



Call for Papers "The European Green Deal : Moving to Action. Opportunities and Challenges for the European Citizens"

Change on the menu: the New European Bauhaus Initiative as the enabler for the co-creation on the food systems of tomorrow

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EXECUTIVE SUMMARY

To help repair the economic and social damage brought by the Covid-19 pandemic, and kick-start European recovery - without compromising on the principles and objectives of the European Green Deal - in May 2020 EU Member States agreed to an 850 euro billion “Next Generation EU Recovery Plan” (European Council, 2020). As part of the plan, the “New European Bauhaus Initiative” (NEB) was launched as a project to translate the European Green Deal into a tangible, positive experience in which all Europeans can participate and progress together (European Commission, 2021). This policy paper aims at discussing how the NEB objectives and operating methods represent an opportunity to seize for accelerate the transformation of European food systems.

Keywords

#EuropeanGreenDeal #COVID-19 #NewEuropeanBauhaus #FoodSystems #Sustainability
#Inclusion #Aesthetics

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- “In-depth analysis of 10 EU FOOD2030 pathway areas for food systems transformation” (ed.), *D.3.3 FIT4FOOD2030 Horizon2030 project*, Brussels, November 2020
- “How Relevant? The EU’s ‘Geopolitical’ Commission and the Response to the COVID-19 Pandemic”, *College of Europe Policy Brief*, vol.4, n.20, April 2020
- “Between God and the Sweet Dates: Lessons from the US-Iran Crisis for a ‘Geopolitical’ EU in the Making”, *IAI Commentary*, April 2020



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INTRODUCTION

European food systems are responsible for about 35% of the total GHG emissions produced in the European Union (EU), with the agriculture and livestock sectors playing a major role in accelerating the human-induced effects of climate change (EASAC, 2017). In December 2019, the European Commission presented the “European Green Deal”, an ambitious blueprint for the transformational change of the EU economy and society, set to make Europe the first climate-neutral continent by 2050 (European Commission, 2019). From the on-set, it has been clear that European food systems – from production through processing, transportation, distribution, consumption, and waste disposal – must go through a radical transformation to contribute to the vision and objectives inscribed in the European Green Deal. In May 2020, a dedicated EU “Farm to Fork Strategy” was published to comprehensively address the challenges of sustainable food systems and the inextricable links between healthy people, healthy societies, and a healthy planet (European Commission, 2020). The bulk of the Farm to Fork Strategy revolved around two overarching proposals: the creation of a legislative framework for sustainable food systems; and the development of a contingency plan for ensuring food supply and food security.

The Covid-19 pandemic that has been ravaging Europe since March 2020 has accelerated and aggravated several of the pre-existing issues affecting our food systems. The production of unacceptable amounts of waste at all stages to the supply and consumption chain; the scarce access to healthy and nutritious food for increasingly larger urban social groups; the catastrophic impacts of the agri-food sector on the climate, biodiversity and natural resources were all renown and pressing challenges before Covid-19 (Vermeulen *et al.*, 2012). However, the socio-economic changes forced by the pandemic, together with the dramatic political decisions taken by most of the European governments to address the sanitary crisis, have brought the urgency of such challenges to a new level.

European citizens have experienced first-hand - or at least witnessed through television and digital media during the long periods spent secluded at home – the obstacles and barriers faced by fragile socio-economic groups (including the elderly, individuals with disabilities or with low financial resources) in acquiring fresh produce and nutritious food amidst the closures of markets and social canteens (Loopstra, 2020). Exceptional levels of food waste including rotting meat, fruit and vegetables have been caused by the forced closures of productive activities (EURACTIV, 2020) and by shortages in the labour force due to the limitations to the freedom of movement of workers (EURACTIV, 2020b).

To help repair the economic and social damage brought by the Covid-19 pandemic, and kick-start European recovery - without compromising on the principles and objectives of the European Green Deal - in May 2020 EU Member States agreed to an 850 euro billion “Next Generation EU Recovery Plan” (European Council, 2020). As part of the plan, the “New European Bauhaus Initiative” (NEB) was launched as a project to translate the European Green Deal into a tangible, positive experience in which all Europeans can participate and progress together (European Commission, 2021). This policy paper aims at discussing how the NEB objectives and operating methods represent an opportunity to seize for accelerate the transformation of European food systems. The first section introduces the NEB Initiative, with special emphasis on its integrated ecosystem. The second section explores three key pathway areas where food systems-relevant NEB action could be carried out. The third section puts forward specific policy recommendations



for each pathway area geared towards the production of both short-term results and longer term impact.

THE NEW EUROPEAN BAUHAUS: PRINCIPLES AND PROCESSES TO IMPLEMENT THE EUROPEAN GREEN DEAL

The NEB is a project aimed at bringing a cultural and creative dimension to the European Green Deal to enhance sustainable innovation, technology, and economy (European Commission, 2021). Its purpose is to bring about the benefits of the environmental transition through tangible experiences at the local level, by improving the daily lives of European citizens. As such, the NEB is better understood as a political movement and a social lab than as a traditional EU programme. At the roots of the NEB lies the 1919-1933 German Bauhaus movement, which promoted a deep transformation of the European society towards the modern era by virtue of a transdisciplinary approach and the use of innovative techniques and materials. Like the XXth century Bauhaus, the NEB seeks to design and implement creative solutions to pressing challenges, and to explore new materials to produce sustainably.

The NEB is articulated through three overarching principles, which are framed and made operational through three operating processes. The three core inseparable principles are *environmental sustainability* - from climate goals, to circularity, zero pollution, and protection of biodiversity; *aesthetics* – understood as quality of experience and style, beyond functionality; and *inclusiveness* – with special emphasis on valorising diversity, equality for all, accessibility, and affordability. A framework approach featuring three operating methods is designed to ensure the consistent implementation of the three principles. The first one is the designing of action addressing different levels of action, from global to local. While the fight against climate change needs to be held at the global (and European) level, it is vital to populate European societies with small-scale, place-based initiatives implemented at the level of neighbourhoods, villages and cities. The second one is a commitment to the most inclusive stakeholder engagement in all the phases of design and implementation of action. An inclusive approach is essential as the previous German Bauhaus movement shows that the most creative solutions are born from collective thinking. Therefore, the NEB seeks to mobilise a diverse array of social and professional groups, as it is shown by the relevant role played in the shaping and implementation of the initiative by the European Institute for Innovation & Technology (EIT) Community (EIT Food, 2021). The EIT Community's approach based on the co-creation of innovative technological and social practices through the cooperation of Research & Development centres; start-ups and SMEs; education and training institutions; and citizen organisations has been identified as particularly significant to foster the transformational change promoted by the NEB (EIT, 2021). The third one is the focus on transdisciplinarity. While the German Bauhaus essentially focused on architectural renovation of buildings, the NEB seeks to blend culture and technology, innovation and design, engineering, craft, the arts, and science to ensure meaningful transformation in all the sectors of European societies.

The next session of the paper identifies three pathway areas where the NEB principles and operating processes could be concretely implemented to produce impact on the EU food systems.



PATHWAYS FOR CHANGE

Beautiful: Green transition through digital and physical infrastructure

Urban food systems in several places in Europe generate deep social and economic inequalities, over-exploit natural resources and jeopardise the already fragile nutrition and health of vulnerable groups of citizens. Large cities, in particular, are not well-equipped to produce the food needed to sustain their own population, which forces them to rely on imports of processed goods and commodities from afar. Dependence on external markets increases the susceptibility to supply chain disruptions, including those caused by climate-related events and global shocks such as the Covid-19 pandemic (European Parliament, 2021). NEB-relevant action could be deployed to reverse the current situation and scale up efforts to ensure that emerging innovative practices and technologies receive the necessary support to enable European urban food systems to become environmentally sustainable, socially inclusive, as well as spatially and economically connected with their rural surroundings (Emiliani et al., 2020).

A wide array of emerging solutions – including the proliferation of community gardens; of urban and vertical farming, etc. – offers high potential to combine adaptive and mitigating action against climate change with trademark European *savoir-faire* and style, improving the quality of life of European urban dwellers.

Furthermore, research indicates that physical and social environments have an impact on the dietary choices of consumers, highlighting the importance of the procurement and architectural choices linked to the consumer experience in contexts such as supermarkets, cafes, restaurants, or corporate and social canteens; the influence of social media and marketing; the potential associated with the promotion of green food markets and food festivals in neighbourhood traditionally associated with a lack of food diversity (Caswell et al., 2013). The uneven expansion of the European cities has in fact given rise to the concerning phenomenon of ‘food deserts’ or ‘food slums’, e.g., low-income, peri-urban neighbourhoods with scarce availability of markets and fresh produce and high concentrations of fast-foods and wholesalers, leading to additional nutrition challenges and increased costs to access quality food (Emiliani et al., 2020). The issues of urban planning and the quality of citizen experience in many European cities are therefore closely related to that of social justice, bearing the potential to bring a further value to NEB action. For instance, the proliferation of ‘food deserts’ can be avoided by concerted action between city authorities, architects and engineers, citizen organisations and the private sector aimed at promoting a more even diversification of markets and restaurants across the city; or through joint initiatives to promote and showcase health and sustainable food choices based on plant-based and fruit-based diets at dedicated food festivals and Sunday markets events.

Beside the NEB-related opportunity in the physical event and infrastructure domain, the Covid-19 pandemic has produced an extraordinary rise of food e-commerce and other delivery services, including in the case of small grocery stores and farmers who joined forces with IT companies to harness the economic benefits of new market opportunities. While the agri-food business has historically been slow in moving its sales online (Just Food, 2020), the digital services have the potential to overcome several challenges of urban food systems, while also contributing to the NEB objective of enhancing urban citizens’ life and the experience of their city. For instance, digital trade and exchange services can contribute to fix the issue of ‘food deserts’, by providing delivery of fresh and nutritious foods to neighbourhoods lacking physical stores; help reduce food



waste, by connecting suppliers with surpluses with potential buyers; and solve the mobility issues of those citizens unable to go to markets to shop for themselves.

Sustainable: Circularity for urban resilience and food systems transformation

Moving towards a circular food value chain model would contribute significantly towards the EU ambition to achieve 100 climate neutral cities by 2030, by allowing near the foreseen net zero carbon dioxide emissions, as well as to lower levels of methane and nitrous oxide (European Commission, 2020b). Furthermore, urban food systems transformation towards circularity would allow for a drastic 51% overall reduction in GHG before 2050 with dietary change as the intervention with the greatest potential for emissions reductions (-60%), and action on household food waste (-10%) and supply chain food waste (-5%) as additional enablers (C40 Cities, 2019). Circular urban food systems will also directly contribute to the European Green Deal-supported transition towards a regenerative production to consumption model, thus reducing nutrient dispersion and increasing soil and land productivity. A study on the city of Brussels has showed that transitioning towards a short-supply chain system where 30% of food is sourced from the peri-urban surroundings by 2030 would allow for yearly savings as high as 9.2 million EUR from avoided soil degradation and over 21 million m³ in water savings, equivalent to half of the city's residential consumption of drinking water (Ellen MacArthur, 2019). By increasing purchase and consumption of food sourced regeneratively and, where possible, locally, European cities will establish shorter and more resilient food value chains, while also maintaining a percentage of products imported globally to retain dietary diversity.

An essential step to meet the climate change mitigation and adaptation measures foreseen in the Farm to Fork Strategy and in line with the NEB principles and objectives is to move away from the current semi-linear business models resulting in traditional disposal of food waste through landfills, to a circular model maintaining the value of food in the economy for as long as possible. Food loss and waste have a high economic impact estimated around 143 billion eur per year in the EU, from un-harvested produce; to edible products discarded because they do not adhere to market size and aesthetic standards; to products spilt during storage or transport; to unsold products in retail; until food wasted at household level (EU Parliament, 2017). In addition to the monetary estimation of the food wasted, there are also additional costs for collecting, managing, and disposing of food waste. NEB-relevant social and technological innovations supporting the scaling up of circularity models could include new research on bio-based chemicals, packaging, and transformation of waste into feed, as well as increased connections between innovators citizens and entrepreneurs through hackathons, incubators and accelerators (EIT Food, 2021b).

Together – Shift from supply-oriented to consumer-oriented food chains

The many interlinked challenges facing European urban food systems require NEB- relevant cross-sectoral interventions geared towards mitigating trade-offs, foster synergies and co-benefits, while taking into account the multiplicity of knowledge, values and perspectives involved. This requires multi-level interventions, policy experimentation and the creation of transformative spaces where policy makers, researchers and societal stakeholders can co-create and co-evaluate knowledge, innovations and policies needed for systemic change oriented towards the valorisation of urban



consumer experience. ‘NEB living labs’ and ‘NEB maker spaces’ could be set up as transformative innovation networks that facilitate processes of co-creation in real-life contexts and the inclusion of diverse actors in these processes towards the common objective to co-design, test and prototype new ideas, services, or products.

The COVID-19 pandemic has produced a significant impact on urban food systems, exposing its fragilities while at the same time spurring innovations that may lead to durable transformation. European citizens have come to experience first-hand the importance of urban-rural linkages to maintain their food security, as those cities highly dependent on imports from far regions have suffered from the vulnerability of long supply chains to the pandemic’s external shock. On the contrary, cities with a functional connection to their rural hinterlands have managed to increase the consumption of locally grown food and thus better adjust to the evolving context (FAO, 2020). Overall, the pandemic has indeed aggravated the issue of food nutrition and security for EU citizens, as loss of jobs, income, and the lockdown measures have impacted disproportionately vulnerable groups, who are reported to suffer from increased micronutrient deficiencies and difficulties in access to food (FAO, 2020). Building on the lessons learnt, NEB-relevant action could be devoted to strengthening urban resilience including through enhancing local food production, a need acknowledged by the EU Commissioner for Agriculture Janusz Wojciechowski (POLITICO, 2020).

In shorter value chains, the products are identified by and traceable to a farmer, the number of intermediaries between farmer and consumer should be minimal. The effort to make food chains more ‘visible’ to consumers in EU cities bears potential for NEB inclusive actions aimed at the valorisation and promotion of the exchanges between cities and their surrounding rural environments. Since EU cities absorb a large share of all food demand in Europe, they have a great potential to influence the way in which food is grown. NEB action could mobilise public and private demand power to motivate a shift towards healthy and sustainable consumption. While practices such as urban farming show potential to increase city’s reliance to food shortages and external shocks, targeted NEB collaborative action could be directed towards shifting from a consumption model where a core percentage of the supply is imported from far regions to one based on sourcing from their peri-urban surroundings (Ellen MacArthur Foundation, 2019).

POLICY RECOMMENDATIONS

Beautiful: Green transition through digital and physical infrastructure

Encourage community buy-in and support local empowerment by understanding the community context. NEB relevant action should be deployed so as to promote an appropriate, beautiful and valuable mix between bottom-up, community-led social innovations (including community fridges, food banks, collective kitchens, urban gardens, etc.) and top-down innovations (including responsible urban planning including concepts such as vertical gardens, organic markets, etc.). While education activities are necessary to enhance citizens’ understanding of the impact of their food choices, it is also crucial to establish the physical infrastructures and access to land where the urban population can harness the potential of NEB activities in promoting healthy and nutritious food that is sustainably produced (University of Turin, 2021).



Establish NEB food-tech hubs in European major cities to boost investments and catalyse technological innovation. Food-tech is the ecosystem made up of all the agri-food entrepreneurs and start-ups across the food chain innovating on products, distribution, marketing and business models for food products and services. European food-tech is still dominated by few unicorns, with 7 start-ups accounting for 43% of the total market value and 72% of total investments made in the EU in 2019 located in 8 cities (DigitalFoodLab, 2020). NEB funding and policy support should be used to promote the establishment of platforms interconnecting technology providers with agri-food actors, potential investors, civil society representatives and public authorities. NEB food-tech hubs could benefit and build on existing initiatives such as the EIT Food Accelerator Networks (FANs) to expand their outreach and promote a public and visible discussion on the need of enabling regulatory environments to develop context-specific technologic solutions designed from a NEB scaling up perspective.

Leverage digital solutions through NEB demonstrations enhancing transparency and traceability of data. Moving towards sustainability in the food systems calls for innovative and appropriate Information and Communication Technology (ICT) solutions to decrease the impact of human activities on the environment, without compromising quality, safety, and affordability. Transformative technologies with potentially disruptive potential are emerging, including applied sensors, advanced robotics, digital twins, the Internet of Things connecting different machines, augmented reality, blockchain technology, e-commerce services and Artificial Intelligence. However, in comparison with other sectors, the EU food systems are lagging in the market uptake of digital technologies (European Commission, 2018). A key factor discouraging more widespread adoption of ICTs in the agri-food business is the issue of profitability. Specific NEB funding, research and action could be designed to demonstrate that uptake of ICTs improves economic, as well as social and environmental returns. For instance, food safety could be improved through the adoption of innovative technologies such as consumer food scanners that analyse a dish using spectroscopy and give users immediate information on its composition, and the Internet of Things could help improve environmental-footprint management by providing consumers with the means to trace a food product back along its entire chain of production, from farmer's field to supermarket shelf (McKinsey, 2016). NEB action in support of technological development and food entrepreneurship should be boosted and flanked by the organisation of physical and virtual NEB Labs at local, regional, and national levels to promote the engagement of citizens in the testing of new technologies and products in view of agri-food market uptake.

Sustainable: Circularity for urban resilience and food systems transformation

Identify existing impactful solutions, boost funding, and expand the NEB innovation network to stimulate the multiplication of circular economy initiatives. NEB action should be deployed to scale up food waste reduction efforts by supporting social innovations. Several actions have already been co-designed in the field of surplus food redistribution (Politecnico di Milano, 2021). Other areas bearing NEB-relevant potential include providing alternative markets for food products that would otherwise go to waste; contributing to circularity by transforming leftovers into valuable products; and changing social attitudes towards food waste. In these regards, NEB action could support the establishment of national databases to identify existing social innovations with a proven track of positive results at the local level and scale them up. Furthermore, NEB collaborative ecosystems could stimulate discussions and leverage financing. Lack of funding poses a constant threat to the survival of successful social innovation projects and constrains



opportunities for scalability. Inconsistencies in local funding between Member States make replication of successful actions at the European level difficult (REFRESH, 2016). Coordinated NEB action could promote the establishment of dedicated fora to connect innovators with public authorities and private actors and stir a common agenda between potential donors and social entrepreneurs.

Leverage technology and digital solutions with education and awareness campaigns to rethink and better coordinate with citizens waste reduction efforts. As a major enabler for the transition towards circular food systems, the reduction of waste should rank high in the priorities addressed by NEB activities. Since most food loss in European cities happens close to the consumption stage of the chain (WRI, 2020), particular attention should be devoted to increasing the impact that citizens can have on waste production. Targeted NEB activities could revolve into promoting research around enhancing product shelf life through better food processing, improving data-marking and labelling, and providing effective bio-based solutions for packaging. A necessary step towards success would be to ensure the safety standards and transparency of innovative technological solutions developed to tackle waste. Despite the increasing availability of potentially impactful solutions, EU consumers remain wary of new technologies partly due to perceived risks for their health and lack of perceived benefits. NEB communication campaigns could be co-designed to inform transparently about the positive impacts of technological uptake on household incomes and the environment. Furthermore, NEB funding could be used to pledge resources to scale up technological innovations undertaken by SMEs in view of producing significant social impact while also providing high returns of investment. As the EU agri-food industry is largely shaped by SMEs often lacking the required resources to adopt the available technological solutions (REFRESH, 2016), financial and political support provided by NEB ecosystems could provide a significant added value.

Together: Shift from supply-oriented to consumer-oriented food chains

Promote short food value chains to highlight the importance of place-based food systems and revitalise urban-rural linkages. European cities are increasingly experiencing the vulnerability of modern industrial food supply chains, which are characterised by the spatial and psycho-social separation between the production, the distribution and the consumption of food, and the import of (often highly processed) food from a long distance. Co-designed NEB action should be deployed to support the switch from value chains with a strong emphasis on the supply side, to consumer-oriented chains characterised by the diversification of food production networks and a more pronounced emphasis on consumer health (e.g. switch to healthy diets with less processed food), sociality (e.g. establishment of direct producer-consumer relationships ensuring fairness and mutual trust), the economic resilience (e.g. reduction of uncertainties linked to external shocks) and the environment (e.g. limitation of the use of fossil fuel associated with long transport hauls and reduction of product packaging). Co-creating NEB-relevant green public procurement guidelines would facilitate local sourcing of food for restaurants, cafés, public and private canteens, and hospitals.

Support large stakeholder engagement, collaborative approaches and transdisciplinary to transformative Research and Innovation (R&I). NEB funding and targeted support should be geared towards improving the uptake of collaborative and systemic R&I actions for food system transformation. The NEB Initiative should produce momentum to accelerate the deep, structural



changes required in the way R&I is conducted, organized, funded, and programmed. Silos should be broken down to support a culture of cross-sectoral collaboration between social groups and professional disciplines. Several concrete actions at different levels should support the new R&I systems.

Boost transformative capacities across EU food systems through competence development. To accelerate the European Green Deal transition, NEB action can be deployed so as to boost competence development across sectors and governance levels. For instance, special NEB labs could be established to help develop the competences of students and professionals on circular food systems. NEB events and demonstrators could be co-designed and co-created between educators, scientists and policymakers to increase the place of knowledge on healthy and sustainable nutrition in schools and higher education institutions. Inspiring and transferable (online) educational modules could be co-developed to serve as hands-on materials to implement transformative education programs on sustainable food systems. Targeted training on innovation capabilities could help SMEs to overcome existing skill gaps and unlock untapped market opportunities in the respect of NEB principles and European Green Deal objectives.



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