

Proposals from Catalonia for a Sustainable Europe: The 2030 Agenda and beyond

Andrea Davila Brindley, Ángela Delgado Castillo and Lluís Godo

Essay prepared for the 25th Annual Conference 'Towards the 2030 Agenda and beyond: European cooperation within a new citizens-science-policy interface', organized by The European Network of Environment and Sustainable Development Advisory Councils (EEAC), held on 12th and 13th October 2017 in Maastricht, The Netherlands.

Introduction

As selected youth representatives from Catalonia, we have been asked to envision how a Sustainable Europe should look like in 2030, to put forward three main challenges and to identify the steps that should be taken to support a transition towards our 2030 vision. Against this background, we have identified gender equality, climate action and sustainable resource management in cities as three main challenges for the decade ahead.

We present our vision for Europe as follows. Firstly, we introduce our first topic. We describe the disparity between men and women that still exists in Europe, explain why it is important to achieve gender equality for sustainability and how funding and other strategies can foster a path to gender equality. Next, we tackle climate action by describing why it is one of the most pressing challenges of our generation and naming specific actions, such as carbon pricing and strict environmental protection. We then discuss migration patterns affecting cities and how designing efficient and safe cities will be critical. Specific actions for sustainable cities include installing renewable energy and resource recovery from wastewater. Finally, we draw attention to two conditions for responding successfully to the three challenges, namely education and decentralisation. Generally, would like to add that each section aligns with one or more of the seventeen Sustainable Development Goals (SDGs) defined as part of the post-2015 agenda.

Gender equality

Gender equality is defined as equal economic independence, equal payment for equal work or work of equal value, equality in decision-making, dignity, integrity and ending gender-based violence (1). Today, gender inequality remains a challenge. Two important measurements of economic equality are employment percentage and hours of paid vs. unpaid labour. On the one hand, according to the Labour Force Survey published by Eurostat (2), there continues to be a consistent employment gap between men and women. In 2010, 75.6% of men in the EU were employed compared to 62.3% of women. In 2016, 77.4% of men from the same group were employed compared to 65.5% of women. Those numbers reflect the larger group between ages of 20 to 64. However, when looked at in detail, the gap has closed towards the 50-64 age group due to changes in pension schemes. On the other, according to the 2015 European Working Condition Survey (3), per week, men spend 39 hours doing paid work and less than 10 hours doing unpaid work. Women, in contrast, spend 33 hours in paid work versus 22 hours of unpaid work. In addition, women are also more likely to be on zero-hour contracts and withstand the issues that arise from economic instability generated by these type of short-term contracts. More specifically, gender gaps on key indicators such as employment rate, are more marked in Mediterranean countries such as Greece, Italy, Spain and Turkey (4).

Why is gender equality important for sustainability? The equal inclusion of women into the workforce contributes the economic growth of countries. Increases in women's employment rates are key to helping countries improve their GDP through an increase. Women are also important supporters of policies that support the environment. To support this, according to OECD research on household behaviour and the environment (5) reveals that women are more likely to engage in environmentally-supportive behaviours like recycling, purchasing of eco-certified and energy-efficient products.

Actions that need to be taken, with immediate effect, to support the transition towards a Sustainable Europe in 2030 will be product of bringing gender equality into all stages of public policy development in order to produce results that permeate into all spheres of sustainability. Other factors to consider are physical and psychological integrity, social and economic empowerment, increased participation and leadership. These are the pillars of actions that need to be taken to transition to our vision of Sustainable Europe in 2030.

To improve gender equality, we divide the actions suggested into two main categories: at a national/subnational and international level.

1. At a national/subnational level

Increase investment to a) raise participation and leadership of women in society, b) set up indicators to measure progress in all spheres of life, c) remove any barriers that hinder both men and women in reaching similar leadership positions in private and public areas. An example could be paid parental leave. In addition, d) create explicit and implicit tax policies that support women and build infrastructure and e) fund services that lessen the burden of unpaid work on women or redistribute it with men.

2. At an international level

Increase international cooperation funds for gender equality, making sure that a) trade deals lessen gender inequality, b) create accountability for companies to enforce laws that measure and c) report on key gender equality indicators. It is also important to d) support partnerships with public, private academic and third-party institutions to support systemic gender equality and regularly collect and publish indicators on the progress of these measurements.

3. At both levels

At both a national/subnational and international level, education curriculums could be changed to include gender mainstreaming policies and incentivise women to remain in academia during later stages. For example, according to Eurostat numbers on tertiary education students by level and sex from 2015 (6), in the EU-28 on average, there are more women than men in tertiary, short-cycle tertiary, bachelors and masters levels. However, there are less women than men in doctoral or equivalent stages (male: 379,000 vs. female: 346,500). Education also has potential to change stereotypical portrayals of both men and women in societies. An example is stepping further away from the characterizations of women in textbooks in domestic roles towards positions of leadership, and similarly, by portraying men as capable of performing roles associated to parenting and caregiving.

Climate action

Climate change is another major challenge to implementing a Sustainable Europe by 2030. One of the main causes of climate change is combustion of fossil fuels by humans, which leads to emission of greenhouse gasses to the atmosphere. Such emissions have been increasing at a fast pace in the last decades. The world is already suffering significant impacts of climate change and no country can escape from its effects, although these impacts vary among countries or regions. In the case of the Mediterranean region, the most noticeable effects have been related to extreme events such as pronounced changes in the rainfall regime and wetland losses (7). For all this, shifting to a low-carbon economy has become essential. Among other sustainable objectives defined in the 2030 EU Framework for climate and energy, greenhouse gas emissions should be reduced in 2030 by 40% compared with 1990 levels. Climate action is urgent and strict policies need to be implemented with immediate effect. Compromises to limit greenhouse gas emissions and avoid extreme global warming fall short. In a context of meeting climate mitigation goals, such as with the Paris Agreement, countries need to turn pledges into concrete plans of action developed at international, national and local levels. Some of the actions we propose in this regard are:

1. Carbon pricing

Many studies lend support to the idea that carbon pricing is an essential ingredient of an effective climate policy, albeit not sufficient alone. It penalizes energy sources that use fossil fuels according to their carbon content, which differs among fuel types such as natural gas, gasoline and coal. The main reason for using carbon pricing is the fact that it allows meeting environmental goals at a relative low cost for society, compared to other instruments (8). It will also translate higher fuel prices into relative product and service prices in proportion to direct and indirect emissions of carbon dioxide.

The two main types of carbon pricing are the Emission Trading System (ETS) and carbon taxes (9). The EU ETS was established in 2005 for countries within the European Union. It is based on 'cap-and-trade' principles and sets a ceiling to total carbon emissions. However, many sectors are not included in the EU ETS, so carbon taxes play a crucial role in complementing the existing

gaps left by the ETS scheme. Only a few countries in Europe have implemented a carbon tax so far, and there is need for all countries to adopt this policy instrument.

In addition to penalizing carbon dioxide emissions, subsidies for fossil fuels need to be removed. Instead, subsidies should focus on stimulating low-carbon R&D and adoption of sustainable consumption practices, such as electric cars and renewable energy.

2. Strict environmental protection

Climate action should include additional environmental regulations. One measure that can be applied in this regard is setting fines or monetary penalties on individuals or businesses that are carrying out actions considered environmentally damaging. One example of this could be setting fines for incorrect recycling practices, this is, not putting the correct materials in the right recycling bins. The purpose of such penalties would be to shape consumer/citizen behaviour and enhance commitment to reducing waste and to recycle. All the revenues collected from these fines would be tied to climate mitigation programmes or fund social welfare payments that protect the most vulnerable groups, such as the poor and elderly.

3. Official and specific budget

Countries need to officially define a concrete budget that will be invested in climate mitigation and adaptation programmes and R&D for cleaner technologies, at both a subnational, national and international scale. For a proper management of the budget, its purpose needs to be clear and specific, similarly to Article 9 stipulated in the Paris Agreement (10). Also, the budget, as well as its purpose, should be transparent and public so that any citizen can have access to this information. Another important aim of this budget would be to enhance international financial transfers from rich to poor countries in order to aid the latter to make a transition to sustainability.

4. Including equity aspects in climate policy

Most resistance against some climate policies is motivated by the idea that it will cause an unequal distribution of its burden. Therefore, equity aspects need serious attention in the design of climate policy. Through adequate design and careful recycling of any revenues generated through specific mechanisms, such as carbon pricing or fines, any undesirable negative impact of climate policy can be alleviated. Many have demonstrated that certain groups in society tend to assume a higher burden of most climate policies, especially when it comes to low-income groups (11). For this, revenues collected from climate policy instruments should not be aimed to finance the government general funds, but instead be consistent with a 'revenue-neutrality' principle. Revenue recycling can be done in the form of tax rate cuts, tax exemptions or direct transfers. Concretely, revenue recycling in the form of direct transfers is the most suitable option, correcting for distributional impacts by targeting the most impacted households, such as the lowest income households.

5. International regulation allowing national, subnational and local adaptation

Policies need to be integrated at both a horizontal level - i.e. between administrations - and a vertical level. It is important to have a strong European regulatory climate policy that serves as a general structure for all those countries inside Europe. Still, the inclusion of multiple layers of governance is needed so that national, subnational and local governments can adapt or complement the general structure in a way that fits territorial climate policy models best.

6. Moral suasion: Education and information

All the previous actions are set around corrective measures, but education plays a crucial role as well in developing a sustainable framework for the future. It can raise awareness within the population and contribute to fundamental and permanent changes in citizen behaviour. To this end, environmental literacy needs to be assured from early ages on in order to develop a critical thinking in individuals about environmental issues. In addition, countries with a long tradition of environmental concern could transfer their knowledge to other countries.

Resource management in cities

By 2030, the urban population of Europe is expected to make up about 80% of its total population (12). Economic activity and environmental pressure are magnified by cities, due to dense populations and resource-intensive activities in terms of food, water and energy. Providing housing, electricity, water and sanitation as well as public transportation for a densely settled urban population is typically cheaper and may regarding some environmental impacts be less

damaging than providing a similar level of services to a dispersed urban population. Specially in Mediterranean areas, urban growth has concentrated in more compact forms compared to continental areas (13). Therefore, cities should be the spearhead of an environmentally sustainable Europe.

Effectively managing the water-energy-food nexus in cities should be a key-point in growing a sustainable Europe. By locally managing resources, local governments and citizens will become more involved in this transition. Citizens are empowered by having new knowledge and capacities and by being committed in the functioning of their services. We expect that the decentralized systems are going to reduce the environmental pressure of cities and strengthen the environmental compromise of citizens. By these means, in alignment with the *New Urban Agenda* developed by the United Nations (2016), we should improve existing urban structures to optimise the management of the natural resources, while supporting social cohesion and economic growth. Below, we propose some measures to pursue this goal:

1. *Designing a sustainable urban energy system.*

Cities can make use of a variety of renewable sources to supply energy for consumption within buildings and transport. Combining decentralised energy production systems (like solar photovoltaic panels on the rooftop) with other centralised options (like wind farms outside the city) would reduce the carbon footprint. This would contribute to improve cities resilience and to comply with the EU Framework for Climate and Energy. According to this, the share of renewable energy should be at least 27% by 2030.

2. *Achieving resource recovery from wastewater through source-separation systems.*

Wastewater collected at household level can be separated into stormwater, greywater (without faecal contamination) and blackwater (flush from toilet). Reuse of stormwater and greywater is economically viable and can ease the stress in water scarce areas (14) like in the Mediterranean region. Moreover, since greywater is produced constantly in the city and its availability is independent from the rainfall regime. Reclaimed water can feed city's green infrastructure while reducing the load that enters the wastewater treatment plants, having both social and environmental benefits.

3. *Production of food inside the urban and peri-urban areas.*

Agricultural systems in these areas could benefit from the source-separation systems by safely recycling nutrients present in wastewater and in the organic waste generated in the cities. Moreover, this would save emissions related to manufacturing fertilisers, growing and transport of food, which actually account for about 10% of Europe's GHG emissions (15).

On the one hand, policies and regulations have to be developed at national, subnational, and local level to economically incentivize circular economy technologies such as source-separation and water reuse systems. This could be done by developing building codes that promote the use of these technologies in new urban settings and facilitating low-interest and long-term loans to improve an existing infrastructure. Also, to achieve proximity and low-carbon food production, there is the need to preserve soil for agricultural purposes in the peri-urban areas and to incentive these practices. On the other hand, research programs should be funded to safely implement the measures described above. The available knowledge and technologies that favour a sustainable resource management should be promoted to the society through different mechanisms such as education campaigns or training programmes. Actually, the social perception of waste is weak as citizens in urban areas are alienated from energy and food production system as well as from the water cycle.

Conclusions

This essay portrays our vision for 2030 as we have attempted to collect specific actions needed to achieve a sustainable Europe in 13 years. The three main challenges we have identified for this purpose are gender equality, climate action and sustainable resource management in cities. Firstly, achieving gender equality is an international priority because the proper inclusion of women in society is likely to lead to economic progress and quicker support and adoption of sustainability policies. In order to bring gender equality to fruition, measures at both a national and international level will have to be implemented. These will include increasing funding in gender mainstreaming through policies such as paid parental leave and modifying multilateral policies (such as trade) to lessen inequality. Secondly, climate change is probably the biggest threats of our time. Thus, climate action has become urgent and serious. International, national and

subnational compromises on mitigating and adapting to its impacts need to be turned into concrete plans of action, specifically implementing a stringent carbon pricing system. This should be complemented with a series of parallel actions so that climate action is carried out effectively and in an equitable way. Finally, as for a sustainable resource management in cities, policies and regulations have to be developed at national and local level to economically incentivize circular economy technologies. This can be done by developing building codes for new urban settings and facilitating the financing to improve the existing infrastructures. At the same time, research programs should be funded to safely implement the proposed measures and this knowledge should be promoted to the society through different mechanisms such as education campaigns or training programmes.

The described actions and proposed measures will be underpinned by education and by raising awareness on the issues amongst civil society at multiple levels of government. However, in our opinion, local and regional governance is key to realise economic efficiency, environmental effectiveness and social and gender equity of the complete set of policies aimed to achieve a sustainable Europe by 2030.

References

1. *Gender equality definition*. UN Women. Retrieved June 2017 from: <https://trainingcentre.unwomen.org/mod/glossary/view.php?id=36&mode=letter&hook=G&sortkey=&sortorder=&fullsearch=0&page=-1>
2. *European Union Labour Force Survey*. Eurostat. Retrieved June 2017 from: <http://ec.europa.eu/eurostat/web/microdata/european-union-labour-force-survey>
3. *2015 European Working Condition Survey*. European Foundation for the Improvement of Living and Working Conditions. Retrieved June 2017 from: <https://www.eurofound.europa.eu/surveys/european-working-conditions-surveys/sixth-european-working-conditions-survey-2015>
4. *Regional disparities in the gender gap for the employment rate, persons aged 20–64*. Eurostat. Retrieved June 2017 from: [http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Regional_disparities_in_the_gender_gap_for_the_employment_rate,_persons_aged_20%E2%80%9364,_by_NUTS_level_2_region,_2014_\(%C2%B9\)\(%25\)_RYB15.png](http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Regional_disparities_in_the_gender_gap_for_the_employment_rate,_persons_aged_20%E2%80%9364,_by_NUTS_level_2_region,_2014_(%C2%B9)(%25)_RYB15.png)
5. *OECD Household Behaviour and the Environment: Reviewing the Evidence*. Organisation for Economic Co-Operation and Development. Retrieved June 2017 from: <https://www.oecd.org/environment/consumption-innovation/42183878.pdf>
6. Eurostat numbers on tertiary education students by level and sex from 2015 [http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Number_of_tertiary_education_students_by_level_and_sex,_2015_\(thousands\)_YB17.png](http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Number_of_tertiary_education_students_by_level_and_sex,_2015_(thousands)_YB17.png)
7. *Report on Climate Change in coastal zones*. Intergovernmental Panel on Climate Change. Retrieved June 2017 from: <http://www.ipcc.ch/ipccreports/tar/wq2/index.php?idp=499>
8. Baranzini, A., van den Bergh, J. C., Carattini, S., Howarth, R. B., Padilla, E., & Roca, J. (2017). *Carbon pricing in climate policy: seven reasons, complementary instruments, and political economy considerations*. Wiley Interdisciplinary Reviews: Climate Change, 8(4).
9. The World Bank. Retrieved June 2017 from: <http://www.worldbank.org/en/programs/pricing-carbon>
10. United Nations Framework Convention on Climate Change. Retrieved June 2017 from: http://unfccc.int/cooperation_and_support/financial_mechanism/items/2807.php
11. Fullerton, D. (2011). Six distributional effects of environmental policy. *Risk analysis*, 31(6), 923-929.
12. *World Urbanization Prospects*. United Nations. Retrieved June 2017 from: <https://esa.un.org/unpd/wup/publications/files/wup2014-highlights.Pdf>
13. Di Donato, B., Cavallo, A., Guadagno, R. & Marino, D. (2017) *Between City and Countryside: Changing Nexus in the Urban Phenomenon of Rome*. in *Peri-Urban Areas and Food-Energy-Water Nexus: Sustainability and Resilience Strategies in the Age of Climate Change* (eds. Colucci, A., Magoni, M. & Menoni, S.)
14. *Water reuse – Background and policy context*. European commission. Retrieved June 2017 from: <http://ec.europa.eu/environment/water/reuse.htm>
15. *Greenhouse gas emission statistics*. Eurostat. Retrieved June 2017 from: http://ec.europa.eu/eurostat/statistics-explained/index.php/Greenhouse_gas_emission_statistics#Main_statistical_findings