representation in local elections: Support candidates or parties that are willing to include green cooperatives and renewable energy sources in their political programs.

Implementation Plan

Phase 1: Preparation: Market research and stakeholder analysis: Analyze the current state of the energy market, and legal regulations and define key stakeholders (local community, potential investors, politicians, NGOs). Create a SWOT analysis to identify opportunities and threats. To further enhance the implementation process, holding focus groups and conducting online surveys with a representative number of people (300- 500 for local communities) will provide valuable insights into community needs and expectations, ensuring more inclusive and effective policy development.

Phase 2: Launching the pilot project: Location selection: Select a community for the pilot project (a high exposure to the sun location). Evaluation of the pilot project: Collect data on energy savings, and present the results to the public.

Phase 3: Expansion of the model: Replication to new communities: Expand to other regions with the help of local authorities and additional partners.

Developing a communication strategy

Raising awareness of the benefits of green energy and energy independence through cooperatives. Increasing household participation in projects through direct education and engagement. Focus on households and citizens in rural areas who can be direct beneficiaries of the cooperative. Politicians and decision-makers: Local authorities, ministries of energy and environment.

Main messages, visuals and slogans

For households:

“Become energy independent and reduce your electricity bills!”

“Invest in the future of the community through renewable energy sources.”

“Your energy, your community!”

For the business sector:

“Invest in green energy – a profitable and sustainable solution for the future!”

“Partnerships in energy cooperatives bring long-term benefits for the community and the environment.”

Logo: A simple and recognizable symbol that reflects community, nature, and technology (eg stylized sun and leaves as symbols of sustainability).

Slogan: “Your energy, your power!”

Direct resources:

National sources of funding, State subsidies and incentives, Consultations and financial support, European funds, International development banks, Crowdfunding and social financing, Green investors, Bank loans, Community investment, Non-profit organizations, and foundations.

Preparation of educational materials:

Create technical guides, guidelines, infographics, videos, and policy briefings.

Phase 2: Implementation (3-12 months)

Objectives:

Launch campaigns and activities aimed at different target groups.

Organize educational workshops for participants in the implementation of green policies.

Key tasks:

Public outreach:

Launching information campaigns on TV, radio, internet, and social networks. Organization of public events (protests, bicycle races, tree planting).

Phase 3: Evaluation and adaptation (12-18 months)

Objectives:

Evaluate the success of all activities.

Adjust approaches based on collected data and feedback.

Key tasks:

Evaluation of public campaigns:

Performance measurement through surveys and analysis of media reach. Evaluation of cooperation with participants:

Monitoring the progress of industrial sectors, local authorities, and non-governmental organizations in the implementation of measures.

Analysis of the implementation and impact of green policies at the regional and national level.

Phase 4: Long-term strategy (18 months +) Objectives:

Develop long-term plans and goals for the maintenance and further implementation of green policies.

Ensure permanent cooperation between the public sector, industry, and citizens. Encourage innovation and investment in green technologies.

Key tasks:

Setting long-term goals:

Define targets for reducing emissions by 2030 and 2050.

Develop plans to achieve climate neutrality.

Maintaining continuous campaigns:

Regularly updated information campaigns on environmental topics.

Responsibilities: Assign roles and responsibilities to team members or partners involved in advocacy efforts.

Evaluation: Establish metrics for measuring success of the advocacy plan and monitoring

Conclusion

For the successful implementation of the policy of developing green cooperatives and the use of renewable energy, it is crucial to clearly define the objectives and identify key stakeholders, such as households, politicians, and local authorities. Through education and public campaigns, it is necessary to raise awareness of the advantages of these cooperatives and carry out lobbying in order to ensure political support and a favorable legislative framework. Funding should be secured through a combination of national incentives, European funds, and private investments, while the communication strategy will use clear messages and attractive visuals to engage target groups. Pilot projects will demonstrate the success of the model, which can then be expanded to other communities.

Stakeholders should be invited to react through clear communication that highlights the benefits of participating in green cooperatives. Energy independence and savings should be emphasized to households, while economic and environmental benefits should be presented to politicians as an opportunity to improve local communities. The business sector should be motivated by investing in sustainable projects that bring long-term returns. Through media campaigns, lobbying, and direct meetings, stakeholders should understand how they can concretely contribute and use the opportunity to actively support green cooperatives.

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CLIMATE CHANGE ADAPTATION STRATEGIES IN THE BALKANS:

**Policy Approaches for Mitigating Urban Heat
Islands in Zagreb, Novi Sad and Skopje**

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A critical aspect of climate change adaptation in Croatia, Serbia and North Macedonia is the challenge of Urban Heat Islands (UHIs). UHIs are urban areas which experience significantly higher temperatures than their rural counterparts due to factors such as heat-retaining materials, reduced vegetation, and human activities. They impact local climate patterns but also public health, energy consumption, and overall urban livability.

The negative impacts of urban heat islands will be intensified by climate change, posing a great risk to the health of urban populations, especially the vulnerable such as the elderly, children and those with pre-existing health conditions.

UHIs are a challenge in several cities in the Balkans, including Zagreb, Novi Sad, and Skopje:

- ◆ In **Zagreb** the UHI effect is driven by rapid urbanization and climate change, leading to higher temperatures, especially in built-up areas. Although the city benefits from natural features, urban development pressures threaten green spaces that help mitigate heat.
- ◆ In **Novi Sad** urbanization and the extensive use of heat-absorbing materials contribute to the intensifying UHI effect. The city has initiated various mitigation efforts, such as green roofs and urban forestry programs, but further action is needed.
- ◆ **Skopje** faces an exacerbated UHI effect due to its valley geography, leading to higher energy consumption, poor air quality, and public health risks.

Our Vision

Urban Heat Islands show how human activities can change our environment. Sidewalks, parking lots, and skyscrapers—all built by people—are important for city life, but they also create heat islands. We want to show that human activity can also change the environment for the better!

1. Chill Out Urban Temperatures: Imagine a city where the heat is tamed by green roofs and vertical gardens, providing natural shade and cooling. We're bringing nature back to our streets!

2. Beautify & Biodiversify: Replace conventional bus stops with vibrant, eco-friendly spaces, a haven for local flora and fauna! These stations not only help lower temperatures but also enhance the aesthetic appeal of our cities.

3. Commit to Sustainability: We're all about sustainable living. Our urban development will serve as a visible symbol of commitment to sustainability and climate change adaptation efforts.

4. Get the Community Buzzing: We want YOU involved! Our green initiatives are not just projects; they're a community adventure to improve living conditions for all.

What's the Plan?

GREEN BUS STATIONS



SOLAR CONNECT

The Solar Connect project aims to transform traditional bus stops into eco-friendly transit hubs in key areas of Skopje, Zagreb, and Novi Sad, identified based on factors such as foot traffic and UHI intensity.

Forget boring bus stops! We're creating stations with **green roofs** and **solar panels***. Picture waiting for your bus under a cool canopy of plants with solar-powered lighting. It's not just eco-friendly; it's stylish!

***Green roofs** provide shade and reduce temperature in high-traffic urban areas and solar panels reduce the reliance on non-renewable energy sources while decreasing the carbon footprint of public transit.

How We'll Make It Happen

Financial Boost

To ensure the success of the Project, we propose several funding strategies:

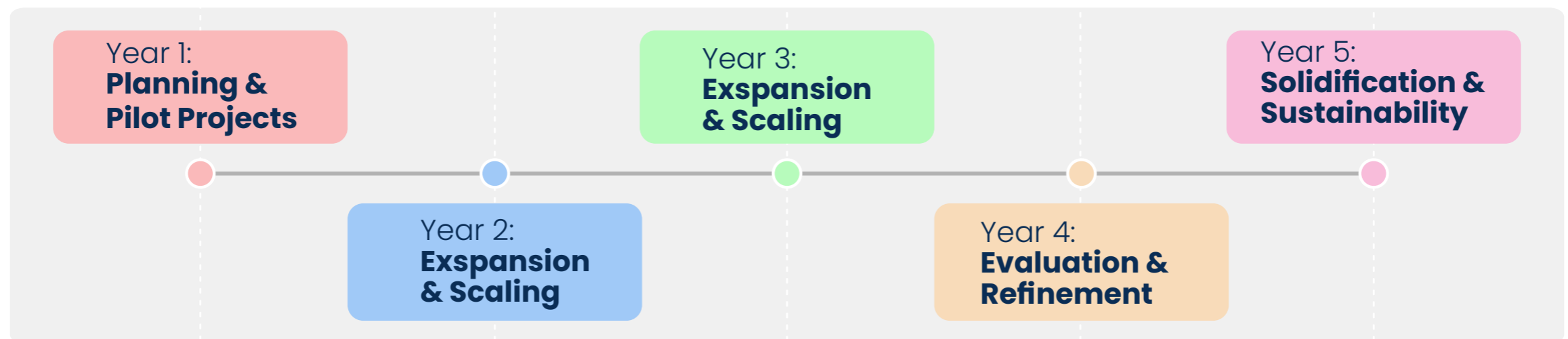
1. Grants and Subsidies: Partnership with international climate organizations like the European Union's Green Deal or the World Bank that can offer grants to support urban sustainability projects.

In addition to international organizations, there are several regional initiatives that offer grants for sustainable development projects. For example, the Western Balkans Fund supports cross-border and inter-regional cooperation and enhancing regional cohesion in the areas such promotion of sustainable development, environment etc.

2. Corporate Sponsorships: Approaching to large companies in renewable energy, such as Tesla, to sponsor the project in exchange for visibility and support for green technology.

3. Crowdfunding: Launching a public campaigns to raise awareness and funds for the project, highlighting the environmental benefits in order to attract community support.

Timeline



Year 1: Planning & Pilot Projects:

We'll identify UHI hotspots and launch pilot projects in key areas, installing Solar Connect bus stations and green infrastructure. This phase will focus on assessments, securing funding, and partnerships.

Years 2–3: Expansion & Implementation:

Successful pilots will be scaled citywide, installing additional bus stations, green roofs, and pavements. Public awareness campaigns will engage the community and boost participation.

Year 4: Monitoring & Adjustments:

Comprehensive evaluations will assess temperature reductions, energy savings, and resident satisfaction. Lessons learned will guide strategy improvements.

Year 5: Sustainability & Legacy:

This year will focus on ensuring long-term success through maintenance plans and a final report outlining key outcomes and recommendations for future UHI mitigation.

Advocacy

Government Advocacy

Meetings with City Officials: Engage with key decision-makers in Skopje, Zagreb, and Novi Sad to advocate for the inclusion of Solar Connect in urban sustainability plans. Provide data on potential energy savings, UHI reduction, and long-term benefits.

Pilot Site Tours: Organize tours of pilot projects once implemented, allowing policymakers to see the real-world benefits of the initiative.

Partnership Building

Collaborate with Environmental Organizations: Partner with local and regional environmental NGOs to create joint campaigns promoting Solar Connect as part of broader climate action and urban sustainability efforts.

Engage Transportation Authorities: Work closely with public transit authorities to ensure the integration of solar-powered hubs into existing networks, focusing on energy savings and enhanced passenger experience.

Private Sector Partnerships: Approach clean energy companies, sustainable architecture firms, and tech innovators for potential funding and expertise in expanding the initiative.

Public Campaigns

Community Engagement: Launch public awareness campaigns through social media, town hall meetings, and public events to educate residents about the benefits of eco-friendly transit hubs and gather community support.

Public Demonstrations and Installations: Set up temporary informational kiosks near bus stations and public squares to demonstrate how Solar Connect stations work and encourage public feedback.

Media Engagement

Press Releases and Media Kits: Distribute press releases highlighting the launch of the pilot projects, expected outcomes, and the collaboration between cities. Include media kits with visualizations of the new bus stations.

Feature Stories and Interviews: Pitch stories to local and national media outlets that highlight the innovative aspects of Solar Connect, the environmental impact, and the future of green public infrastructure.

Social Media Campaigns: Utilize social media to showcase the project's progress, success stories, and benefits. Engage with the public through regular updates, infographics, and behind-the-scenes content.

Measuring success

1. Reduce Urban Temperatures

The main goal is to mitigate the Urban Heat Island effect by installing solar-powered bus stations and green infrastructure.

Monitoring: Temperature sensors will be placed around bus stations to track temperature changes.

Expected Outcome: Aim for a temperature reduction of 1–3°C around the stations.

2. Green Growth

Integrating vegetation with infrastructure will enhance urban greening while reducing heat.

Monitoring: Use surveys and remote sensing (e.g., drones) to track plant health, tree canopy coverage, and biodiversity.

Expected Outcome: Increased greenery that cools the area, improves air quality, and boosts biodiversity.

3. Healthier Environment

The initiative will enhance air quality and lower greenhouse gas emissions through UHI mitigation and renewable energy use.

Monitoring: Air quality sensors will measure reductions in pollutants like PM_{2.5} and CO₂. Public health data will assess heat-related illness reductions.

Expected Outcome: Improved air quality and lower rates of heat-related health issues.

4. Energy and Cost Savings

Solar-powered bus stations will generate renewable energy, reducing reliance on the grid and cutting costs.

Monitoring: Track energy production and consumption data to evaluate efficiency.

Expected Outcome: 20–30% reduction in grid energy usage per station, with excess energy potentially available for other uses.

5. Happy Residents

Solar bus stations will enhance public transport experiences, making it more attractive to users.

Monitoring: Resident satisfaction will be gauged through surveys, feedback, and increased transport usage.

Expected Outcome: Higher resident satisfaction reflected in positive feedback and increased public transport ridership.

These criteria—temperature reduction, green growth, environmental health, energy savings, and resident satisfaction—will serve as benchmarks to evaluate the impact of the initiative and inform future improvements, ultimately fostering urban resilience and sustainability.

Additional strategies

Green Roofs: Transforming rooftops into garden paradises. Green roofs will keep buildings cooler, slash energy bills, and make our cities look fabulous from above.

Cool Pavements: Step onto pavements that stay cool underfoot and help beat the heat. We're using cutting-edge materials to keep our streets comfortable and less heat-retentive.

TOWARDS SUSTAINABLE CITIES:

**Addressing Urban Planning Deficiencies
in Croatia, Serbia and North Macedonia**

Authors:

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Introduction

Cities in Croatia, Serbia, and North Macedonia are growing rapidly, but this growth brings challenges. Problems like poorly organised infrastructure, illegal buildings, and environmental damage are common. Despite some national and local efforts, weak regulations make it hard to manage these issues effectively. This proposal suggests solutions to improve urban governance, promote sustainable infrastructure, and align these countries with EU urban development standards.

Understanding the Problem

A major issue in these countries is illegal construction. Even though there are rules, illegal buildings are rarely removed, and there's little punishment for breaking the law. This uncontrolled growth negatively impacts people's quality of life, disrupts urban planning, and damages the environment.

Other key issues include:

- ◆ Disorganised infrastructure and inefficient land use.
- ◆ Insufficient green spaces.
- ◆ Higher risks of floods and pollution due to poor planning.
- ◆ Gaps in regulations and weak law enforcement.

Legislative Context

Urban planning is managed by each country's laws, which are evolving to align with EU standards.

- ◆ **Croatia:** As an EU member, Croatia follows the EU Urban Agenda for sustainable cities. Key laws include the Physical Planning Act and the Building Act. However, enforcement of illegal construction remains a problem.
- ◆ **Serbia:** As a candidate for EU membership, Serbia must adapt its urban planning to EU laws, especially in environment and public health. The Law on Planning and Construction governs urban development, but enforcement is weak.
- ◆ **North Macedonia:** Also an EU candidate, North Macedonia's urban planning is governed by the Law on Spatial and Urban Planning. Challenges include limited institutional capacity and weak alignment with EU standards.

**Both Serbia and North Macedonia are required to align their urban planning policies with EU regulations as part of the negotiation process for EU accession, particularly in Chapters 23 (Judiciary and Fundamental Rights) and 27 (Environment). This alignment will support more sustainable urban development and improved regulatory enforcement.*

Target Audience

Policymakers and Urban Planners: Local and national officials who design and enforce urban planning laws.

Government Bodies: Ministries and local governments involved in urban development.

EU Bodies and Organisations: Institutions interested in fostering sustainable urban development, including the European Commission, Directorate-General for Regional and Urban Policy (DG REGIO), and the European Investment Bank (EIB).

Civil Society and Environmental Advocates: NGOs and advocacy groups working on sustainable cities and public participation.

Goal: The aim is to improve how urban areas are managed by making sure laws are followed, boosting public participation, and aligning urban policies with EU standards. This will help create cities that are environmentally friendly, resilient to challenges like climate change, and offer a better quality of life.

Recommendations

1. Improve Urban Governance and Enforcement

- ◆ **Stronger Monitoring:** Provide more funds and training for local authorities to inspect construction sites and ensure compliance.
- ◆ **Stricter Penalties:** Impose tougher penalties for illegal construction.
- ◆ **Public Participation:** Increase public input through community consultations and digital platforms.

Example: Croatia can enhance the Building Act to include mandatory public hearings for large urban projects, giving communities a say in planning.

2. Invest in Sustainable Infrastructure

- ◆ **Public Transport:** Invest in energy-efficient transport, like electric buses, using EU funding like the European Green Deal.
- ◆ **Green Buildings:** Enforce strict energy-efficient building codes. Croatia's Energy Efficiency Act can guide Serbia and North Macedonia.

Example: Serbia should adopt EU standards from the Energy Performance of Buildings Directive to improve energy efficiency.

3. Promote Regional Cooperation

*The Open Balkan Initiative can foster cooperation on cross-border infrastructure and sustainability projects, helping the region address common challenges like flooding and pollution.

Example: A regional project funded by the EU's Cohesion Fund could focus on flood prevention, with joint efforts between Croatia, Serbia, and North Macedonia.

4. Introduce Smart City Technologies

- ◆ **Traffic Management:** Use digital systems to optimise traffic and reduce congestion.
- ◆ **Waste and Water Management:** Implement smart systems for waste and water management to reduce pollution.

Example: North Macedonia could adopt Serbia's National Waste Management Strategy to modernise its waste systems.

5. Adapt to Climate Change

- ◆ **Flood Prevention:** Build better drainage systems and create green spaces to absorb rainwater.
- ◆ **Renewable Energy:** Use more renewable energy in urban planning. Serbia's Law on Renewable Energy Sources could inspire regional green energy projects.
- ◆ **Community Engagement:** Public education campaigns can encourage people to follow urban planning rules and understand the benefits of sustainable cities.

Example: A community tree-planting project in Skopje could be based on successful programs in cities like Paris.

Timeline

The implementation of these recommendations is expected to take one year, divided into three phases:

- ◆ **Phase 1 (Months 1-3):** Strengthen local governance and train urban planners.
- ◆ **Phase 2 (Months 4-6):** Launch smart city initiatives and public education campaigns.
- ◆ **Phase 3 (Months 7-12):** Finalise regional cooperation agreements and begin infrastructure projects.

Budget

Funding will come from national governments, with additional support from the EU and NGOs. Serbia and North Macedonia can apply for EU funds like the European Regional Development Fund (ERDF) and Instrument for Pre-Accession Assistance (IPA) to support infrastructure improvements. NGOs can help finance education and public awareness programs.

Conclusion

The challenges of illegal construction, poor planning, and environmental risks in Croatia, Serbia, and North Macedonia are serious. However, by improving governance, investing in sustainable infrastructure, and cooperating regionally, these countries can build cities that are both sustainable and better aligned with EU standards. This will ensure cities that are prepared for future challenges and offer a higher quality of life to their residents.

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SUSTAINABLE URBAN MOBILITY

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Urban areas in North Macedonia, Croatia and Serbia face significant challenges in terms of air pollution and physical inactivity, both of which contribute to serious health risks for the population. Rapid urbanisation, increased reliance on private motor vehicles and limited active transportation infrastructure contribute to rising levels of greenhouse gas (GHG) emissions and associated health risks. Traffic congestion during peak hours exacerbates air quality issues, leading to increased exposure to pollutants such as nitrogen dioxide (NO₂) and fine particulate matter (PM_{2.5}), which have been linked to respiratory illnesses, cardiovascular diseases and other chronic health conditions. Simultaneously, physical inactivity due to the overdependence on car travel contributes to lifestyle-related illnesses, including obesity and diabetes. Our policy proposal Sustainable Urban Mobility addresses earlier mentioned issues by promoting low-emission and active commuting alternatives. The plan's primary objective is to foster a transition towards greener, healthier cities by engaging key stakeholders—municipalities, private companies, NGOs and civic communities—through targeted messaging and communication channels. By reducing traffic congestion, lowering greenhouse gas emissions and encouraging physical activity through cycling, walking and running, policy proposal seeks to create sustainable urban environments.

Proposal of Strategy and Policy Measures

The primary aim of this policy proposal is to provide a framework for reducing air pollution and mitigating the health risks associated with physical inactivity by promoting low-emission and active commuting alternatives in North Macedonia, Croatia, and Serbia. The proposal seeks to implement measures that will reduce traffic congestion, decrease GHG emissions, and encourage physical activity, thus improving air quality and public health outcomes.

Objective 1: Reducing air pollution caused by greenhouse gas emissions:

This proposal outlines measures to reduce air pollution by promoting flexible work arrangements, such as remote work and staggered shifts, to decrease traffic congestion during peak hours. It advocates for the introduction of low-emission zones, congestion pricing in urban centres, and the promotion of car-free zones to reduce private vehicle use. Additionally, employer-supported commuting programs will encourage the use of low-emission commuting options, with an emphasis on reducing GHG emissions and improving overall air quality.

Objective 2: Reducing health risks associated with air pollution and physical inactivity:

To address the health risks linked to air pollution and sedentary lifestyles, the proposal promotes active commuting methods, such as cycling, walking, and running, by developing safe and connected infrastructure. Public awareness campaigns will focus on the health, environmental, and economic benefits of active commuting, while corporate and community engagement will foster the adoption of sustainable commuting policies. By encouraging physical activity as part of daily routines, this proposal aims to reduce the risk of chronic diseases and improve the well-being of urban residents.

Below are listed the specific objectives and proposed measures aimed at addressing these challenges.

Objective 1: Reducing air pollution caused by greenhouse gas emissions		
Support local governments in their efforts to support local governments in reducing traffic congestion and emissions	Encourage flexible work arrangements, such as remote work arrangements (e.g. remote work, staggered shifts, or compressed workweeks) to reduce peak hour traffic congestion	<ul style="list-style-type: none"> • A decrease in vehicle traffic during peak hours, measured as a percentage or absolute number of vehicles • A measurable decline in GHG emissions resulting from reduced vehicle use during peak traffic times
	Promote low-emission zones or congestion pricing in urban centres to discourage the use of private cars during peak hours, reducing both traffic and pollution	
	Develop safe, well-connected, cycling, and pedestrian infrastructure, such as dedicated bike lanes, walking paths and pedestrian-friendly intersections	
Increase public engagement and raise awareness on health benefits of active commuting	Develop public awareness campaigns which emphasize the social, environmental and economic benefits of alternative commuting modes	<ul style="list-style-type: none"> • Number of participants in campaigns promoting the health benefits of active commuting (e.g., “Bike to Work” days, health and wellness commuting challenges) • Number of partnerships between local governments, businesses, and NGOs focused on promoting alternative commuting methods • Number of public health initiatives or partnerships (e.g., with local governments or healthcare organisations) promoting the health benefits of active commuting • Number of corporate or community health and wellness programs incorporating active commuting as a core component • Improvement in employee health indicators, such as reduced absenteeism, increased physical activity, or improved fitness levels in companies promoting active commuting
	Launch public health campaigns which educate commuters about the health benefits of walking, running, and cycling, highlight the long-term health benefits such as lowering the risk of obesity, diabetes, heart disease, and respiratory issues caused by air pollution	
	Promote physical activity as part of daily commuting routines, focusing on how even moderate activity, like walking to transit stops or cycling short distances, can improve cardiovascular health and reduce the risks of chronic diseases	

	Encourage active commuting as a tool for mental health by emphasising the stress-reducing benefits of physical activity, outdoor exposure, and reduced time spent in traffic	
	Engage with local communities to co-create solutions that meet the specific commuting needs and preferences of urban residents	

Objective 2: Reducing health risks associated with air pollution and physical inactivity

Implement employer-supported commuting programs	Integrate cycling facilities (e.g. bike parking, showers, bike-sharing programs) into workplaces, public transit hubs and residential areas to make cycling a viable daily commuting behaviour)	<ul style="list-style-type: none"> •Number of companies implementing formal policies encouraging sustainable commuting behaviours as part of their corporate social responsibility strategies •Increase in the number of employers providing commuting benefits or programs such as subsidised grants for purchasing new bicycles, incentives for low- emission commuting behaviour, or run-to-work schemes •Number of employees using employer-supported commuting programs with specific targets for each program •Number of employees engaging in active commuting, such as walking, running, or biking, as a result of employer support (e.g., bike storage, showers, bike-to-work subsidies)
	Develop corporate sustainability programs which encourage low-emission commuting options, reducing the carbon footprint of companies and their employees	
	Provide incentives for employees commuting to their workplace by cycling, running or walking (e.g., discounts, rewards points)	

Implementation plan

Activities and measures	Key Responsible Stakeholder	Deadline
MEASURES AND ACTIVITIES FOR THE ACHIEVEMENT OF OBJECTIVE 1. AND OBJECTIVE 2.		
Measure 1.	Support local governments in their efforts to reduce traffic congestion and emissions	
A 1.1.	Promote low-emission zones or congestion pricing in urban centres to discourage the use of private cars during peak hours, reducing both traffic and pollution	municipalities 2029
A 1.2.	Develop safe, well-connected, cycling, and pedestrian infrastructure, such as dedicated bike lanes, walking paths and pedestrian-friendly intersections	municipalities 2028
A 1.3.	Advocate establishing policies which promote cycling to local governments by developing local legislation which mandates safe storage bike stations, showers, and lockers at workplaces or transit stations	municipalities, NGOs, civic communities 2029
A 1.4.	Partner with local governments to develop or promote apps that map safe walking, running, and cycling routes and provide real-time updates on road or pathway conditions	municipalities 2028
A 1.5.	Encourage car-free days or zones in designated urban areas to promote alternative commuting options and increase awareness of their benefits	municipalities, NGOs, civic communities 2028
Measure 2.	Increase public engagement and raise awareness on health benefits of active commuting	
A 2.1.	Develop public awareness campaigns which emphasize social, environmental and economic benefits of alternative commuting modes	municipalities, NGOs, civic communities 2025
A 2.2.	Launch public health campaigns which educate commuters about the health benefits of walking, running, and cycling, highlight the long-term health benefits such as lowering the risk of obesity, diabetes, heart disease, and respiratory issues caused by air pollution	municipalities, private companies 2026
A 2.3.	Promote physical activity as part of daily commuting routines, focusing on how even moderate activity, like walking to transit stops or cycling short distances, can improve cardiovascular health and reduce the risks of chronic diseases	municipalities, private companies 2025
A 2.4.	Promote the benefits of reducing car dependency, highlighting how alternative commuting options can reduce greenhouse gas emissions, improve air quality, and create healthier cities	municipalities, NGOs, civic communities 2026

Activities and measures	Key Responsible Stakeholder	Deadline
MEASURES AND ACTIVITIES FOR THE ACHIEVEMENT OF OBJECTIVE 1. AND OBJECTIVE 2.		
Measure 3.	Implement employer-supported commuting programs	
A 3.1.	Develop corporate sustainability programs which encourage low-emission commuting options, reducing the carbon footprint of companies and their employees	private companies
A 3.2.	Integrate cycling facilities (e.g. bike parking, showers, bike-sharing programs) into workplaces, public transit hubs and residential areas to make cycling a viable daily commuting behavior)	municipalities, private companies
A 3.3.	Provide incentives for employees commuting to their workplace by cycling, running or walking (e.g., discounts, rewards points)	private companies
A 3.4.	'Jog to job, walk to work, bike for like' Host an annual or semi-annual day dedicated to cycling, running of walking to work with refreshments and activities	private companies
A 3.5.	Connecting local initiatives and NGOs in Croatia with those in Serbia, North Macedonia whose filed of interest are sustainable commuting alternatives in order to implement and promote certification „Bicycle-friendly company“ in their country as an example of good practice	NGOs, civic communities

Advocacy Plan

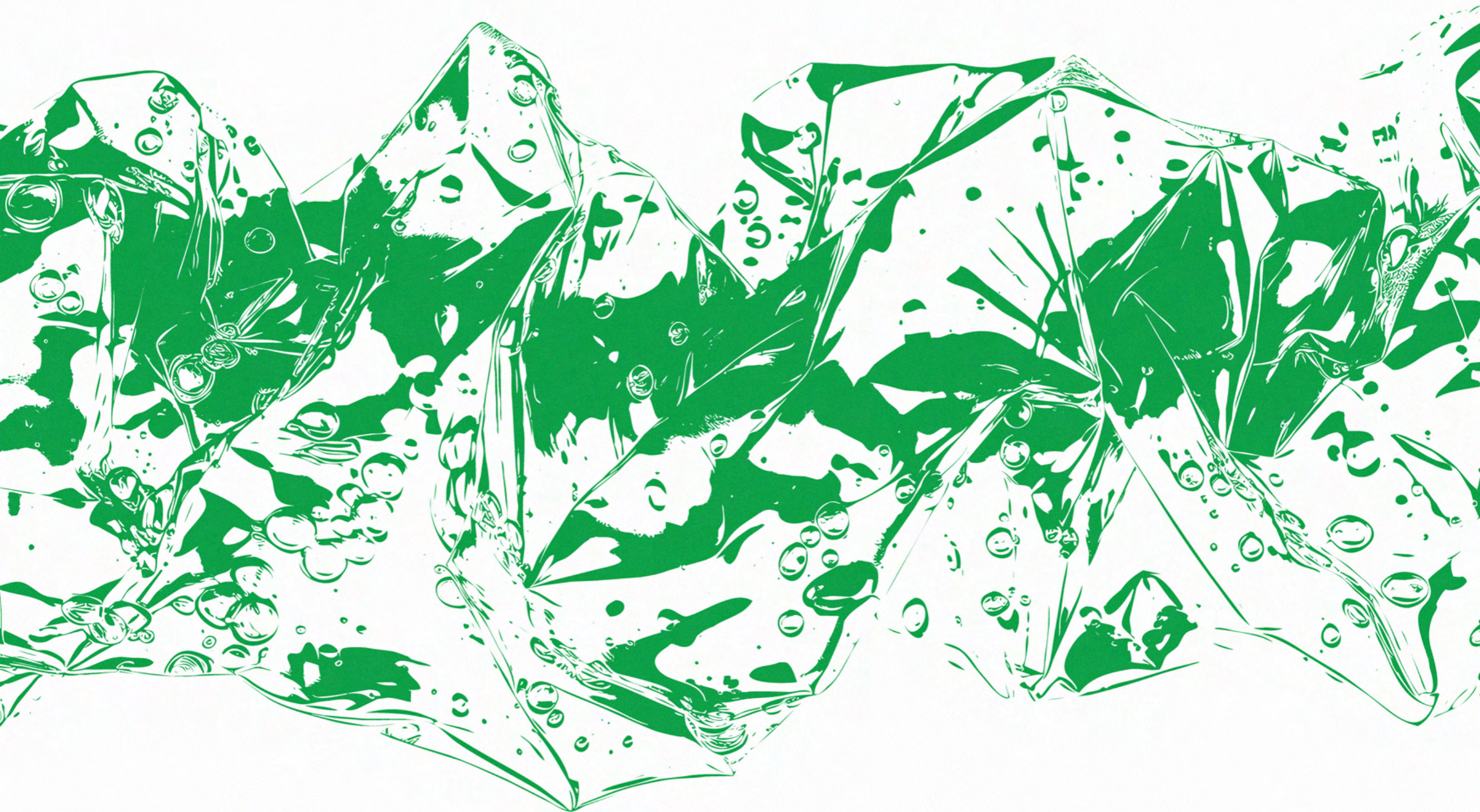
Engaging stakeholders at multiple levels, the advocacy plan outlines clear strategies for influencing policy changes, improving infrastructure and promoting public awareness campaigns to achieve these goals. Advocacy plan will provide a structured approach to communicating with stakeholders, delivering impactful messages, and utilizing effective channels to build widespread support for sustainable urban mobility across the region.

Stakeholders	Key Messages	Communication Channels
Municipalities	"Let's pave the way for a cleaner, greener future. By creating pedestrian-friendly streets and cycling lanes, we can turn our city into a beacon of sustainability, where every step makes a difference."	Workshops: Engage municipal planners and residents in designing pedestrian-friendly zones and cycling lanes. Public Presentations: Showcase success stories from European cities.
Private Companies	"Empower your team to be part of the change! Encouraging active commuting not only boosts health and morale but shows your company's commitment to a healthier planet. Let's get moving—together!"	CEO Roundtables: Discussions on aligning active commuting with CSR goals. Corporate Wellness Campaigns: Employee-driven programs like "Miles for Smiles," rewarding active commuters.
NGOs	"Every step counts toward a better tomorrow. Join us in pushing for safer streets, cleaner air, and a healthier lifestyle through sustainable urban mobility."	Social Media Campaigns: Use hashtags to engage the public. Public Awareness Events: Host events like "Bike to Work" days and community pop-ups.
Civic Communities	"The future is in our feet! Whether it's a walk to the park or a ride through the city, you can be part of the movement for greener, healthier cities."	Community Events: Organize city-wide walkathons and cycling events. Online Challenges: Host social media challenges to promote active commuting.

BANNING SINGLE-USE PLASTICS

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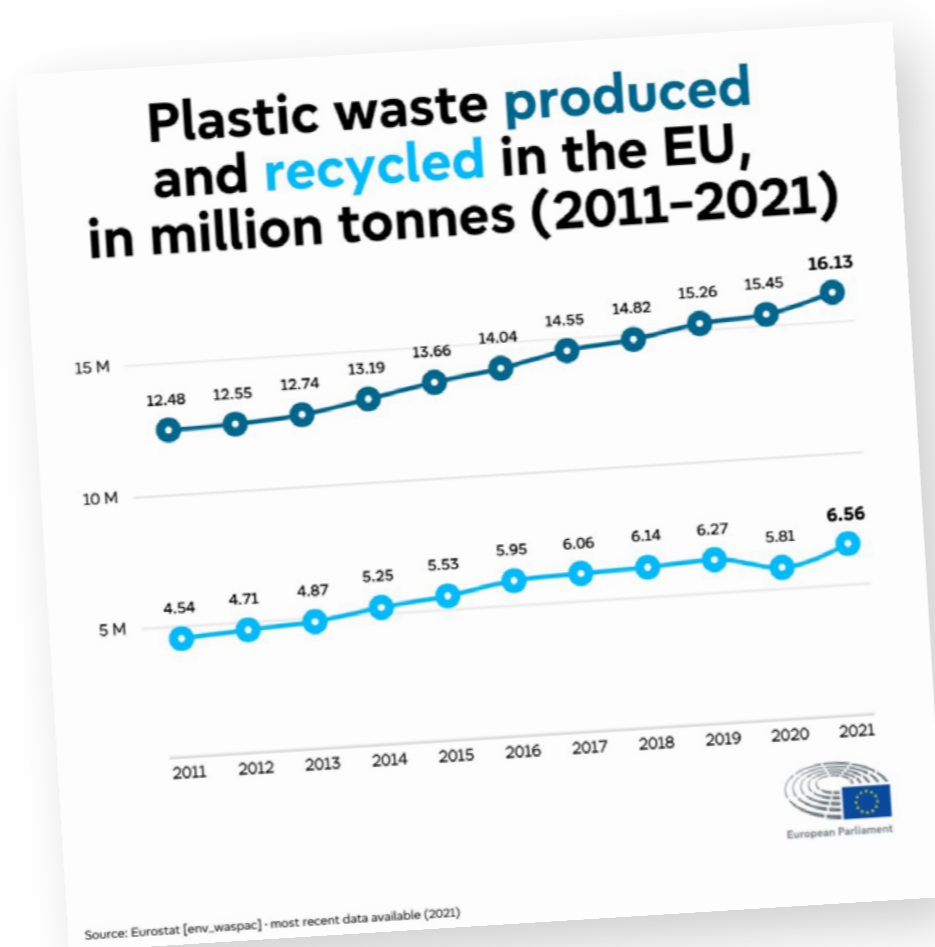


EXECUTIVE SUMMARY

Objective:

This policy proposal outlines a strategy to ban single-use plastics and foster the development of green Small and Medium Enterprises (SMEs) in Croatia, Serbia, and North Macedonia, aligning with EU environmental directives.

The goal is to align these countries with the European Union's environmental directives, particularly the EU Directive 2019/904 on reducing the impact of plastics on the environment. By focusing on municipal-level policies, the proposal highlights the importance of localized governance in advancing sustainable practices and fostering a green economy.



Analysis:

The environmental challenges in Croatia, Serbia, and North Macedonia are significant, ranging from plastic pollution to waste mismanagement. These countries face critical environmental issues but also opportunities for progress. This policy brief focuses on municipal-level actions to reduce plastic waste, support green SMEs, and align local policies with EU standards.

Key Findings:

- » Phased Single-Use Plastics Ban: Start with awareness campaigns, followed by policy enforcement. Use Croatian cities like Dubrovnik as models.
- » Economic Incentives: Provide subsidies, tax incentives, and grants for green businesses.
- » Legal Framework: Strengthen local legislation and establish Green Councils to oversee policy implementation.
- » Cultural and Social Measures: Engage the public through educational

Policy Recommendations

1. Ban on Single-Use Plastics

- » Phased Implementation: Municipalities will gradually implement the ban starting with public institutions and events.
- » Examples from Croatia: Dubrovnik's ban on single-use plastics at public events, Zagreb's green procurement policies, and Rovinj's plastic-free initiatives offer successful models.

2. Economic Incentives for Green Businesses:

- » Introduce financial incentives like subsidies, grants and tax breaks for businesses that develop alternatives to single-use plastics.
- » Examples from Croatia: Istria's green subsidies, Karlovac's Green Startup Fund.

Phase 1: Awareness and Education:

The first phase will focus on launching comprehensive public awareness campaigns in partnership with local civil society organizations (CSOs). These campaigns will educate the public about the environmental and health impacts of plastic pollution, with a focus on plastic alternatives. Schools will be key partners, integrating sustainability into their curricula through dedicated programs that teach students the importance of reducing plastic use. Workshops for businesses will be organized to introduce them to viable, cost-effective alternatives to plastic products.

Phase 2: Policy Development and Local Regulations:

Municipalities will develop and adopt regulations that prohibit the use of specific single-use plastics, including plastic bags, straws, cutlery, and certain food containers. This phase will focus on municipal markets, city-sponsored events, and public institutions.

3. Legal and Institutional Measures:

- » **Strengthen Legislation:** Municipal ordinances to enforce plastic bans with penalties for non-compliance.
- » **Green Councils:** Establish councils to monitor progress and ensure regulations are enforced.
- » **Examples:** Split's Green Council oversees plastic reduction; Pula's ordinances enforce bans.

The third phase will establish inspection teams responsible for ensuring compliance with the new regulations. Municipalities will implement penalties for non-compliance, alongside offering incentives, such as tax breaks, to businesses that exceed plastic reduction targets or adopt eco-friendly practices.

Subsidies and Grants:

To accelerate the development of sustainable businesses, municipalities should offer targeted subsidies for SMEs that create alternatives to single-use plastics or adopt green practices.

- These subsidies can be used for research and development, product certification, and scaling operations.

4. Social and Cultural Measures:

- » **Public Campaigns:** Raise awareness about the negative effects of plastic waste and promote alternatives.
- » **School Programs:** Integrate sustainability into curricula and promote Eco-Schools.
- » **Community Engagement:** Organize workshops, clean-up events, and eco-friendly markets.

Public Awareness Campaigns:

- Ongoing public education is essential to shift societal attitudes toward single-use plastics. Municipalities should engage local media, CSOs, and schools to run sustained campaigns about the dangers of plastic pollution and the benefits of sustainable alternatives. This includes workshops, social media outreach, and public service announcements.

School Programs and Eco-Schools:

- Schools play a crucial role in educating future generations about sustainability. Programs like Croatia's Eco-Schools can be expanded to teach students about reducing plastic use and promote environmental stewardship from a young age.

Subsidies and Grants:

To accelerate the development of sustainable businesses, municipalities should offer targeted subsidies for SMEs that create alternatives to single-use plastics or adopt green practices.

- These subsidies can be used for research and development, product certification, and scaling operations.

Inter-Municipal Cooperation:

Neighboring municipalities should collaborate to harmonize their environmental regulations. Joint efforts to develop waste management infrastructure and coordinate bans on single-use plastics will strengthen the impact of these measures, particularly in cross-border regions between Croatia, Serbia, and North Macedonia.

Workshops:

- Organize workshops to introduce local businesses to plastic-free alternatives, providing training on the upcoming regulations and incentives available for early adopters.
- Engage communities through events like clean-up drives, eco-friendly markets, and sustainability fairs. By involving schools, local businesses, and environmental groups, the campaigns will create a broad base of public support for the policy.

Implementation Strategy

The successful implementation of this policy requires a carefully structured approach, divided into distinct phases and overseen by key stakeholders at the municipal level. The following steps outline how the proposed ban on single-use plastics and promotion of green businesses can be put into practice across Croatia, Serbia, and North Macedonia.

Example for Café Bars:

- » **Reusable Bottles and Glass Packaging:** Café bars will be encouraged to use glass bottles or jars instead of plastic for serving drinks. For example, instead of providing water in plastic bottles, they could offer refillable glass bottles or carafes for customers dining in.
- » **Biodegradable and Reusable Straws:** Café bars can replace plastic straws with stainless steel, bamboo, or paper straws. The stainless steel or bamboo straws can be offered for purchase by customers or provided as reusable options with the drink orders. Paper straws can be used for takeaway orders as a biodegradable alternative.
- » **Incentives for Eco-Friendly Alternatives:** Municipal governments can offer café owners tax breaks or small grants to support their purchase of eco-friendly supplies, such as glassware or reusable straws. Local authorities can also create partnerships with eco-friendly suppliers to offer these materials at reduced rates to café owners.

Timeline:

Year 1: Launch public campaigns, engage stakeholders, and begin drafting ordinances.

Year 2: Implement the first phase of the ban (targeting plastic bags, straws, and cutlery), provide business incentives, and establish monitoring systems.

Year 3–5: Expand the ban to cover more single-use plastics, enforce compliance through inspections, and continue public engagement efforts.

Key Stakeholders:

- » **Municipal Authorities:** Responsible for passing local ordinances, enforcement, and offering incentives.
- » **Civil Society Organizations (CSOs):** Partners in raising public awareness and educating communities.
- » **Local Businesses:** Key stakeholders in adopting and transitioning to eco-friendly alternatives.
- » **Schools and Educational Institutions:** Integral in educating the next generation about sustainability.
- » **Green Councils:** Advisory bodies overseeing policy implementation and progress tracking.

The environmental consequences of single-use plastics are well documented. Plastics pollute waterways, degrade ecosystems, and contribute to the growing issue of microplastics in the food chain, which poses serious health risks. Croatia's coastline, Serbia's rivers, and North Macedonia's forests are increasingly threatened by the accumulation of plastic waste.

Social and Cultural Shift

- The public awareness campaigns and school programs outlined in the proposal are critical for fostering this shift.
- Moreover, engaging the public in sustainability efforts—such as clean-up drives, eco-friendly markets, and workshops—helps build community involvement and support for the initiative.
- These activities empower individuals to take responsibility for their environment and see the tangible benefits of reducing plastic waste.

Economic Benefits and Opportunities

- Supporting green SMEs through incentives such as subsidies, grants, and tax breaks encourages the development of innovative, eco-friendly products and services. These businesses are essential for providing alternatives to single-use plastics, such as biodegradable packaging, reusable containers, and sustainable materials.
- The rise of eco-tourism, for example, could greatly benefit regions like the Croatian coast, where sustainability is increasingly becoming a key factor in attracting tourists.
- Similarly, in Serbia and North Macedonia, the development of green industries aligned with EU environmental standards could pave the way for increased EU funding and investment.

Long-Term Vision and Leadership

- By focusing on the growth of green businesses, improving local regulations, and fostering a cultural shift, municipalities can become leaders in environmental sustainability. The establishment of Green Councils will ensure that these initiatives are not short-lived, but rather form the foundation for continued innovation and progress in environmental governance.

Conclusion

- In conclusion, the ban on single-use plastics and the promotion of green SMEs present a unique opportunity for municipalities in Croatia, Serbia, and North Macedonia to lead the way toward a sustainable future.
- The phased implementation strategy, combined with strong public engagement, economic incentives, and inter-municipal cooperation, provides a comprehensive and actionable framework for achieving this goal.
- By taking decisive action now, these municipalities will not only protect their local environments but also contribute to the global effort to combat plastic pollution and mitigate climate change. In doing so, they will lay the groundwork for a future where sustainability is at the heart of local governance and community life.



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