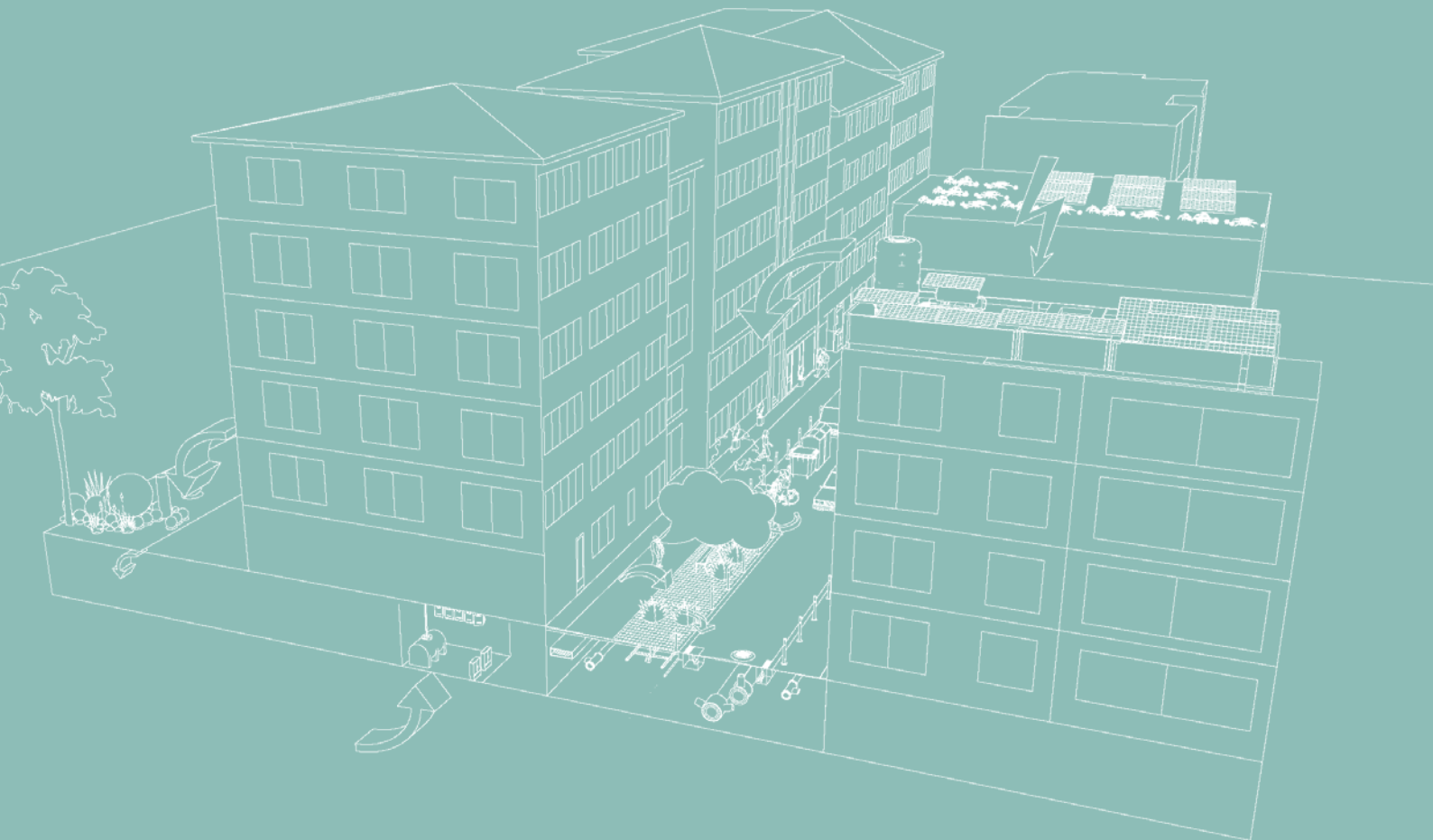


# PED MANIFESTO

Turning the  
**balance of local energy**  
into **POSITIVE**

2024



# PED Manifesto: Turning the balance of local energy into Positive

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## Keywords:

#Positive Energy Districts #Collaboration Pathways

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Please scan this QR Code to visit the PEDACT project's website for more information



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# ABOUT THE MANIFESTO

**This manifesto outlines a vision for transitioning to Positive Energy Districts (PEDs) through a holistic and inclusive approach. It emphasizes the need for community empowerment, collaboration, and addressing key social, technical, environmental, and governance aspects. The manifesto advocates for essential demands like carbon pricing, public spending on sustainable projects, and prioritizing climate justice. It also encourages immediate actions, such as investing in green energy, participating in energy communities, and advocating for better policies. The ultimate goal is to create sustainable, resilient, and equitable energy districts for the future.**

— This manifesto is designed to guide the way towards the creation of Positive Energy Districts<sup>1</sup> and highlight what can and should be done to achieve an inclusive and collaborative framework for the energy transition of our neighbourhoods. It builds on the experience and knowledge of different networks and sister projects, includes generous contributions from existing solutions and suggestions as well as from experts and commentators. With this manifesto, we are highlighting good practices that lead to the development of PEDs, which are already known to reduce carbon emissions and help build energy communities.

The manifesto was born out of our experiences in creating positive energy districts for case studies in the DUT funded PED-ACT project.

PED-ACT is a consortium consisting of organizations based in Sweden, Austria and Türkiye. We have a diverse team of researchers, filmmakers, decisionmakers and practitioners in municipalities and institutions; we've partnered with grassroots partners and

stakeholders from the energy and housing sector, making The PED-ACT process and the development of this manifesto open to different networks, e.g., the DUT experts' network, PED-EU-NET researchers, and local experts in the partner countries.

The Positive Energy Districts concept was chosen so we could offer support to local cases in achieving carbon neutrality<sup>2</sup>, balance the production of local and sustainable energy to meet local demands, and to empower residents to participate in the process and become a part of the journey. Although the local cases in PED-ACT mainly include households, they're not separated or isolated from public, industrial and transportation amenities. As a governing body, we suggest the development of an energy community<sup>3</sup> to strengthen the interaction and collaboration among the residents in a PED, alongside the obvious goal of producing sustainable energy locally.

Our work aims to secure environmental and social justice and ensure real

local impact by making the process of energy transitioning inclusive and collaborative, particularly in the planning, implementation, and maintenance of Positive Energy Districts. We also believe that the process of the energy transition can bring new opportunities in the form of consumption reduction, improving the building quality, enabling the development of new skills and professions, and last but not least, offering options that can help shape the transition based on unique and distinct personal or communal values.

Our work has been beneficial in providing us with key learnings, which we believe can be useful to citizens, decision makers, experts and communities. We strongly believe the collective demand of inclusion and transparency in the energy sector can have a significant impact and play a role in democratizing the market. With this manifesto, local actors from various fields can have access to a handful of ideas and approaches to help initiate and guide their own local processes.

The Manifesto focusses on three concepts as a starting point towards creating positive synergy, offering a clear purpose, and promoting effective development of the built environment through balancing energy use. They also help formulate what we view as a crucial part of establishing PEDs, which is to bring citizens and citizen groups together to develop and initiate projects in their own way.

<sup>1</sup> Positive Energy Districts (PED) means that a defined area is producing more energy than it consumes. This area can be a settlement, an ensemble of buildings, a neighbourhood, or a district, which is using only renewable energy produced in the defined area. The main focus hereby is to improve the building quality, to produce energy locally and match the energy demand with the production, to achieve the positive energy balance.

<sup>2</sup> Carbon neutrality or Zero-carbon means reducing human-caused greenhouse gas (GHG) emissions. The focus here is on fossil-fuelled uses and processes. In the energy sector GHG is released for typical house and office uses, like heating, cooking, and similar, but especially the mobility of people and the construction industry is relying significantly on fossil-fuels. With the use of renewable energy, the GHG emissions can be reduced significantly in the operation of buildings, settlements, transport and daily life.

<sup>3</sup> Energy communities (EC) are a group of people or organisations, which are connected to each other through their energy production and energy consumption. They often have a collaboration and exchange agreement to share primarily the locally produced energy.

These three concepts are the starting point of this manifesto as they create a good synergy and allow to be clear on the goal, allow and effective development of the built environment through balancing the energy use, as well as bringing citizen groups together to initiate their own paths.



Illustrations by wonderland, Danny Nedkova

# FOREWORD

**Climate breakdown has become a serious challenge to our society. The breakdown lingers as a threat to our well-being and the lives of millions of people, local fauna, and flora. There are many ways to change the path we're headed on, yet we need to ensure the transformation is accessible and available by every citizen.**

— Our climate is on a trajectory of change, inflicting harm in the process; impacting our habitat, threatening even more people and our fauna as well as our flora - basically the foundations of life as we know it.<sup>4</sup> The severity of changes will strongly depend on what we are doing to combat the main contributors to the life-threatening changes caused by human made carbon emissions and its impact on our lives.

The science is clear: We're headed towards climate catastrophe if we continue to indulge in the wasteful lifestyle we've become accustomed to. The carbon in our ecological system is leading to massive devastation and disruption, making it necessary for us to implement radical changes on our lifestyles and collective behavioural patterns. Our supply chains need to be broken down to the local level, with renewability and sufficiency becoming a deciding factor in all areas, including energy production.



One way to ensure we achieve this is to produce and consume locally, including the energy we need to for all our gadgets and appliances. The financial and technological capabilities needed for such solutions already exist. There are many funding possibilities on the local, national, and European level in Europe; and numerous local options on other continents as well. Researcher and innovators have developed a multitude of ways to improve effectivity, reduce consumption and produce renewable energy. What's needed is a stronger societal demand for change and individuals or local communities with a desire to live the change and create new opportunities. There is the need

for collective action for significant impact, through common will and ambition.

It goes without saying that governments and institutions need to lead the transition towards sustainability. It would also be accurate to state however that this transition needs to include people and society, given that widespread change is only possible with widespread support and participation.

This manifesto is a call to initiate the energy transition together and in unison, and to collaborate towards ensuring a better future for us, and the world we'll be leaving behind.

**Bahanur Nasya**, Director at wonderland – platform for European architecture  
**Yilmaz Vurucu**, filmmaker, writer, researcher



Housings in Alcorc6n Spain, Image by wonderland Batuhan Akkaya

# A transition model to empower everyone

**Energy transition has to be community driven to be initially effective and beneficial for society. We need a whole community to play an active role towards fulfilling the goals of sustainability. Energy transition can be a reason to act and a means to drive change for all of us. Let's shape the change together.**

---

Energy transition refers to the global energy sector's shift from fossil-based systems of energy production and consumption to renewable energy sources such as wind and solar. In order to achieve climate neutrality with energy consumption, the governing model needs to adapt an approach that prioritizes empowering citizens to play a role and develop solutions that suit their contexts and preferences. Waiting for top-down decisions and implementations lacks the efficiency to lead to the type of prompt and systemic change we need.<sup>5</sup>

Energy transition has to be community driven to be initially effective and beneficial for society. We need a whole community to play an active role towards fulfilling the goals of sustainability. Energy transition can be a reason to act and a means to drive change for all of us. Let's shape the change together.

The climate crisis is inherently trans-boundary and global, in scope and scale, and therefore calls for coordinated action and collaboration to achieve net-zero carbon by 2035. It is evident that not only do we need to make a conscientious decision to achieve this goal, but that we also need to adopt the lifestyle accompanied by such a vital decision. We need a whole community to play an active role in fulfilling the goals, given that community members have access to knowledge and knowhow on what can be changed in practice and how the necessary transformation can be

adapted to daily life.

Empowering local actors to act is the key to success, and while there are many promising concepts to facilitate the energy transition, the concept of energy communities seems to have emerged and established itself as a popular concept in Europe. The holistic approach of the Positive Energy Districts concept can play a positive role towards offering an alternative path on the transition needed for every community.

<sup>5</sup> International Energy Agency (2020) Renewables 2020 – Analysis and forecast to 2025, IEA, Paris, France. <https://www.iea.org/reports/renewables-2020>

International Energy Agency (2023) Renewables 2023 – Analysis and forecast to 2028, IEA, Paris, France. <https://www.iea.org/reports/renewables-2023>



Solar panels on the roof, Schönbüchel Austria, image by wonderland Batuhan Akkaya.

# Peer pressure and collaboration opportunities

**Governments can drive climate action by using international influence, holding climate offenders accountable, and facilitating local initiatives with climate funding. These efforts empower communities to transition to net-zero carbon, support renewable energy use, and create fair opportunities in the evolving energy market.**

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Governments can contribute by collaborating to leverage power on the international stage and utilize the tools of diplomatic engagement to push for climate action everywhere. In order to cut emissions immediately, we need to implement the naming of climate outlaws and hold them accountable, which is where governments can play a significant role. They can also contribute by facilitating the actions of individuals and organisations. In this regard, climate and energy transition funding calls can serve as an opportunity that initiates change with local communities and strengthens their impact.

Calls for various climate and energy transition funding are launched periodically by governments worldwide as well as in Europe. Such funding opportunities can be seen as stimulus package intending to involve citizens in the transition pathway, serving as a fantastic opportunity to activate communities help them benefit from the financial support. They can also help them team up with experts in the field, facilitating the transfer of knowledge and the implementation of informed decisions adapted to their own setting. Although climate change poses a challenge to our society, the new conditions can also create new opportunities to fix the problems in collaboration with citizens. Using climate funds to empower citizens not only allow us the transition to net-zero, but also make local solutions and decision making possible.

Achieving net-zero carbon requires massive reductions in emissions across every sector, nation, and community. Given that we are dependent on energy for all our activities, changing the source of energy can have a tremendous impact on the emissions we release. We are in need of greater supplies of reliable renewable energy into national and local energy grids, and every contribution towards the use of renewables is a significant one. Given that the market of renewables is just evolving, it emerges as a great opportunity to create fair opportunities for local communities.<sup>6</sup>

<sup>6</sup> Jacobson, M., et al. (2017) 100% clean and renewable wind, water, and sunlight all-sector energy roadmaps for 139 countries of the world. *Joule*, vol 1.1, p.108-121.



Solar panels and shared bikes, Madrid Spain, image by wonderland Batuhan Akkaya

# Renewables: new game – new player

**Let's define fair rules and empower communities as a priority.**

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The overdue action in this regard is: end all new fossil fuel extraction (oil, gas, coal) and phase-out existing production for good. This will systemically change business, jobs, the local context and infrastructure. The shift will require the transformation of certain aspects pertaining to energy such as its distribution, while requiring the development of other aspects such as local and sustainable energy production. Support and alternative options on mastering the tasks necessary to transition does exist, however their adoption by communities is unfortunately not that easy and accessible yet.

For the rapid expansion of the renewables industry (wind, solar, tidal and wave power and the tech innovations) we need more people to advocate, adopt and employ such technology.<sup>7</sup> We need better infrastructure, support mechanisms and governance models to allow people to take a role in the energy transition, both as producers as well as consumers. The changes in the energy industry impact communities differently, especially the rising prices, which push many households towards energy poverty. A new energy market order, which provides active support for affected social groups and communities will make our society more resilient. In some economically disadvantaged areas, this change may create new opportunities for local production, local income, and community building. Energy communities and Positive Energy Districts can provide decentralised, community-owned, and low-cost and sustainable energy for all. Furthermore, local production can also play a role in strengthening participation and and community collaboration, even in the most remote areas, allowing for a more effective alignment of the production and consumption of energy.

The costs for sustainable energy production continues to drop sharply, already outperforming conventional generation in many cases. The share of energy consumed in the EU during 2022 generated from renewable sources was 23%. This increase, from a level of 21.9% in 2021, was largely driven by a strong growth in solar power. The share is also amplified by a 2022 reduction in non-renewable energy consumption linked to high energy prices, however renewables in Europe are expected to keep growing.<sup>8</sup>

We need to cease providing subsidies for fossil fuels and nuclear facilities and direct the resources towards renewables. The International Monetary Fund estimates that fossil fuel subsidies were worth approximately US\$4.7tn, or 6.3% of global GDP in 2015. This budget is allocated through public funding. In essence, it comes from the pockets of all individuals on this earth and permits the fossil fuels and nuclear energy industries to pollute our environment with no consequences, while causing devastating pollution and risking the health and lives of all living beings on earth.

<sup>7</sup> OECD/IEA and IRENA (2017) Perspectives for the Energy Transition: Investment Needs for a Low-Carbon Energy System, International Energy Agency, 204 pp. [https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2017/Mar/Perspectives\\_for\\_the\\_Energy\\_Transition\\_2017.pdf?la=en&hash=56436956B74DBD22A9C6309ED76E3924A879D0C7](https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2017/Mar/Perspectives_for_the_Energy_Transition_2017.pdf?la=en&hash=56436956B74DBD22A9C6309ED76E3924A879D0C7)

<sup>8</sup> European Environmental Agency (2024). Share of energy consumption from renewable sources in Europe. 27 March 2024. <https://www.eea.europa.eu/en/analysis/indicators/share-of-energy-consumption-from?activeAccordion=ecdb3bcf-bbe9-4978-b5cf-0b136399d9f8>

# A cohesive approach to sustainability and energy projects

**An energy project isn't capable of forming and sustaining its operations in isolation and without people, making it necessary to create a supportive framework for local energy transition based on secure and safe pillars that lead to definite success and longevity. In order to establish relevance for communities, a project needs to address the topic of sustainability, not only from an environmental perspective, but social and economical as well.**

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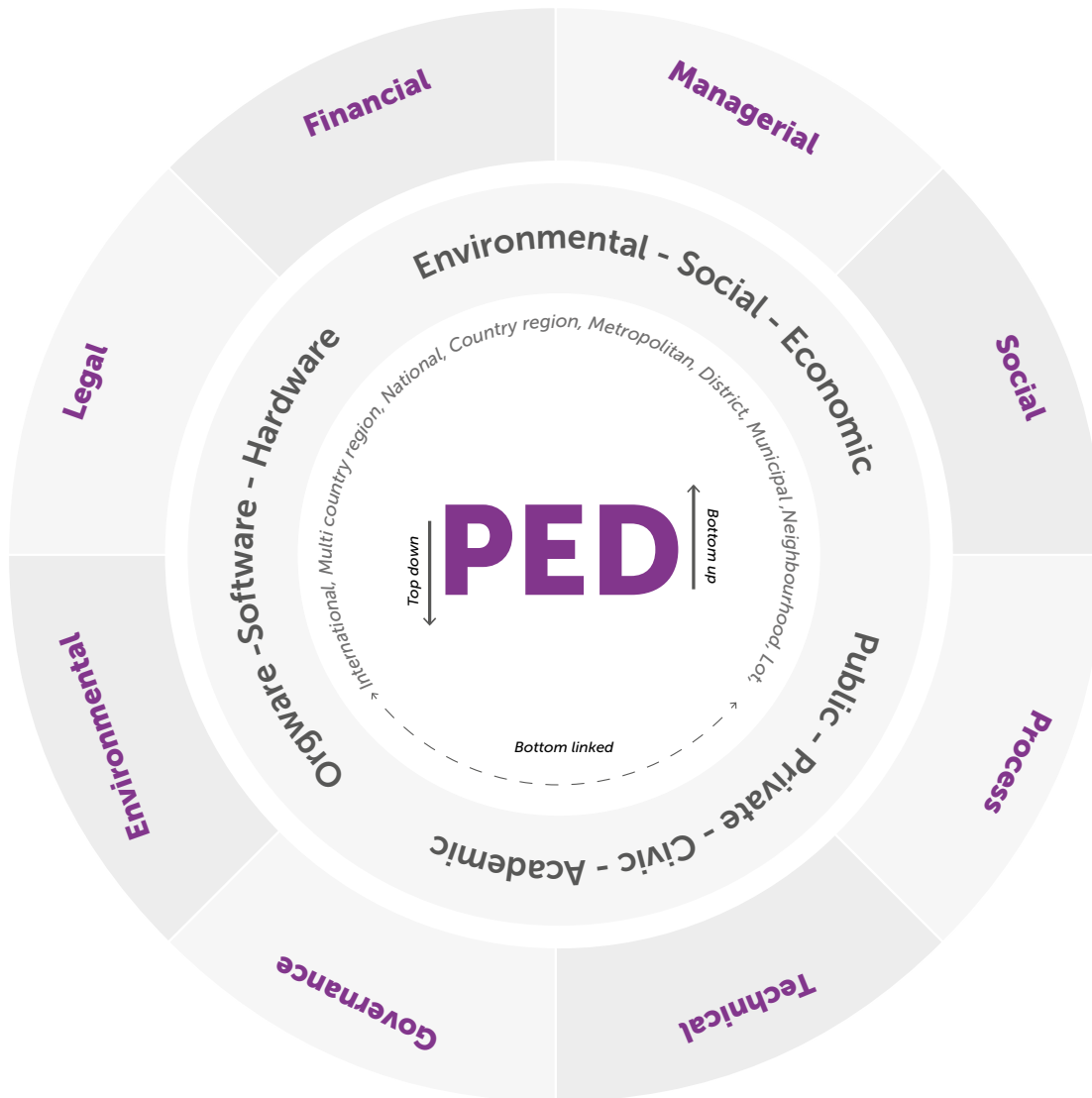
If any of these aspects are left out, the project is unlikely to succeed. A project not respecting environmental goals will most likely lack the support of the society at large, a project not well cemented and developed in economic terms will suffer the consequences of financial failure and a excluding or not actively including the local community in the process will run the risk of having to face lots of local resistance.

A way to address this is to analyze how the developed orgware, software and hardware handles the above-mentioned three sustainability aspects. This differentiated perspective can help project developers and communities identify the weaknesses of the project and seek to include appropriate collaboration partners from the Public, Private, Civic and Academic fields to help strengthen their projects impact and ensure its sustainability.

The energy transition pathway requires the technical process of planning and implementation, which has to be developed simultaneously with social aspects related to the community and the team managing the project after implementation; the financial, legal and environmental aspects also need to be embedded in a governance structure and model that ensures longevity and impact. The details for these aspects may vary from case to case, yet a cohesive decision still needs to be reached on what these aspects mean for the community and what the overall aim is.

In this manifesto we propose a value system that can be achieved in all energy projects, but especially in energy communities and Positive Energy districts.





A cohesive approach to sustainability and energy projects. Source Wonderland, 2024.



## Social Aspects

One of the important aspects of an energy transition project is the need to involve a community of stakeholders coming from an already established energy community or consisting of other communities in an already designated Positive Energy District. This method of inclusion is a new way of bringing energy production and consumption together and thinking locally or in social networks. Most projects lack certain social aspects in their agenda, which often leads to local resistance. Combining local values and expectations and incorporating them into the agenda, while improving opportunities and wellbeing as part of the project, can serve as a useful tool to garner local support. An early involvement of stakeholders with the purpose of giving them a role and voice in the process is crucial; even though many citizens might not be able to make perfect use of such opportunities, they will appreciate the honest effort.

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**Aim:** early involvement of stakeholders

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**Method:** community building or integration

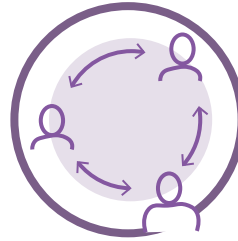
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**To be avoided:** lack or erosion of trust

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**Agreements:** shared values and social consent

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## Process aspects

Another important factor to consider is awareness on the process and attaining the expertise necessary to ensure success.

Depending on the size of the area of transition, the readiness of the built environment and the envisioned transition, the process can be lengthy - sometimes requiring extensive expertise, alongside strong commitment from the actors. Acquisition of expertise can assist in dealing with mistakes (depending on the case), the revitalisation of neighbourhoods, handling technical shortcomings and risks. Many aspects of the process might seem to be similar, yet each step requires particular or individual insights and skills.

Some processes are led by decision makers, others by administrations, investors or even citizens. The set of knowledge and skills each leading stakeholder brings to the process will always require seeking and obtaining support in areas in which expertise and knowhow is lacking. As such, an informed perspective will help establish awareness on how the process can lead to accurate support and finally to a successful project, while process interruptions may lead to a loss of time, resources and worst of all trust. Synergic collaborations can also only happen with a well developed process that's open to support.

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**Aim:** process support which leads to success

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**Method:** adaptation to state of the art and technology and match with local support to create synergy

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**To be avoided:** process interruptions

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**Agreements:** synergic collaboration and local support

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## Technical aspects

Expertise on the built environment, systems, energy, material, sustainability, and digitalisation are crucial in developing an energy project, creating the right measures to save energy and understanding how a combination of the right tools can create an energy mix that matches the energy needs of the community. The technical development of an energy project is dependent on various expertise and often needs technical support that is very specific for the building or the occupation of the building. At the same time, the environmental aspects allow different renewable energy productions. A very good overview of the needs and options can create a balanced technical model, which help the society, environment and local economy. General models of energy community and PED need local adaptation to be effective.

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**Aim:** technical support which matches need and options

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**Method:** match local potential and local need

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**To be avoided:** technical shortcomings

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**Agreements:** smart and ongoing innovation track

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## Governance aspects

An energy project needs to be clear on when to involve whom, how decisions are made and who can step up when challenges emerge. Defining rules of common practice and decision making, the division of power in extra ordinary situations and listing the common values is crucial. Clarifying and defining the purpose of the projects and outlining managerial tasks is equally vital to the governance of a project. Over the long-term, individuals, stakeholders, members and advisors can be only committed and willing to co-create when their roles are defined, and when they're clear on how urgent their contribution is. The governance model should respond to these expectations and serve to define the structure of power and responsibility.

If for instance, the governance is built by citizens in collaboration with a public authority in a PED project, this sends a clear message on the power distribution of the project. If an energy community allows members to make decisions on the program and pricing within the energy community, this is a clear message on who's interests are respected. Additionally, to ensure resilience in challenging situations, the governance model can include a multilevel governance model that builds on the different expertise in the group and member-stock, defines procedures and recurring moments for stability and develops a joint envisioning of the future. Finally, the governance model can aim to implement a culture of collaboration in a respectful manner, with a supportive ecosystem from authorities, experts, technicians and researchers

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**Aim:** establish a culture of good governance

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**Method:** multilevel governance and aligned societal goals

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**To be avoided:** lack of transparency

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**Agreements:** balanced power relationships

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## Environmental aspects

A well functioning environment and healthy ecosystems are crucial for resilience and our futures. Each community might have their own set of crucial and important measures, solutions and priorities. From the local priority on environmental issues to regional and national and continental priorities, there are many nuances, making having the right environmental topic for the energy community or PED project crucial in helping engage people in the collective activity. Especially given that an energy transition with an energy community or PED more often than none, involves making changes in one's own life such as reducing consumption and investing in local production or becoming an active member of an energy project, defining these aspects within the project becomes important.

Resistance from an environmental agenda or legal problems in terms of environmental regulations can jeopardize the project's success. A well organised energy project can contribute to overall environmental ambitions with regard to the protection of species or restoration of areas.

The most vital and significant aim of the environmental aspects in a project however, is that consumption is optimized in such a way that the demand can be met locally. Other resources can also be brought into the matchmaking process by employing Nature Based Solutions, Circular Economy Models, and similar concepts.

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**Aim:** optimising consumption

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**Method:** true values and trusted data

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**To be avoided:** lack of transparency

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**Agreements:** data and info as feedback loops

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## Legal aspects

There are many legal limitations that can be counter-productive for climate neutrality projects. In the energy sector, small-scale projects and people driven energy initiatives significantly challenge the set up of energy sectors. Such projects are currently, literally transforming the sector, and are in dire need of an open and detailed discourse to initiate legal innovation. Functioning within this reality, projects need to acknowledge that they have to be developed legally as well: the legal aspect will identify and classify the project in terms of the governance model, the regulations under which they need to operate, how agreements have to be created, how security is assured, etc.

Even simple regulations in terms of GDPR and privacy can significantly challenge how an energy project is set up and operates, how it includes citizens and is financed etc. In legal terms, an energy project needs to fulfil requirements for stability and safety, which are parameters that are difficult to establish for a sector in transition. For instance, energy communities have been exposed to constantly changing laws in the last few years, and some envisioned legal changes are simply not possible to meet, causing some communities to change their fields of activity significantly. Having basic legal understanding in the team and perhaps connecting with others to advocate for legal needs are important tips for energy projects. Energy projects need to be seen as important collectives that can innovate and play a role in furthering the development of the legal framework. In any case, energy projects need to prevent instability and legal loop wholes. Developments in the legal framework need to be community centred and benefit communities and not select corporations.

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**Aim:** stability and legal safety

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**Method:** innovative analysis and advancement of legal framework

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**To be avoided:** instability and loop wholes in legal framework

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**Agreements:** community centred legal framework

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## Financial aspects

The energy transition is a European priority on the path towards attaining carbon neutrality, making the need for research and the development of many products, applications and methods necessary. These projects are often funded and subsidised. In order to ensure impact, such projects should be developed with local problem owners and especially with people who themselves will be living in the transformed context.

Next to who is benefitting from financial resources, it is also crucial to have a well-developed financial plan. Of significance is where the capital for investment and maintenance comes from, which business model is employed, and how to deal with resources. Financial stability and independence are important aspects for energy projects.

Clarity on how different scenarios can impact operations and empower communities is the basis for informed decision making and in providing clarity in social, governance and managerial aspects. Aiming to avoid unexpected costs and risks will not only make participants of such projects open to professional consultation, but willing to collaborate in research projects as well, where they can obtain grounded information that will help steer their projects effectively. In addition, clarity on future maintenance and reinvestment costs also need to be included in the financial plan.

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**Aim:** financial stability and independence

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**Method:** financial down break of scenarios

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**To be avoided:** surprising costs and risks

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**Agreements:** reinvestment model

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## Managerial aspects

Expertise on the built environment, systems, energy, material, sustainability, digitalisation can prove to be crucial when developing an energy project. Access to such knowhow can help create the right measures to save energy and obtain an understanding of the tools that can create an energy mix that can match local energy needs. To manage such multifaceted systems, the community needs to have a basic understanding of the technical, legal, environmental and financial aspects. Depending on the governance model, ownerships and complexity of the system, some tasks have to be performed locally, which can be taken on by a team or a manager. This person or group of people will be responsible for long term stability and need to be adequately skilled and experienced. Managerial tasks can also focus on building skills and resilience among residents. Instability might be caused if lacking skills or human-power. General models of energy community and PED need local adaptation to be effective.

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**Aim:** long term stability

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**Method:** building skills and resilience

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**To be avoided:** insufficient skills and human power

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**Agreements:** partnership and ownership (also for volunteers)

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# What we can demand?

Start somewhere to initiate change.

**100% RENEWABLE ENERGY IS already POSSIBLE.**

## A Price Tag on Carbon

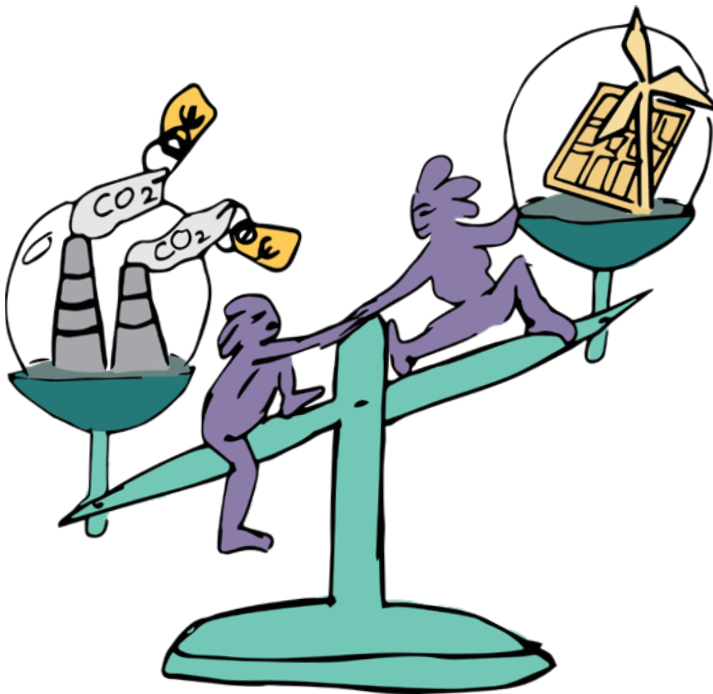
Yes, governments and central banks control fiscal policy. But governments are elected and want to be re-elected. Demanding the tools for change from them, is the best and most obvious action. We need both, fiscal (taxes on carbon and subsidies and facilitation to net-zero) and monetary tools from all decision makers.

The demand we need to put forth is to simply:

1. tax carbon heavily and give carbon a price
2. apply substantial tax incentives and direct subsidies to the communities that can produce and use renewable energy

Governments can also aggressively invest in research and the development of new technologies. They can support the means to further reduce costs and increase efficiency in renewables, while empowering citizens to play an active role in these developments. Any advancement in this field needs to be undertaken with community support. For all citizens, of importance is the development and availability of sustainable alternatives to carbon-heavy solutions (e.g. heating, transport, etc.), which will allow a more rapid shift to renewables. This shift can significantly improve the financial aspects of energy projects such as energy communities and Positive Energy Districts.<sup>9</sup>

**Governments have the opportunity to provide a fair and equitable transition. Carbon solutions need to be expensive and made available as one (expensive) option among very attractive, sustainable ones.**



Illustrations by wonderland, Danny Nedkova



## Public Spending for the Public Good

Public spending comes from taxpayer contributions, which in essence means that it comes from the public. All public resources need to be spent for the public good. Government and intergovernmental fiscal policy have immense potential to accelerate decarbonisation and promote nature-based solutions and the availability of renewable energies for all.

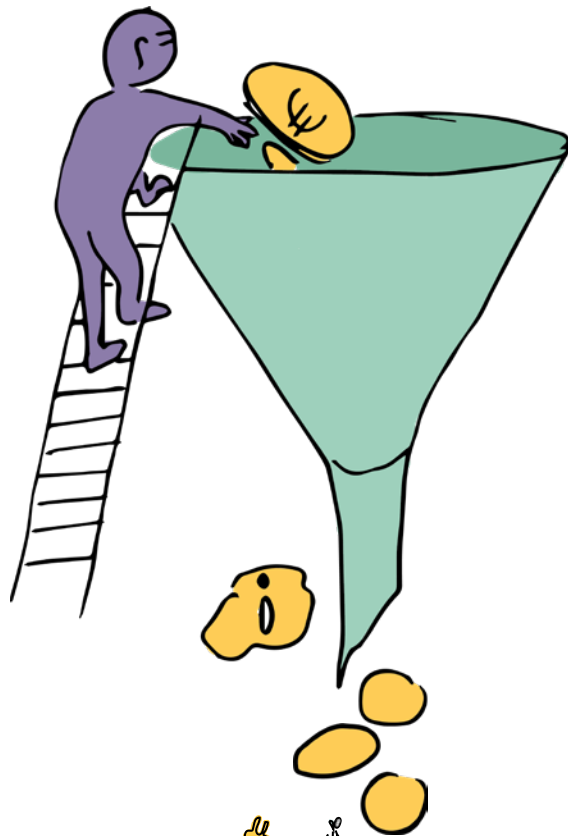
A logically and morally imperative rule to be implemented should be that public money is spent solely for public interest and the public good. This can be ensured by prioritizing zero carbon and carbon neutral options in public investments and the procurement of goods and services. The conditions could be developed to ensure the processes involve and engage citizens as a precondition for any process. Innovation, research, and development processes need an improved collaboration with citizens; they need to create capacities in the communities, to be able to serve the public or common good.

Energy efficiency in homes and working spaces means that the people of these homes and working places need to be a part of the development. Their inclusion will ensure they contribute and adapt the lifestyle changes that have been planned by them. By acting now, governments and communities can create new sustainable economies that provide livelihoods and energy for coming generations. Clearly every region is different, every community is different, therefore the energy solutions will be different and energy consumption will be different. But with local solutions like energy communities and Positive Energy Districts, these differences will be better addressed and waste as well as harmful practices will be reduced.

**Governments must use the opportunity to prioritise common good with the investments ahead of us in renewable energy. Investing in renewable energy and communities.**

R&D processed need to better collaborate with communities and create local opportunities in green job creation. Governments also can provide a fair and equitable transition that benefits the community, and is therefore, more acceptable. Direct investment in renewables and the communities that facilitate and use it, can prove to be more impactful and powerful than investments in large scale projects. Such investments will strengthen and drive increases in renewable energy markets, while simultaneously creating local operating and employment alternatives. The creation of these alternative jobs and income options is very important, especially for people who have lost their jobs or sources of income in carbon-based industries.

<sup>9</sup> European Commission (2016) Buying Green! – A Handbook on green public procurement, 3rd edition, European Commission, Brussels, Belgium, 80 pp. <https://ec.europa.eu/environment/gpp/pdf/Buying-Green-Handbook-3rd-Edition.pdf>



## Energy and Zero-Carbon Innovation

Ensuring a climate-safe future needs to guarantee a full energy transition to renewables. SDG7: Access to affordable, reliable, sustainable, and modern energy for all

Along the shift to renewable energy, we need to establish energy independence and ensure a sustainable supply. Resilience in the energy sector can be achieved by supporting smaller scale initiatives and micro- generation, which will bring huge benefits to poorer segments of the society.

This is one of the most important goals. Sustainable Development Goal 7 therefore prioritises access to affordable, reliable, and sustainable energy for all by 2030. Yet energy poverty is one of the main issues for many communities around the globe. In conjunction with net-zero carbon, energy projects need to take climate justice into their agendas as one of their priorities.<sup>10</sup>

Innovations need to be developed in community-led energy generation systems. Energy communities and Positive Energy Districts would not only reduce carbon footprints, but would also generate new income streams and reduce poverty. Solutions developed with the community can be implemented anywhere from high-density urban neighbourhoods to isolated least-developed areas. Furthermore, locally generated energy bypasses the need for expensive energy infrastructure, dependence on energy imports, accelerating our transition to carbon neutrality. Governments must take the lead in supporting innovative community-level energy systems as a tool for achieving the Sustainable Development Goals, especially SDG 7, and this will help in mitigating global heating.<sup>11</sup> Addressing SDG7 goals with energy projects can allow fair social aspects of the energy project but also embed in the governance and management model in common good for the local people. The shift in the energy sector can play an important role for the sector and new regulations can ensure no one is left behind.



Illustrations by wonderland, Danny Nedkova



## Quantity matters - Transforming the industries

By 2050 we will need the resources of three earth-sized planets to supply our current economic model and lifestyles. Making circular economy and decreased consumption a perfect match for local energy systems

Our linear economic model is directly responsible for climate breakdown, making it urgently necessary to transition into a circular model that restricts and aligns our consumption according to the boundaries of our planetary resources.

The circular economy model is based on a balance of production and consumption,<sup>12</sup> with its principles being sharing, repairing, and recycling existing materials and products for as long as possible to increase the lifespan of already produced materials. This concept perfectly aligns with the principles of local energy production systems such as energy communities and Positive Energy Districts. Such energy systems can meaningfully assist local industries and communities in drastically reducing their environmental footprint by offering them the option of switching to local renewable energy. In return, the achievements of circular models in electronics, textiles, furniture, chemicals, and construction products can play a role in increasing the impact of the energy sector. A combination of both systems working simultaneously is sure to have further impacts on the lives of local communities.

Transport accounted for 27% of the EU's greenhouse gas emissions in 2017.<sup>13</sup> The mobility sector needs a radical ideological overhaul and prioritize people and the planet first in its operations. In addition, one quarter of the global oil consumption is currently being caused by the demand coming from private automobiles. Replacing gas-driven cars with e-cars is not the solution in this regard; low and zero carbon public transport need to be considered as a viable and preferable alternative to private cars and the endless network of motorways criss-crossing natural habitats. All centres need to be designed primarily for walking and cycling, while providing sufficient alternatives for those unable to use these options.



Construction is also a major global contributor to greenhouse gas emissions,<sup>14</sup> responsible for 11% of global emissions due to use of materials and construction processes necessary to build and maintain buildings. Using the circular economy principal can play a key role in significantly reducing the impact of this sector, while retrofitting existing building stocks to improve their energy related performances will undoubtedly reduce waste of energy.

In this regard, robust regulations can play a role in encouraging environmental standards for the private construction sector. A substantial amount of energy could be saved if every house could be built to the highest standard of efficiency. High standards and inspections for new buildings must be rolled out, but equally important is the need for policy support and incentives for retrofitting in older houses, which will make up around 80% of the housing stock in Europe. Every single home and building from now on should be built of low-carbon, recycled and local building materials, heated using low-carbon energy sources, and be designed to require as little as possible through thoughtful planning, such as best use of natural light, etc. Solar panels and improved water efficiency need to be the standard, with design and planning incorporating more green spaces and provisions for pedestrians, cyclists, public transport users and the collective use of vehicles. Governments play the strongest role in answering the demand for low-carbon construction materials.<sup>15</sup>

Changes in the above-mentioned industries will tremendously affect how we develop our settlements and districts. A revitalisation plan based on an energy community concept or a Positive Energy District model needs to follow new parameters, design rules and ultimately lead to a balanced lifestyle for the residents.<sup>16</sup>

**Changes to our land use, built environment, agriculture, and forestry practices globally can impact around 40% of the extensive emissions.**

<sup>14</sup> Global Humanitarian Forum (2009) Climate Change – The Anatomy of a Silent Crisis, Global Humanitarian Forum, Geneva, Switzerland, 136 pp. <http://www.ghf-ge.org/human-im-pact-report.pdf>

<sup>15</sup> International Energy Agency (2020) SDG 7: Data and Projections - Access to electricity, <https://www.iea.org/reports/sdg7-data-and-projections>

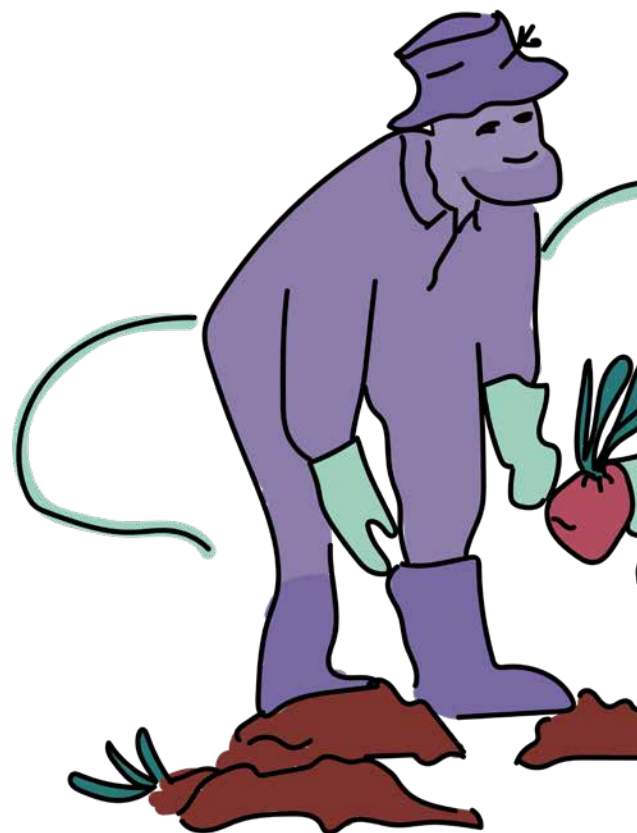
<sup>12</sup> European Commission (2020) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A new Circular Economy Action Plan for a cleaner and more competitive Europe. <https://op.europa.eu/en/publication-detail/-/publication/9903b325-6388-11ea-b735-01aa75ed71a1/language-en>

<sup>13</sup> European Environment Agency (2020) Greenhouse gas emissions from transport in Europe. <https://www.eea.europa.eu/data-and-maps/indicators/transport-emissions-of-green-house-gases-7/assessment>

<sup>14</sup> IET and Nottingham Trent University (2020) Scaling up retrofit 2050. The Institute of Engineering and Technology, UK, 32 pp. <https://www.theiet.org/media/5276/retrofit.pdf>

<sup>15</sup> Chatham House (2018) Lehne, J., and Preston, F., Making concrete change: Innovation in low-carbon cement and concrete, Chatham House Reports, London, UK, 138 pp. <https://www.chathamhouse.org/sites/default/files/publications/2018-06-13-making-concrete-change-cement-lehne-preston-final.pdf>

<sup>16</sup> International Land Coalition and OXFAM (2020) Answew, W., Balidinelli, G.M., et al., Unequal Ground: Land inequality at the heart of unequal societies, Land Inequality Initiative,



## Placing climate justice at the core of our actions

Instilling justice can bring the local actors together and motivate action, while healing the unjust practices of the past. People and communities that have historically contributed the least to greenhouse gas emissions are those suffering first and foremost from the impacts of climate change. As we transition to a green economy, we must provide meaningful, large-scale support and opportunities to those impacted by climate disasters, such as extreme weather events, drought, floods, and sea level rise.<sup>17</sup> All actors, especially the ones affected by decisions, need a 'seat at the table', have their voices heard and worked together to avoid climate breakdown. We must centre the voices and expertise of local peoples and communities impacted first and worst by global heating in every decision.

**The green transition must also be a just transition. This is the roadmap to a more sustainable and equitable future for all. Climate change is a vast and complex issue that needs action from the grassroots to governments.**

It is vital that both private investors and institutional stakeholders are informed and encouraged to rapidly switch to renewable local solutions.

We – you – are not powerless, and there is a suite of crucial actions everyone can take, most importantly by holding elected officials and those in power, along with corporations, to account. Use your vote and your voice; use your wallet and your purchasing power to demand change and a survivable future. Take part and a role in your local ecosystem. Shape the decisions, which will affect you.

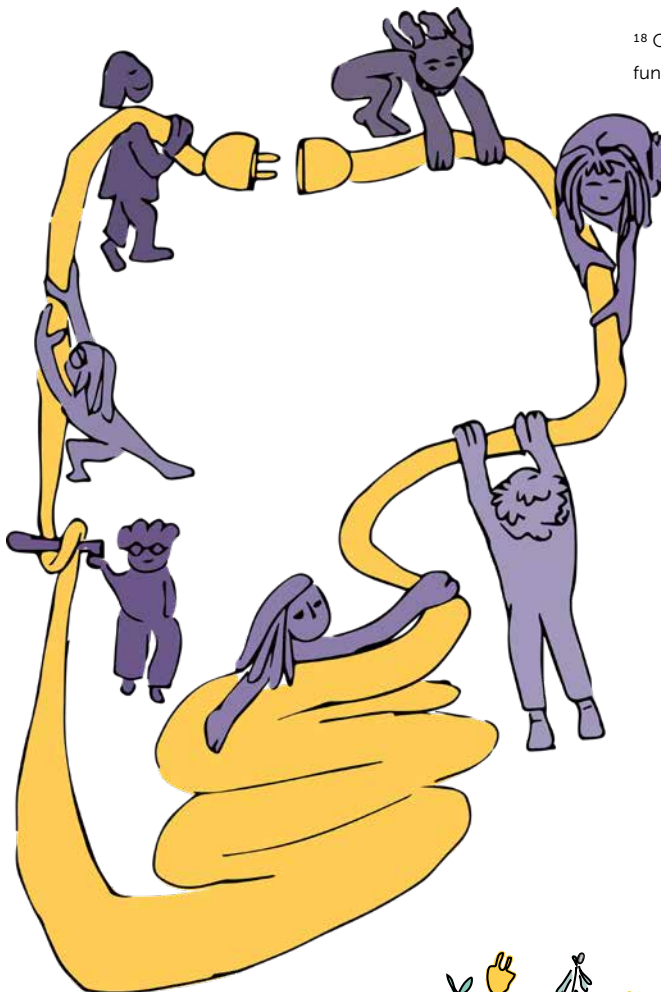


Illustrations by wonderland, Danny Nedkova

'Nature-based solutions' mimic the ecosystems of living areas – such as forests, peatlands, wetlands and more – and are a vital tool in the fight against climate breakdown. Our built environment has to be a well-functioning micro-ecosystem. Forests are among the best solutions to global heating, yet merely having more trees is not sufficient. Our land use with built environment, agriculture and forestry practices have to become self-regulating natural ecosystems. Reforestation must restore natural ecosystems and regenerate rich biodiversity. The more biodiverse a given area is, the more able it is to withstand external shocks that would damage or demolish a less resilient ecosystem, keep the carbon stored and out of the atmosphere.<sup>18</sup> Finally, people living in the local ecosystems can take decisive roles in restoring and maintaining such local ecosystems, as many bottom-up energy communities have already successfully demonstrated.

<sup>17</sup> Global Witness (2020) *Defending Tomorrow*, 52 pp. <https://www.globalwitness.org/en/campaigns/environmental-activists/defending-tomorrow/>

<sup>18</sup> Oliver, T.H., et al. (2015) Biodiversity and resilience of ecosystem functions. *Trends in Ecology & Evolution*, vol. 30.11, pp. 673-684.





A neighbourhood in Karşıyaka, İzmir Turkey, Image by wonderland Batuhan Akkaya

# What we can do today?

**As individuals, we have the power to change our behavioural patterns. Taking a step each day in the right direction, will help with carbon neutrality ambitions. When multiplied with the contributions of all citizens, there can be no doubt that our collective actions will lead to a significant change in carbon emissions on the one hand, while communicating the correct message to industries and decision makers on the other: we are ready for change, and you need to act now, according our demands.**

Traffic jam, Madrid Spain, Image by wonderland Batuhan Akkaya



### Get Involved in Energy Projects

This is more about peaceful, effective political protest than changing a lightbulb - demand your representatives ACT with urgency. But your everyday can make a difference too. Make your money work for you and the planet.

Make Your Money Work for You - Invest For The Future

As individuals, we can help steer the energy sector towards a greener future.



### Work with Energy Communities

Energy communities pool resources to invest in renewable energy projects, making it easier for individuals to access clean energy. You can join or support energy communities to promote the decentralization of energy production, creating more resilient local grids. assets.



### Use Green Energy and Reduce Your Use

Renewable energy is one of the most effective tools we have in the fight against climate change, and wind and solar energy have experienced remarkable growth and huge cost improvements over the past decade, with no signs of slowing down.



### Equip Your Home and Working Place

Energy efficiency begins at home and in the workplace. Retrofitting buildings with better insulation, energy-efficient windows, and appliances you can reduce your carbon footprint. Solar panels, heat pumps, and even small wind turbines can be installed to generate your own clean energy. Additionally, integrating green roofs, urban gardens, or green walls can improve energy efficiency and support the biodiversity to your surroundings.



### Active Mobility and Public Transportation

This is a powerful way to fight climate change. Avoiding a single roundtrip transatlantic flight will save 1.6 tonnes of CO2 or the equivalent in other greenhouse gases. If there is no alternative to flying, use an effective form of carbon offsetting that will have a real, lasting impact on emissions.



### Keep on Demanding for Better Opportunities

Advocate for policies that make it easier to live a low-carbon lifestyle. Demand infrastructure for active mobility, more accessible public transportation, and incentives for renewable energy use. Your voice and participation matters in shaping local, national, and international policy.

<sup>19</sup> European Environment Agency (2020) Greenhouse gas emissions from transport in Europe. <https://www.eea.europa.eu/data-and-maps/indicators/transport-emissions-of-green-house-gases-7/assessment>

# CONCLUSION

— Drought, flood and fire and devastating extreme weather events are ripping through communities from Australia to the Arctic. We have less than a decade to save the planet. Immediate and coordinated action by every single person on this planet is essential to our survival. This manifesto offers a roadmap for the transformational change we need in the energy sector to survive the coming storm. The selected topics are related to the energy sector, but can be interlinked with others as well. This manifesto demands that we develop well balanced projects that are well developed, not only in terms of technology, but also in terms of the legal, social, managerial, governance and environmental aspects. We need every project to be successful.

Considering the experiences of last decades, we can safely posit that the resilience of projects are based on being planning and detailed application. What comes next will be determined by whether we seize this opportunity and take our future back from the handful of companies that continue to destroy our future for profit.

However, this manifesto is not just about avoiding disaster. It is also about describing the roadmap to a future with cleaner air, and long-term environmental safety and security. Energy projects can either be the driver in such processes, or need to play a vital role being incorporated into each carbon neutrality project. We advocate for the inclusion of citizens in the process as early as possible and allow them to take on the project as soon as possible. The pioneer projects need to be quickly the mainstream way, to have really an impact on our emissions and allowing us to have a healthy future.

We explored how energy communities and Positive Energy Districts can create a synergy and support each other's challenges. This approach can be used for different other concepts as well. To accelerate the energy transition, the manifesto calls for:

## Understanding the Broader Aspects of PEDs

A fair approach to PEDs requires a holistic approach encompassing various aspects:

**Social:** Engaging communities and ensuring inclusivity.

**Process:** Streamlining operations and methodologies.

**Technical:** Leveraging cutting-edge technology for efficiency.

**Governance:** Establishing robust policies and frameworks.

**Environmental:** Prioritizing ecological sustainability.

**Legal:** Adapting regulations to support innovation.

**Financial:** Securing investments and managing costs.

**Managerial:** Effective project management.

**Demanding for Good:**

**A Price Tag On Carbon:** Implementing carbon pricing to reduce emissions.

**Public Spending for the Public Good:** Ensuring government funds support sustainable initiatives.

**Energy and Zero-Carbon Innovation:** Fostering innovation in clean energy technologies.

**Transforming the Industries:** Scaling up efforts to transform industries towards zero-carbon.

**Climate Justice:** Placing climate justice at the forefront of all actions to ensure equitable outcomes.

**Acting Today:**

**Get Involved in Energy Projects:** Actively participate in local energy initiatives.

**Invest for The Future:** Make sustainable investments.



**Use Green Energy:** Opt for renewable energy sources and reduce consumption.

**Active Mobility:** Choose public transportation and active mobility options.

**Work With Energy Communities:** Collaborate with energy-focused groups.

**Equip Your Home and Workplace:** Make energy-efficient upgrades.

**Keep Demanding Better Opportunities:** Advocate for improved policies and opportunities.

In our exploration of how energy communities and Positive Energy Districts (PEDs) can complement and support each other, we've highlighted a framework applicable to various concepts in the energy transition. To accelerate progress, the manifesto emphasizes the need for a comprehensive understanding of PEDs, covering social, process, technical, governance, environmental, legal, financial, and managerial aspects. It also underscores essential demands, including carbon pricing, public investment in sustainability, innovation in clean energy, industry transformation, and climate justice. Immediate actions are crucial: engaging in energy projects, investing in sustainability, using green energy, promoting active mobility, collaborating with energy communities, upgrading homes and workplaces, and advocating for better policies. Together, these steps will drive us towards a more sustainable and equitable energy future.

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