

# EU'S INNOVATIVE „MISSIONS” AND CONVERGENCE TOOLS TO ENSURE THE “TWIN TRANSITION” TOWARDS SMART CITIES AND COMMUNITIES

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**Abstract:** *The present article proposes an analysis of the convergence tools in the domain of the „twin transition”, namely the digital and green (ecological) transition, considered vital in ensuring a sustainable development and a better life for citizens across the European Union. The focus will be placed on the main legislative instruments created by EU's institutions to secure a coordinated and uniform implementation of the UN's sustainable development goals, as well as EU's commitment to create climate-neutral and smart cities and communities.*

**Key words:** „twin transition”, convergence, EU's missions, smart city and community.

## 1. Background: current state of climate change

Our society, in all its aspects, is currently facing disruptive transformations. These changes may be seen as challenges that need to be answered, in innovative ways, totally different from what has been done before, but at the same time, they may be considered as opportunities to motivate faster and highly improved performance within and across various fields of activity.

The harsh reality of the pandemic that is still ravaging people's lives has entered its second year, whereas some other urgent matters, such as unemployment, political, social and healthcare crises and growing disparities isolating the most vulnerable ones, cause great pressure on governments around the globe. In addition, widespread catastrophic natural phenomena, that pose serious threats to human life, call attention to the vital importance of environment and climate for all of our societies. Climate change has become a number one concern for citizens and governments, and in the years to come our resolute, committed action will make the difference.

One of the international bodies with scientific expertise in the field of climate change,

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*The Intergovernmental Panel on Climate Change* (a United Nations body) delivered a report on August 9 2021 to present the current state of our planet's climate. The findings are alarming: „The scale of recent changes across the climate system as a whole ...are unprecedented over many centuries to many thousands of years” (Intergovernmental Panel on Climate Change [IPCC], 2021, p. 9). Some of the biggest issues, caused by climate change and analysed in this report, are: sea level rise causing coastal flooding, intensified watercycle (intense rainfall or intense drought), increasing global warming, ocean warming and acidification and permafrost thawing.

In the cities, some of these negative aspects may be experienced to a higher degree, for instance waves of high temperature, inundations from heavy rainfalls or events of flooding from sea level rise in coastal cities. The report brings strong evidence that CO<sub>2</sub> is the main pollutant agent intensifying climate change together with other greenhouse gases (IPCC, 2021). As one of the co-chairs of this international body aptly pointed out: „Stabilizing the climate will require strong, rapid and sustained reductions in greenhouse gas emissions, and reaching net zero CO<sub>2</sub> emissions” (Zhai, 2021).

In agreement with the UN scientists, various high officials of the European Union echoed and highlighted this urgent need to take action. For instance, the President of the European Commission, Ursula von der Leyen stated on the occasion of the adoption of „Fit for 55” package: „We want to leave the next generation a healthy planet as well as good jobs and growth that does not hurt our nature” (European Commission, 2021a). Along the same lines, Frans Timmermans called the next decade: „This is the make-or-break decade in the fight against the climate and biodiversity crises” (European Commission, 2021a).

These statements are illustrative of the European Commission's vision and policy plans in the field of climate change, highlighting that fight against it is an emergency. This is one more reason why, EU's institutions included it on their political agenda. The importance attached to this objective has also been proven by the persistent political and legislative activity that intensified last year.

Furthermore, to boost these efforts, EU associated the process of the „green transition” with the „digital” one, establishing a political commitment that came to be known as the „twin transition”. In this way, the two most debated and also necessary transformative movements are joined together to become more effective and gain from each other's insights, tools and outcomes.

Very recently, the European institutions have taken a step ahead, launching an innovative approach that they called „missions”. This new action is part of the collective effort to find improved means to intertwine the amazing evolution of technologies with the „green” reform and make the digital contribute to sustainable development. This new policy instrument comes as an additional support to the substantial and complex legislative corpus already created by the EU in the domain of environmental protection.

The focus of this article is placed on this unprecedented endeavour that the EU has embarked upon to influence the course of changes that menace the very existence of humanity on this planet. The article also acknowledges and analyses the convergence principle as an essential part of this endeavour, since the process of ensuring a harmonized implementation of legislative acts and policy actions across member states

is a fundamental one in EU law. Moreover, from a practical perspective, coordinated action is a proven tactic to make measures targeted at climate change more effective.

The methodology applied in our work is based on an in-depth qualitative exploration of various scientific sources such as specialized literature, relevant legislative or non-legislative documents, reports, but also of other types of sources, like press releases, declarations or interviews.

## **2. The „Twin Transition”: EU’s Legislation and Political Action against Climate Change**

Over the last three decades, the EU has elaborated a significant body of legislative acts and policies in the area of environmental protection, and set up a vast array of actions and programmes to effectively fulfil its promise to ensure a higher quality environment for its citizens and protect human health.

The legal basis for the environmental policy is represented by Article 11 and Articles 191-193 of the Treaty of the Functioning of the European Union (TFEU). Article 11 states that: „Environmental protection requirements must be integrated into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development”. This article establishes the environment policy's importance among EU's policies and emphasizes the necessity to integrate both the protection of environment and the principle of sustainable development within the legislative and strategic framework of the European institutions. This course of action is consolidated by provisions of Articles 191 and 192(1) of TFEU, according to which the European Union's objectives in this domain are: „preserving, protecting and improving the quality of the environment”, rational use of natural resources, „protecting human health”, „promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change”. The fundamental principles of environmental policy are: the precautionary principle, the principle of preventive action, of rectifying the environmental damage at source or „correction at source” and that of the polluter should pay, as elaborated by Article 192(2) of TFEU.

In the domain of environment, the EU has competences to secure: nature protection and restoration, action against climate change, preventing air and water pollution and waste management. EU's action is guided by the principle of subsidiarity, which limits the scope of its competence as regards spatial planning and land use, tax-related matters or quantitative water resource management.

Assuming its role as a global leader on the way towards the objectives of climate neutrality and a clean environment, the EU has embarked on a bold, yet complex journey, trying to establish the necessary legislative and strategic tools to fulfil these goals, in line with The Paris Agreement and the UN's sustainable development goals.

The Paris Agreement is a historic moment because it marks the first universal agreement in the fight against climate change. This agreement was adopted in December 2015, after more than twenty years of negotiations, at the 21st Conference of the Parties (COP21), under the United Nations Framework Convention on Climate Change (UNFCCC). The Paris Agreement establishes as a main goal for all members: „Holding the increase in the global average temperature to well below 2°C above pre-

industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change” (Article 2 (a), Paris Agreement).

Taking action to pursue this objective, the Union has set up a legislative framework to achieve the target of reducing at least 40% of greenhouse gas emission by 2030 as recommended by the European Council in 2014, beforehand the entry into force of the Paris Agreement. The legislation adopted in this scope includes, among others: Directive 2003/87/EC of the European Parliament and of the Council (establishing a system for greenhouse gas emission allowance trading within the Union), Regulation (EU) 2018/841 of the European Parliament and of the Council (which requires Member States to balance greenhouse gas emissions and removals from land use, land use change and forestry), and Regulation (EU) 2018/842 of the European Parliament and of the Council, which establishes national targets for reduction of greenhouse gas emissions by 2030, in the sectors neither covered by Directive 2003/87/EC, nor by Regulation 2018/841.

EU’s efforts continued with the adoption of the European Green Deal in December 2019, representing a progress and proof that the European institutions are making serious efforts to make the climate targets a reality. Although The European Green Deal represents first of all a package of measures aimed at enabling Europe to reach carbon neutrality by 2050, the document is meant to be „a new growth strategy” whose aims are: „to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy” and „to protect, conserve and enhance the EU’s natural capital” as well as „the health and well-being” of citizens” (The European Green Deal, 2019, p.2).

The *Annex* to this Communication establishes a roadmap of key actions with an indicative timetable. Among these actions (The European Green Deal *Annex*, 2019, p. 2), the most relevant for the legislative framework are:

- a proposal for a legislative act (the European Climate Law) to make the climate neutrality target binding,
- a comprehensive plan to increase the EU 2030 climate target to at least 50% and towards 55% in a responsible way,
- proposals for revising relevant legislative documents following the review of the Emissions Trading System Directive, namely the Effort Sharing Regulation, Land use, land use change and forestry Regulation, the Energy Efficiency Directive and CO<sub>2</sub> emissions performance standards for cars and vans

The proposals of the European Green Deal have already been set in place, with the adoption of the European Climate Law in July 2021. This relevant law was adopted as Regulation (EU) 2019/1119 of the European Parliament and of the Council, entered into force on 29 July 2021 and recognised the climate change goal laid out in the European Green Deal. Thus the commitment to change Europe’s society into a climate-neutral one by 2050 has become legally binding. This regulation (piece of European law with binding force) established the necessary steps to be taken in order to reach this legal objective, namely:

- an updated 2030 climate target to reduce at least 55% of net emissions of greenhouse gases as compared to 1990 levels;

- a process for establishing a 2040 climate target together with a budget for 2030-2050 that should be published by the Commission;
- the establishment of the European Scientific Advisory Board on Climate Change to offer necessary advice;
- strong coherence across Union policies with the climate neutrality objective and
- better and new adjustments of the regulatory framework to accomplish the greenhouse gas emissions reduction set out in the European Law.

The next step towards the 2030 climate target was made in July 2021 with the Climate and Energy „Fit for 55” package. This set of proposals aims to deliver on the Commission’s duty, laid out in Article 3 of the European Climate Law, „of reviewing relevant Union legislation in order to enable the achievement of the above-mentioned target” (European Commission, 2021b, p. 23). In a nutshell, the „Fit for 55” is a „set of inter-connected proposals” that reinforces eight existing pieces of legislation and proposes five new initiatives, „across a range policy areas and economic sectors: climate, energy and fuels, transport, buildings, land use and forestry” (European Commission, 2021c, p. 3). Among the most significant revised legislative acts are: the Effort Sharing Regulation (Regulation (EU) 2018/842), the Land use, Land Use Change and Forestry Regulation (Regulation (EU) 2018/841), the Renewable Energy Directive (Directive (EU) 2018/2001), the Energy Efficiency Directive (Directive (EU) 2018/2002) and the Energy Taxation Directive. With regard to the new initiatives, the „Fit for 55” sets in place: a New Infrastructure for alternative fuels, a New Carbon Border Adjustment Mechanism and a New Social Climate Fund. Thus, the package offers a policy mix meant to strike „a careful balance between pricing, targets, standards and support measures” (European Commission, 2021c, p. 3).

From a conceptual point a view, the European Commission’s new set of proposals advances the idea that current challenges posed by climate change, and the pandemic, should be seen as opportunities to revisit and update old fashioned ways and patterns, including the regulatory framework that should be changed into a stable and coherent one. At the same time the realisation of the green transition is coupled with the use of new technologies. For instance, the green transition is considered a „wealth of opportunity to the EU industry as the world follows our lead in developing markets for clean new technologies and products” (European Commission, 2021c, p. 6). The green transition will support the recovery from the pandemic and will have a strong contribution to the spreading of „environmental standards beyond EU borders and boost innovation in the products and technologies of the future” (European Commission, 2021c, p. 5).

The contribution that technologies can make to facilitate the green transition has led the Commission and other EU representatives to promote the idea of a „twin transition”, with the digital and the green reforms closely linked to address the big challenges faced by contemporary society. The so-called clean and green technologies are the only ones compatible with the principles of the green transition.

The European Commission has strongly highlighted the necessity to transform Europe into a space „fit for the digital age”. This effort is financially supported by the decision to earmark €143.4 billion to single market, innovation and digital programs in the

Multiannual Financial Framework 2021-2027 (Renda, Pupillo, Fanni & Polito, 2021, p.1). The adversities brought about by the pandemic have only led to the acceleration of the shift towards the digital environment, but have also made visible multiple vulnerabilities in regard to private life and identity protection and access to the various tools of the digital world.

The European Union has already established guidelines for the digital reform, launching several significant communications, among which „Shaping Europe’s Digital Future” and the „European Strategy for Data”, in February 2020, and „2030 Digital Compass: the European Way for the Digital Decade”, in March 2021. In agreement with the principles set out in these documents, various other legislative and non-legislative acts have been adopted: the Artificial Intelligence Act, the Digital Services Act and the Digital Markets Act, to complete the already existing frameworks established by the General Data Protection Regulation (GDPR). All these legislative and policy initiatives are a proof of „ the complexity and interwovenness of markets, networks, infrastructure and people. A suitable approach to the governance of data spaces, the regulation of AI, the speedy and sustainable deployment of the Internet of Things (IoT) and the edge/cloud layer, ... 5G and cybersecurity, are all essential building blocks of a competitive and sustainable Europe for the coming decade” (Renda et al., 2021, p.1). To „glue” it all together and use the advantage of the digital technologies as a means for sustainable development and a fair transition for all, the European Commission has a number of times reiterated the necessity to associate the two of them and promote innovation.

The European Green Deal, for instance, mentions the „twin transition” and declares that: „the Commission will adopt an EU Industrial Strategy to address the twin challenge of the green and the digital transformation. Europe must leverage the potential of the digital transformation which is a key enabler for reaching the Green Deal objectives” (The European Green Deal, 2019, p.7).

This view is endorsed in the New Industrial Strategy for Europe in 2020 and its updated version of May 2021. According to this Strategy, in its 2020 version: „The twin ecological and digital transitions will affect every part of our economy, society, and industry”. ... „The breadth and depth, the scale and speed, the nature and necessity of the twin transitions are unprecedented”. The European Commission is known for its vision of the digital transformation role in sustaining and improving economic development, as well as enhancing the fulfilment of sustainability goals. The Commission promotes economic and environmental reforms, but it also watches over a just and equal transition that does not exclude anyone. This is the main reason why the two objectives, the digital and the green, are considered to complement each other very well.

### **3. Ways of Ensuring Convergence and EU „Missions” as a New Integrated Approach**

The question of convergence has always been central to the EU’s legislative and political action and it may be considered one of the fundamental values of the European integration. The concept is enshrined in the two fundamental EU Treaties, The European Union Treaty (TEU) and the TFEU. For instance, the Preamble of the TEU makes reference to the economic convergence, but it also takes into consideration the

importance of „reinforced cohesion” in the achievement of the internal market on the basis of principles like environment protection and sustainable development (TEU, 2008, p. 15). Article 32 of TEU says that „Member States shall ensure through the convergence of their actions that the Union is able to assert its interests and values on the international scene” and that the members should prove „mutual solidarity” (TEU, 2008, p. 32). In the field of environmental policy, Article 191(2) of TFEU makes direct reference to „harmonisation measures answering environmental protection requirements”. Based on these EU legal provisions, we consider that convergence may be defined as „any increase in the similarity between one or more characteristics of a certain policy (e.g. policy objectives, policy instruments, policy settings) across a given set of political jurisdictions (supranational institutions, states, regions, local authorities) over a given period of time” (Knill, 2006, p. 5).

In this domain the evolution of convergence tools is clearly showed by the procedures and mechanisms of impact assessment established by the legislative acts and political strategies of the EU. The necessity of a uniform and fast implementation of legislation is highlighted in the European Green Deal as an obligation for all member states under the European Commission’s supervision. The environmental implementation review to map the situation of each member state and a new monitoring mechanism to ensure that objectives are met on time are appreciated as being of a critical importance.

To ensure further coordination the Regulation (EU) 2018/1999 sets out the Governance of the Energy Union and Climate Action. The Governance framework aims to „stimulate cooperation between Member States” (Article 1, b) and „contribute to greater regulatory certainty as well as contribute to greater investor certainty and help take full advantage of opportunities for economic development, investment stimulation, job creation and social cohesion” (Article 1, d).

The component parts of the governance mechanism are: long-term strategies, integrated national energy and climate plans covering ten-year periods starting from 2021 to 2030, corresponding integrated national energy and climate progress reports by the Member States and integrated monitoring arrangements by the Commission. This mechanism has also the objective to ensure effective participation of the public in the preparation of national plans and long-term strategies. In addition, the governance includes a „structured, transparent, iterative process between the Commission and Member States for the purpose of the finalisation of the integrated national energy and climate plans and their subsequent implementation, including with regard to regional cooperation, and corresponding Commission action” (Article 1, Regulation (EU) 2018/1999).

This coordinated action is supported also by the set of policies known as the „Fit for 55” package, the Next Generation EU instrument and the Multiannual Financial Framework for 2021-2027. All these instruments together will contribute to the accomplishment of the twin transition in Europe. In an effort of synchronization, the mixture of these policies and the EU financial support will aim to find solutions to the current economic crisis in the context of the pandemic and boost the move towards a green and sustainable economy, connecting climate action and economic progress.

To ensure that coordination has the desired outcomes, the EU set in place a new

approach under the label of „missions”. Missions, as a policy instrument, are a novelty introduced by the European Commission within the Horizon Europe research and innovation program. „The mission approach, directing and combining different resources and actors towards a common goal” is appreciated as a „key element of transformative R&I policies, in a world of increasing global challenges” (Paquet, 2021, p. 2). Missions reflect in fact the European Commission’s vision of a coordinated effort to attract all the necessary resources, from funding and appropriate actors, to policies and regulations, to contribute to the fulfilment of concrete goals, in specific domains. One of the missions already proposed and included in the new Climate Adaptation Strategy (launched on 24 February 2021) is „Adaptation to climate Change, including Societal Transformation”. Other missions proposed by Horizon Europe are: Climate-Neutral and Smart Cities, Soil Health and Food, Cancer, Healthy Oceans, Seas, and Coastal and Inland Waters. This approach is meant to assemble public and private actors, at all levels: state, regional, local, together with farmers and land managers, entrepreneurs and investors and research institutes, to contribute all to find and create lasting solutions to alleviate the effects of climate change and create economic resilience.

#### **4. Creating the Cities of the Future: Smarter, Greener, more Inclusive**

Cities, spaces that concentrate in one place a great amount of people, buildings, cars, infrastructures to provide utilities, and need a vast array of resources, are among the most affected by adverse phenomena generated by climate change. Recent studies show that cities occupy only 4% of the EU’s land area, are inhabited by 75% of the total of EU citizens and are responsible for producing more than 70% of global CO<sub>2</sub> emissions and for 65% of the global energy consumption (EU, 2021, p.1). This is why cities have to take active part in the „Twin Transition” and make use of digital technologies to become smarter and more inclusive. Although the concepts of city and that of smart city do not have a general definition unanimously agreed upon, for the scope of this article a smart city is understood as an urban unit where „buildings, infrastructures and services are made more efficient by using digital and telecommunication technologies for the benefit of its inhabitants and business” (European Commission, 2021d, p. 9).

To support cities and local communities to become climate-neutral and integrate digital and telecommunication technologies in their development policies, the EU has committed to help local authorities address the challenges of this process. EU, especially through the European Commission, will act in agreement with UN’s Urban Agenda. The Climate Adaptation Strategy initiated in February 2021 establishes a course of action that includes:

- progressing on adaptation under the Global Covenant of Mayors,
- promoting sustainable and resilient urban and rural development,
- fostering community engagement in planning and implementation,
- attracting financial resources necessary at the local level.

The European Commission’s support for cities is coordinated through the mission Climate-Neutral and Smart Cities. The Mission will assess innovative integrated solutions to accomplish the vision of climate-neutrality by 2050 with a focus on citizen



engagement. After being tested, these innovations will be scaled up and applied to other communities in Europe. The mission intends to offer support for 200 communities to elaborate solutions for „transformative adaptation” and „scale up 100 deep demonstrations of climate resilience” (COM(2021) 82 final, p. 13). The essential goal of this mission is to deliver 100+ climate-neutral and smart cities until 2030 and motivate all other cities to follow their example by 2050.

Among the European Commission's key actions within this mission will be to support cities to sign and apply climate city contracts, co-created with local stakeholders, including citizens, and to contribute to the establishment of a network of national, local and regional authorities that will help cities in their transition to climate neutrality. The European Commission will also step in by offering financial assistance through The Horizon Europe program that will provide €359.3 million in seed funding, in a time period from 2021 to 2023. In this way, the European Commission intends to stay true to its promises to make cities healthier and more inclusive for the benefit of all their citizens.

## **5. Conclusions**

Climate change, besides being an urgent matter of crucial importance, is a trans boundary phenomenon with multiple ramifications and challenges, and it cannot be addressed at national or local level, but at a level that ensures a coordinated and carefully monitored action. The European Union, through its institutions, particularly the European Commission, has expressed its commitment to the cause of fighting climate change, in line with UN's activities and the Paris Agreement's goals. To this purpose, it has embarked on a profound reform of its legislative and strategic framework in this field to prepare its institutions and member states for action.

To demonstrate the importance of reaching the climate-neutrality target by 2050, it has made this objective legally binding, by including it in the European Climate Law. The work that the EU has accomplished so far, only by revising a significant number of regulations and directives, as well as by advancing new strategies and mechanisms of coordination and monitoring, is a huge one, and, unfortunately, much more has still to be done.

It is remarkable that besides the traditional legal instruments of coordination, the European Commission also launched an innovative tool, named „missions” that offers the possibility to cope with a cross boundary problem in a transversal manner and mobilise a variety of actors, including citizens in co-creating solutions for a better future.

Equally remarkable is that the EU has succeeded in making almost everyone aware of the necessity to act, since combating climate change cannot be postponed. It has also acknowledged that big inequalities still persist between its members and that this is also a (huge) problem to be solved. Frans Timmermans confirmed in an interview: „From left to right, conservatives, progressives, everyone understands this is a crisis that is an existential challenge – to humanity. The planet is probably going to be OK. But we won't” (October 2021). Following in the footsteps of EU's institutions will be, probably, the only course of action possible for such an exceptional Mission”.

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