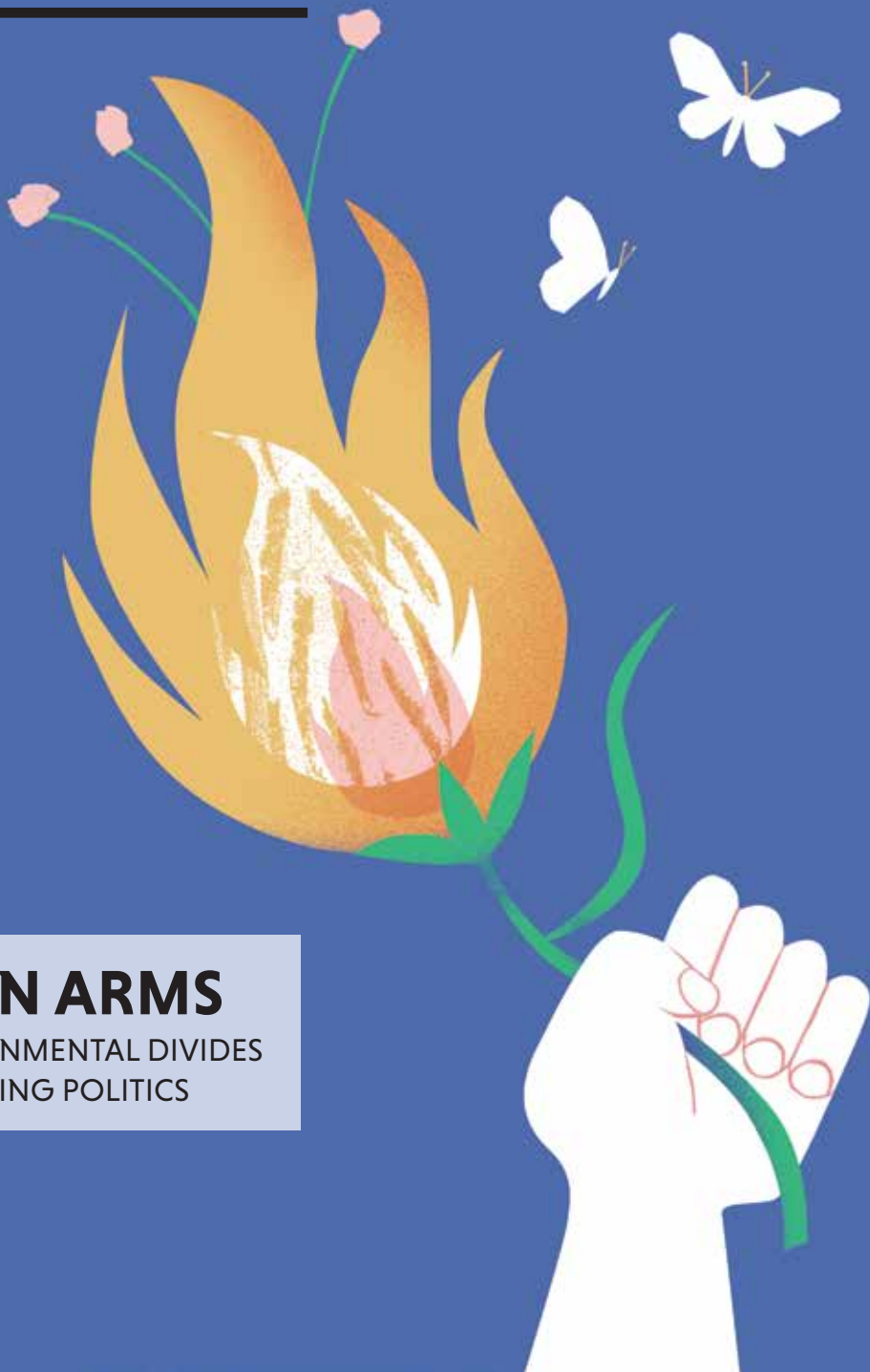


GREEN EUROPEAN JOURNAL

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RESHAPING POLITICS



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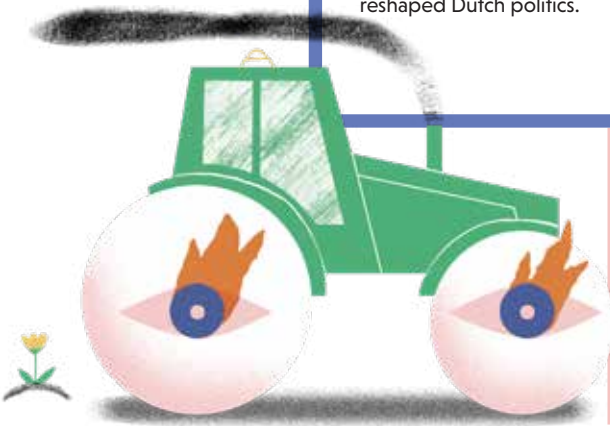
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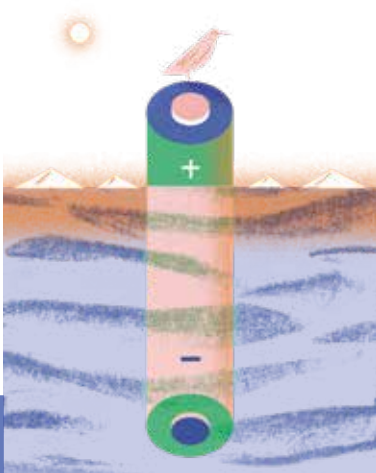
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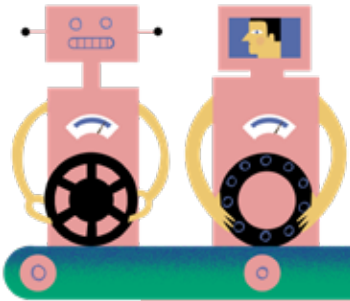
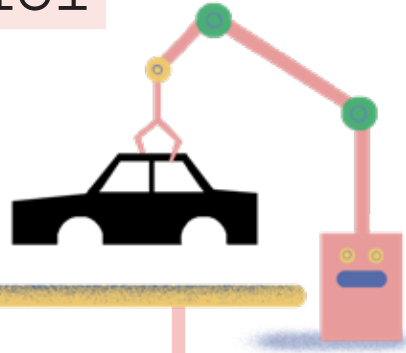
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EDITO

DIVIDED IN ECOLOGY

JAMIE KENDRICK

From national leaders calling for a pause to the European Green Deal to the online Right's re-invention of the "15-minute city" as an authoritarian project for social control, the signs of an anti-green backlash are growing.

Climate politics had been resurgent in Europe since 2018. The need for governments and society to take serious, rapid action to reduce greenhouse-gas emissions was reflected in public debate, street demonstrations and election results, and the commitments that politicians were increasingly ready to sign up to. The sense of urgency was real, possibly even genuine.

That momentum is today faltering, replaced by hesitation and the sense that European societies cannot cope with the speed and scale of change that the ecological crisis demands. At the European level, the French and German governments both intervened to water down parts of legislation in line with their national interests, while the centre-right European People's Party is concentrating its fire on the Green Deal agenda.

National politics continues to swing to the right, with green policies a key dividing line in a wider cultural battle. Climate activists are increasingly vilified for their disruptive actions. In an emblematic development, a new movement bankrolled by livestock farming interests upset the Dutch political scene in the spring of 2023. Successfully channelling rural disaffection against mismanaged environmental policies, this force now wields significant influence.

ORIAL

“The ecological transition involves dismantling one world while building another,” Héctor Tejero explains in this edition. No wonder such conflicts are emerging. Despite the mood turning away from green policies, the climate crisis continues to deepen. Its worsening impacts mean that political action cannot be put off. After all, it is decades of delay and wishful thinking that compels governments to take radical and unpopular steps.

Compared to the heady days of the Green Wave, it is clear that green politics in Europe has entered a new phase. The challenge for the green movement is no longer that of convincing society that something needs to change – that effort was broadly successful. The question now is how exactly. How fast do changes need to happen, which technologies should we invest in, who pays and who profits? A whole series of practical, technical, and eminently political dilemmas around the shape of the transition are upon us. Most importantly, how can a base of support wide enough for its success be built and maintained?

As this edition explores, social divides layered and deepened by environmental questions are today at the heart of politics. Old cleavages take on a new shape. In a Europe of annual heatwaves, for example, who has access to cool, liveable temperatures in the city heat becomes as much a matter of social justice as who can afford to heat their home in winter. Longstanding territorial inequalities take on new dimensions. As renewable energy requires a different material base from fossil fuels and is, so far, less storable, disputes over where mines and energy infrastructure will be located have emerged within and between countries. Even the supposedly disembodied digital world cannot escape the reality of geography and resources.

These new environmental divides are not just a matter for national politics: the transformations implied by climate change and the energy transition are reshaping global politics too. A global industrial race has begun between China, the EU, and the United States to control the

production of green technologies, particularly electric cars. It will have deep implications for millions of European manufacturing workers. Similarly, the choices Europe has made to manage its post-2022 energy crisis are affecting social and environmental realities globally, now that earlier pledges to stop investing in fossil fuels have been abandoned. The war in Ukraine itself is cut with environmental dimensions, from the oil and gas funding Putin's war to the impacts of the surging global arms expenditure and the mineral wealth at stake in the fighting.

The Greens, whose politics is built around reconciling the social and ecological, have always argued that we live in a world of environmental divides. However, this understanding might not be a sufficient guide. As the political force most associated with the environmental cause, Greens will be expected to provide answers for the conflicts and inequalities of the transition and will be blamed if they don't.

Fights over the specifics of green policy are in some ways the growing pains of success. Political ecology as a current of thought, though not without its controversies, continues to develop around fundamental principles and a political horizon. However, the string of national elections won by the Right and the broader readiness to delay and jettison environmental policies prompt the question: how can political ecology move from wielding a certain cultural influence capable of initiating limited policy changes to leading a broad social coalition built around resolving the fault lines of the transition?

This edition answers this challenge by recognising the costs, trade-offs and dilemmas that the green transformation of society entails and mapping different political struggles around them. As Green experiences in government are showing, no solution is environmentally or socially perfect, choices have to be made between different metrics, and there are costs as well as opportunities. Green leadership can distinguish itself by not ignoring changes that need to happen and pushing choices further into the future, but by offering a practical and socially just way forward.

Participation or lack thereof emerges as a major theme in the environmental divides we discuss. New forms of democratic decision-making and redistributive mechanisms can ensure that the costs and benefits are fairly shared, and collective institutions such as trade unions are fundamental to building support. As a just transition is a prerequisite for any lasting change, the challenge is rebuilding the foundations of the welfare state for a new era of social and environmental risks.

Political ecology has always been distinguished by offering a different view of prosperity and development than other political currents. Economic growth may have paid for the social gains of the 19th and 20th centuries, but it no longer plays that role. Instead, the failure to reinvent economic institutions and adopt technologies and practices to shift away from growth is in many cases deepening environmental divides. Making the argument for a different, more moderate use of energy and resources can be an important part of the green response to these conflicts, but it must avoid the “small is beautiful”, “less is more” message that many critiques of growth indulge in. The green transformation can also be about opportunity, promise, and shared gains.

As political ecologists long predicted, the social shifts implied by environmental changes are deep, some would even say existential. More than ever they are about people, place, and, only then, planet.

A special thank you to Seden Anlar who, as communications and outreach manager, brought the Green European Journal to more readers than ever online and in print, helping make sure you can get this copy in your hands. We know she will create similar lasting impacts in her new role and we wish her the very best on the journey.

WHO PAYS FOR A WARMING WORLD?

AN INTERVIEW WITH
LUCAS CHANCEL

It is often said that environmental and social issues are two sides of the same coin. But if climate change is the greatest environmental conflict of our time, what does it mean to fight it as a social issue? Lucas Chancel is a world-renowned economist who works on inequality and climate change.

GREEN EUROPEAN JOURNAL: We often hear about climate inequality, but what does it mean exactly?

LUCAS CHANCEL: I am interested in how different kinds of inequality relate to environmental issues. Who pollutes? Who is affected by pollution? Who can afford to pay for decarbonisation? And how does the ecological transition run up against questions of inequality?

FR

This article is available
in French on the *Green
European Journal* website.

**INÉGALITÉS
CLIMATIQUES :
« LES PLUS TOUCHÉS
SONT CEUX
QUI POLLUENT
LE MOINS ET
POSSÈDENT
LE MOINS DE
CAPACITÉ D'AGIR »**

Le changement climatique vient ainsi heurter de plein fouet des sociétés d'ores et déjà traversées par de très fortes inégalités.

Climate inequality has at least three aspects. First, unequal exposure to the impacts of climate change. As individuals, we are not all affected in the same way. Nor are countries affected in the same ways; some places face higher levels of warming than others. And for countries that are already experiencing high temperatures, an extra degree is not the same as for places with more moderate climates. Within countries, living standards, income, and wealth significantly affect how vulnerable people are to climate shocks.

Second, inequality of responsibility. There are very clear differences both between rich and poor countries and within each country. In rich countries, there are big polluters and then much smaller polluters. Poor countries pollute less on average, but the elites of the emerging world, who like to hide behind the multitude, are often found among the major polluters.

Finally, inequalities around the capacity to act. We are not all equally able to act on the transition: to change our car, renovate our home, or protect our house from drought or flooding.

At the global level, the *Climate Inequality Report 2023* finds that the half of the world with the lowest emissions – more or less the least well-off – is responsible for only 12 per cent of total emissions. Yet this half will bear 75 per cent of the damages caused by climate change as measured by relative income loss. To pay for the transition, you need assets, and so there is a glaring asymmetry in the capacity to act. That the world is very unequal is a surprise to no one, but the level of inequality is extremely striking. The poorest 50 per cent of the world own less than 3 per cent of all wealth globally.

These three dimensions of global climate inequality – exposure to climate shocks, emissions, and capacity to act – illustrate the immense tensions of today's world. Those who are most affected pollute the least and at the same time have the least capacity to act on the problem.

How will the impacts of climate change deepen existing inequalities?

Climate impacts have already aggravated inequalities between countries. We are already 1.3 degrees above pre-industrial levels, and

tropical and subtropical countries have been hit hardest. Even at this stage, poorer countries would have more economic resources were it not for the damage caused by rising temperatures.

Within societies, climate change represents a series of shocks: heatwaves, floods, companies that are forced to relocate, and so on. These shocks have the greatest impact on the poorest, who have no financial cushion to help them bounce back. In many poor countries, the poorest 40 per cent of the population is hit 70 per cent harder than the population average. The same is true in rich countries – take Hurricane Katrina in the US. Environmental disasters affect different parts of the population in different ways.

On the one hand, there is the unequal nature of exposure to risks. Some neighbourhoods are closer to flood zones and others lie on higher ground. Most of the time, the neighbourhoods that are less prone to flooding are the oldest and most affluent. Of course, anyone can be affected by climate shocks, but they tend to affect the poor most. Looking beyond the climate issue, it is the low-income urban areas that you'll find close to industrial zones and chemical risk zones such as Seveso. [A 1976 industrial accident at a petrochemicals plant in this northern Italian town is widely considered one of the worst human-made environmental disasters of all time.]

HOW CAN WE
ADAPT SOLIDARITY
MECHANISMS
BUILT FOR A PAST
ERA TO A WORLD
OF LOW GROWTH
OR EVEN
DECLINE?

On the other hand, there are also unequal vulnerabilities to risks: not only are you more exposed, but your home is built with lower-grade materials, and you have nothing to fall back on. One of the great fundamental inequalities of our contemporary societies, whether in France, Uganda, or the United States, is that about half of the population has no assets, so no financial cushion. Climate change spells the multiplication of these shocks and therefore will deepen these inequalities in our already unequal societies.

But not everything is written in the stars. A strong welfare system and forms of public insurance that provide universal coverage can break these vectors of inequality. Social protection is therefore one of the key challenges of our time. How do we increase the level of social protection in rich countries, and how do we create new welfare systems in less rich countries? The welfare state needs to take account of new environmental risks that were not on the agenda of its founders at the end of the Second World War.

Except that limits to growth, ageing populations, and the changing global economy all make welfare states harder to fund. Can we honestly afford to extend social protection to mitigate environmental risks as well as poverty?

Let's remind ourselves of something essential: from an economic point of view, our countries have never been as rich as they are today. France has never been this rich. The United States has never been this rich. The real problem is distribution, between private wealth and that which is owned collectively by the state, local authorities, and non-profit organisations. The question is not the total level of wealth, but who owns it. If anyone argues that we can no longer afford anything, remind them that we have phenomenal room for manoeuvre. We can look for resources and find new revenues, especially from wealth. Capital has been undertaxed for decades and has grown continuously.

The limits to growth and demographic ageing do pose real challenges, however. The social protection systems implemented at the end of the Second World War were created in a world of robust growth: catch-up growth, reconstruction growth, and “*Les Trente Glorieuses*” [a 30-year economic growth period in France, which began in 1945], as well as the baby boom, which has today become the grandparent boom. How can we adapt solidarity mechanisms built for a past era to a world of low growth or even decline? We need to rework financing mechanisms to break the link to GDP growth and tax the stock of wealth (assets) rather than the flows (GDP). Disconnecting how we pay for the welfare state from GDP means seeking more resources from the wealthiest and from the transmission of wealth through inheritance.

We also need to look at the under-recognised costs of environmental degradation. For instance, a large proportion of today’s chronic diseases are related to environmental factors. Improving the state of our environment must therefore be part of our thinking on a systemic framework for social protection. Prevention should be a much more integral part of our health policies, thus reducing the pressure on funding.

The real cost of environmental damage is grossly underestimated. Taking it more into account would reduce the cost of environmental

action. Fossil fuels receive hundreds of billions of euros in subsidies every year. Meanwhile, the cost to health systems is enormous in terms of respiratory and cardiovascular diseases. If we cut fossil fuel subsidies, we would gain room to manoeuvre to the tune of several hundred billion euros per year.

To what extent does inequality explain the new environmental conflicts emerging in Europe? Take the water conflicts in France and Spain or the farmers’ protest in the Netherlands.

Unequal access to decision-making is at the core of these environmental conflicts, which reflect the interests of powerful actors with elite-level contact lists. As described by [Catalan economist] Joan Martinez Alier, who has mapped cases of environmental injustice globally, these environmental conflicts form a kind of “International of Struggles”: we find similar tensions across Europe, but also in the Amazon and in Africa. It is the dialectic of public authorities justifying certain decisions using an economic metric in the face of activists putting forward other forms of legitimacy, from safeguarding biodiversity to respect for a broader democratic process. The question of how to go about the ecological transition calls for more democracy in the face of emergency, not less. Decisions taken by small committees that reproduce the defence of established interests only waste time.

Carbon pricing is key to the European Green Deal, and it will be extended to housing and transport in the coming years. It seems to be effective as an instrument but also socially regressive. Doesn't the risk of a backlash demand another approach to the climate problem?

Experts have been warning for 20 years that if there is no social reform tied to carbon pricing, then we have all the ingredients for an explosion. In fragmented, tense societies where people already struggle to get around because of a lack of access to public transport and where an expensive electric car is simply unaffordable, extending carbon pricing to individual transport could be socially devastating. This was the exact spark that set off the *Gilets jaunes* protests in France in 2018. The main problem with carbon pricing is that it is socially blind. The Green New Deal was supposed to have been designed for low-income households, but the redistribution and support measures built into the European Green Deal are clearly not enough to prevent *Gilets jaunes*-type movements.

Carbon pricing should be a means to an end, namely reducing carbon emissions. An intermediate end is making environmentally friendly goods and services cheaper and making those that pollute more expensive. If there are no affordable alternatives to polluting goods and services, there will be no

reduction in carbon emissions, and people's purchasing power will suffer. The other, often-overlooked route to reducing the price gap between what pollutes and what does not is subsidising greener options. Doing both at the same time is even better. The US version of the Green Deal, the Inflation Reduction Act, bets on the subsidy option. In the American debate, the carbon tax is a bogeyman, and so they are moving forward through massive public subsidies. A whole portion of the US car industry will benefit from subsidies for electric cars and low-carbon energy production. In Europe, we need the carrot and the stick. Just relying on the stick would be socially damaging without greater support for poorer households.

What about the carbon consumption of the richest in society? How far will banning private jets actually get us?

Every extra tonne of carbon in the atmosphere counts, so it's not just a gimmick. A private jet produces more tonnes of CO₂ in an hour than most people's commutes do in a year. But the example is even more important. We are entering a phase where everyone will have to make a considerable effort to transform their lifestyles. How can we expect the middle and working classes to do their part if the people at the top of the social ladder continue to emit the equivalent of a year's worth of carbon in a few minutes?

THE ECOLOGICAL
TRANSITION CALLS
FOR MORE
DEMOCRACY
IN THE FACE
OF EMERGENCY,
NOT LESS

Historically, when politicians turned to their populations to ask for considerable sacrifices, the wealthy were made to play their part too. In an April 1942 speech [setting out a seven-point national economic policy designed to stabilise the US economy for war], Franklin D. Roosevelt asked his fellow Americans to make huge sacrifices. He also asked Congress to ensure that the income of the wealthiest remained below a certain limit. It is a question of social cohesion and a new social contract for the transition. In France, airlines can no longer sell tickets for routes that can be travelled by train in under two and a half hours. But this does not apply to private jets. A hole in the scheme is a hole in the social contract.

Should the EU step in to regulate this kind of issue?

In a world where the issues are global, the largest scale is always the most relevant. But that doesn't mean we shouldn't start at the national level. And that is often the problem. The supranational level is too often used as an excuse for inaction. EU member states need to coordinate, but they must start to act. The European agreement on a windfall tax on energy companies was only made possible because some countries decided to go it alone. The European political consensus was built on unilateral measures.

Cities and regions often deal with climate impacts. National governments are responsible for taxation and social security. Europe's Green Deal frames the transition, and all of these sit under global climate agreements and, ultimately, our planetary system. What is the most relevant level for fighting climate inequality?

What's fascinating but also dizzying about this transition is that all levels are interconnected. You have to start at the local level and work your way up to the national, European, and international levels. Slowness and frustration at one level cannot be used to justify inaction at another. On climate inequalities, there is so much to do locally on damage

and risk exposure – from urban planning and reorganising areas through public policies that benefit the poorest instead of targeting them. The greening of cities and the transformation of food systems will benefit those on the frontline of heatwaves, food inflation, and drought.

The national level is relevant for making laws and providing financial resources, and the European level can help pool risks. Sharing energy means thinking on the largest scale. A wind- and solar-powered electricity grid needs to be interconnected with other territories, for instance on days when there is not enough wind or sun. But the same logic can also apply to the ability to bounce back from shocks like hurricanes. The bigger the pool of risk sharers, the better insurance works, just like social security does nationally.

A European welfare state will allow us to share risks even more effectively. But this means creating European fiscal resources. While this is slowly emerging, we are still far from the famous “Hamiltonian moment” of American federalism. The European budget is around 2 per cent of GDP, while most member states have national budgets of around 50 per cent of GDP. We need to federalise both resources and spending to be ready to fight against the environmental inequalities of the future.



LUCAS CHANCEL

is an economist specialising in inequality and environmental policy. He is the co-director of the World Inequality Lab at the Paris School of Economics and co-author of the *Climate Inequality Report*.



YES TO RENEWABLES

FOR THE CLIMATE

AN INTERVIEW WITH
HÉCTOR TEJERO
 BY **ROSA MARTÍNEZ**
RODRÍGUEZ

Record temperatures in summer, less rainfall, severe storms – Spain’s climate reality is harsh and intensifying. But the Spanish government isn’t sitting idly by; it plans to source 74 per cent of its electricity from renewables by 2030. This ambitious goal is now the subject of fierce debate and opposition. Rosa Martínez Rodríguez asked climate activist and Madrid regional assembly member Héctor Tejero why renewables have become controversial in Spain, and how its government might sway the public.

ROSA MARTÍNEZ RODRÍGUEZ: The slogan adopted by campaigners against large-scale renewable energy projects in Spain is “Yes to renewables, but not like this” (*Renovables sí, pero no así*). What does this mean, exactly?

ES

This article is available
 in Spanish on the *Green*
European Journal website.

**SÍ A LAS
 RENOVABLES,
 EN NOMBRE
 DEL CLIMA**

Rosa Martínez Rodríguez y Héctor Tejero hablan de la reacción contra las renovables en España y de cómo los Verdes pueden crear consenso en torno a la transición energética.

HÉCTOR TEJERO: First of all, we need to acknowledge the part that says “Yes to renewables”. On a rhetorical level, this is a step forward from a decade ago, when it might have just been “No to renewables”, full stop. This slogan is employed by a broad coalition united in its opposition to a certain way of doing renewables. It also captures long-standing grievances about ongoing changes to traditional ways of life in some places.

On the surface, their proposals are reasonable. However, they fail to fully appreciate the complexity of the situation and, if implemented, would impede the development of renewable energy. In my opinion, the problem is that climate change is disappearing from the debate. In the context of the climate emergency, even the most badly placed renewables are better for the climate than fossil energy sources.

Can the concerns raised by these movements be easily resolved?

In Spain, the green transition has ignited debates about biodiversity, land use, and agriculture.

While renewable infrastructure undoubtedly has an environmental impact, it's important to realise that the leading cause of biodiversity loss is climate change. Certain species may be affected by the construction of renewable energy infrastructure, but steps are being taken to tackle this. There are plenty of examples – in the field of photovoltaic energy in particular – of renewable energy projects that actually have a beneficial effect on biodiversity.

The second debate is land use; that of rooftops versus the ground. Selected studies are used to support the argument that our (photovoltaic) power needs can be met via rooftop-mounted solar panels alone. However, most experts will tell you that this isn't the case. The studies in question focus solely on technical potential and fail to factor in the time needed for installation. Given the challenges of climate change, we can't wait for rooftop solar capacity to be exhausted before we start developing ground-mounted photovoltaic systems. It's not just a question of generating the maximum amount of energy; we also need to do so as quickly as possible.

The debate on agriculture tends to focus on the threat to a perceived way of life. Urbanites often romanticise agriculture as something natural – in opposition to solar panels. The reality is that intensive, monocultural, heavily irrigated agriculture is extremely destructive to biodiversity and to the wider environment.

I agree that green energy goals must be reconciled with protecting biodiversity, and that the impact on agricultural land should be minimised, but the latter isn't necessarily that much of a challenge. In order to reach the extended targets of the Spanish National Integrated Energy and Climate Plan by 2030, we only need 0.3 per cent of usable agricultural land. That's assuming that everything is set up in the countryside. In Spain, 10 per cent of land is abandoned, so there is no widespread problem. Where the development of renewables is handled badly, however, it can still lead to conflict.

What role does territorial inequality play in these grievances?

Electricity production is very poorly distributed in Spain. There are regions that produce far more electricity than they consume, such as Galicia, Aragón, Navarra, and Extremadura. Others consume much more than they produce, the extreme case being Madrid, though this is also true for the Basque Country and the Valencian Community. This discrepancy needs to be rectified, taking into account the fact that

our future energy generation will depend on the availability of wind and sun.

We must also remember that electricity only accounts for 20 per cent of the energy we currently consume. Once everything is electrified, this balance will shift significantly. Even with greatly reduced energy consumption, none of the regions are presently producing enough electricity to cover their needs under this scenario.

There's an aspect to this debate in Spain that doesn't exist elsewhere in Europe: the concept of *España Vacuada* ("Empty Spain", referring to Spain's rural depopulation), which has helped to politically mobilise this sense of territorial grievance.

Over the last 20 years, this concept has taken shape as a social movement involving political parties. However, it is first and foremost an emotion-driven movement. It's a group of people who feel they have been short-changed, neglected by the Spanish state. It focuses heavily on very small villages and less on cities in medium-sized provinces. The movement has created a pushback against the development of renewables, which basically says, "Not only do we have fewer services, depopulation and a sense that nobody cares about us, now we also have to shoulder the burden of something that only benefits others."

So far, the fairness of the energy transition has been seen exclusively in terms of employment. We now need to think about its equitability in territorial terms. Right now, the distribution of renewable projects on the basis of political influence doesn't seem fair. For instance, [the eastern Spanish city of] Teruel could use its relative overrepresentation in parliament to minimise impacts on its territory, or tourist-rich coastal areas could displace projects into other areas. Renewables planning can't simply be a matter of "Whoever shouts the loudest gets off the hook".

Is there a sense that Europe is imposing the energy transition on the Spanish people?

In Spain, the common sentiment is "Europe is making us do it", with a dash of "They're making us do it, but it's good". Surveys show that people support the ecological transition in principle but disagree with the details.

Three elements have to be underlined. The first is that Spain, as a Western country, has a moral responsibility to make a more sizeable contribution than other non-Western countries. The second is that Spain is among the countries most vulnerable to climate change in Europe, as we see every summer. And the third is that the energy transition presents an opportunity to change the country's economic model for the better. There's no guarantee, however, that this will be done right, or that any new economic

THE GREEN
TRANSITION
HAS IGNITED
DEBATES ABOUT
BIODIVERSITY,
LAND USE, AND
AGRICULTURE

opportunities will be fairly distributed. This is central to the conflict that we now have on our hands.

However much it may frustrate ecologists, at the end of the day we need to sit down, ask questions, understand people's point of view, and offer something in return.

What is the position of the Spanish environmental movement?

The environmental movement is facing a dilemma. On one side, there's what we could call the old guard, steeped in the tradition of the 1970s and 1980s, for whom climate change is not the central issue. This more conservation-oriented environmentalism is now encountering new movements that are focused firmly on the climate.

Environmentalists in Spain have performed herculean feats to prevent genuine tragedies from occurring on the ground. Now, however, it's not as simple as just opposing certain projects because of their specific environmental impact; there will be bigger problems further down the line if they are not implemented. The situation is extremely complex, and there's a lot of tension within environmental organisations. Everyone understands that renewable energy infrastructure is necessary, but at the same time it has an impact on rural life, or on biodiversity, and is opposed by local residents.

Then you have what we call "climate pessimism". This perspective – which has taken root across the world, and in the United States in particular – holds a lot of sway within certain organisations in Spain. These organisations have adopted a vision of environmental catastrophe that doesn't, in my view, match reality. For these people, the effects of climate change are going to be so swift, so violent, and on such a large scale that nothing we do really matters.

Politically, Spain is very fertile ground for this outlook due to its decentralisation, the association between the rural and the local, and

its libertarian tradition. Climate pessimism may be a minority viewpoint, but it is strongly represented in the media and within environmental organisations. This is feeding anti-renewables rhetoric here. It's not hard to find speeches from platforms or organisations with links to territorial politics claiming that renewables are worthless, that they're just another form of pollution, that they aren't really renewable, or that they rely heavily on petrochemicals.

In contrast, we are also seeing the emergence of a new current of environmentalism with a much stronger focus on climate change. These new environmentalists are far more open to engagement with state institutions and refuse to accept climate pessimism, and that's where the conflict lies. It was very easy to oppose a climate-change denier, but now it's the ecologists versus the heel-draggers, or the electricity oligopoly, or even other ecologists with different views on what needs to be done and how quickly, and the costs we should have to bear.

These debates are tough, even aggressive. Is there a risk of a rift developing within the environmental movement?

It's the same for any movement that starts on a small scale; when it grows and becomes more diverse, it generates conflicts that cannot always be solved. Everyone thinks they're

doing what's best for the planet, for their country, for society, or for their children. It doesn't help that the platform for public debate is often Twitter, which is a very confrontational space.

This potential rift worries me, as does the fact that it's very easy for newcomers to climate activism to buy into the rhetoric of impending catastrophe that forms such a big part of the zeitgeist. The first risk of this outlook is getting caught in a political dead end. Social movements have an extremely important role in politics, but they ultimately need institutions to enact change. The second is environmental anxiety. The climate pessimist worldview creates a sense of powerlessness that I think is troublesome for mental health and activism more generally, especially among young people.

The electricity oligopoly is central to the public debate in Spain, and it has a bad reputation. How can we counteract this, considering that we can't rely on small-scale investment alone?

Any project that seeks an ecologically and socially just transition has to be committed to the democratisation of energy markets. We might sometimes delude ourselves into thinking that everyone will become a producer [an individual who both consumes and produces electricity, selling excess back to the utility], but there are people, maybe even

THE IMPACT OF TRANSITION
PROJECTS AND THE
SUPPRESSION OF CIVIC
PARTICIPATION PROCESSES
ARE THE MAIN SOURCES
OF PUBLIC DISTRUST

a majority, who aren't interested in joining an energy community. That said, we need to act fast. We don't have time to dismantle the oligopoly before we move forward with the transition, but every effort must be made to rein it in. This is the state's responsibility. We also have to keep in mind that not all companies are the same when it comes to handling the rollout of renewables on the ground. You hear little talk of the photovoltaic companies, which, unlike those rooted in the construction industry, are doing things well – very well, in fact.

Even more problematic than the electricity oligopoly is the fossil fuel one. In Spain, the reputation of the latter isn't anywhere near as bad, despite its open, direct campaigning against the ecological transition. This isn't just a fight between a big oligopoly and the little guy; it's a fight between two oligopolies. If you decide you don't want to help the electricity oligopoly, then someone else is going to make money by selling gas for combined-cycle power plants and diesel for cars.

How is the government tackling the difficulties with the energy transition?

The government in general isn't doing badly. Teresa Ribera's ministry [for Ecological Transition and the Demographic Challenge] is one of the most influential in the European

Union, and is playing a pioneering role. Despite a few communication

missteps, the ministry is doing great work to resolve self-supply delays and ensure that energy communities are consulted on decisions such as the pathway that has been opened up to bypass environmental impact reports. I believe the impact of transition projects and the suppression of civic participation processes are the main sources of public distrust. We need to encourage people to take part in the ecological transition.

So participation is important in your view?

It is fundamental. A lot of the resistance to renewable energy projects come from people feeling like they don't have a say. Many conflicts are the result of a lack of information. We can't expect the mayor of a village to find out from the BOE [*Boletín Oficial de Estado*, the official gazette of the Spanish state] that five renewable projects are to be built somewhere nearby.

We need to make transparency, information, and citizen participation processes mandatory and improve their enforcement – and it would also be relatively easy. This doesn't mean that we should just accept what people in the villages say, because they may not be right, but a given impact can be minimised as much as possible.

Another idea gaining momentum is that of profit sharing. How can we compensate affected communities?

Part of the conflict stems from the perception that renewables are all cost and zero benefit. People are willing to accept certain impacts on their territory if they believe there will be benefits in exchange. Mediation mechanisms, such as specialised offices, and compensation or improvements to services could help persuade the public. Businesses can already offer free electricity, but this isn't widely available. Another option could be to build a system that lowers energy bills according to the number of inhabitants or renewable installations in a given area. This would be complicated because it involves altering market prices, but it could result not just in savings for households, but also in more competitive, attractive locations for businesses and therefore job creation.

Another option is establishing an investment fund modelled after the Norwegian example – financed with a small increase in prices – that returns the profits from energy generation to impacted areas. Such a price increase would have little impact and could make funds available for specific investments – in health centres or taxi services, for instance – in areas with large projects. Explaining where this money comes from would help people recognise the wider benefits of greener energy besides cheaper electricity bills.

What's at stake if we don't manage to roll out renewable energy projects in a fair way?

The ecological transition involves dismantling one world while creating another. In doing this, you will, at least to begin with, make more enemies than friends because you're altering known ways of life in exchange for something very abstract. Meanwhile, we're also carrying around the weight of economic liberalism and the perpetual feeling that everything will just keep getting worse. If the first renewable projects are implemented unjustly, people will assume that future ones will mean more of the same.

At this stage, our accomplishments need to serve as examples. We're in no position for delays, nor to wait until everything is planned out before we take action. This is the great tragedy. It's not about simply putting up infrastructure, but about stopping the threat of climate crisis. On the whole, the fairer the transition, the quicker it will be.

What should we do differently in the future?

That's a good question. We have to make it clear that the ecological transition will improve lives. Our framing of the situation has to move from one of impending disaster to one of possibility: a shorter working week, improved care systems, cities with cleaner air, and different ways of working.

The ecological struggle is a political struggle filled with fair and unfair conflicts, and these won't always be predictable. First, we have to convince people of the necessity and inevitability of the green transition. We might take it for granted that people know it's coming, but that's not the case everywhere. Second, we must develop mechanisms for compensation and dialogue that will enable adaptation to happen. Transitions are complex, and people often struggle at the beginning, but once they start seeing the benefits they won't want to go back – like with pedestrianised streets, for example.

The ecological transition is more than a process of technological substitution; it's a process of social change. It needs to enlist social scientists who can offer a much clearer approach to public policies and conflicts in relation to the here and now. Political scientists, sociologists, and economists need to start thinking of climate change as more than a just backdrop; they need to recognise it as the great transformation of our times. We need to anticipate conflicts and create a political toolkit to resolve them. People understand that there is going to be an ecological transition, but they are unsure how it will benefit them. This is where the stakes are high.



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NITROGEN WARS

HOW THE NETHERLANDS HIT THE LIMITS TO GROWTH

AN INTERVIEW WITH
JEROEN CANDEL

The Netherlands' ongoing nitrogen crisis is the result of the government's failure to adopt a consistent, forward-looking food policy. The rise of the Farmer-Citizen Movement, Jeroen Candel argues, heralds new political conflicts around the ecological transition.

GREEN EUROPEAN JOURNAL: A political conflict over nitrogen emissions and the future of farming in the Netherlands played a decisive role in the Dutch provincial elections in March 2023. Could you give us some background here?

JEROEN CANDEL: The nitrogen crisis is linked to a longer process of agricultural intensification in the Netherlands. Over the years, the country has grown into a major food producer in the EU and is the second-largest exporter of agricultural products in the world. Consequently, the Netherlands has seen rising nitrogen emissions from agriculture, which has contributed to the depletion of its nature reserves. The crisis spiralled when a 2019 Council of State decision struck down the Dutch government's nitrogen action programme (PAS).¹ Under the PAS system, construction projects and other economic activities were allowed to pollute nature reserves with nitrogen on the condition that this was offset by future reductions in deposition levels and by restoration measures. The ruling required nitrogen levels to be reduced before additional polluting activities could be permitted. This effectively froze all building permit applications, leading to economic paralysis: farmers are unable to expand their farms, big tech companies to build data centres, the government to construct new highways, and people to build new homes.

¹ The goal of the PAS (Programma Aanpak Stikstof) was to reduce nitrogen levels in Natura 2000 areas – via both generic source measures to reduce emissions and ecological restoration measures – while promoting economic development around these areas.

In the meantime, the Dutch courts have repeatedly ruled against proposals that merely adjust the permit system. Drastic measures are needed from the government to ensure the Netherlands complies with EU law, but the political landscape has made this very difficult. While most parties agree that nitrogen pollution must be reduced, they disagree on how this should be done, and at what pace. At the same time, there is insufficient recognition from political parties that the nitrogen crisis is also connected to the implementation of climate goals and the country's broader food system crisis.

These drastic steps you mention – would they involve shutting down or buying out certain farms?

Yes, especially the so-called peak emitters that put a lot of pressure on nature – either because of their size or because they're geographically very close to nature reserves. Different options are on the table, such as closing farms or moving them to parts of the country where there are fewer nitrogen-sensitive areas, and trying to reduce pressures through innovation. It's now up to the provinces to develop strategies for achieving the targets that the government has set.

The Farmer-Citizen Movement (BoerBurger-Beweging) was the big winner of the recent provincial elections. This new force will have quite a lot of power at the provincial level. Who are they and who do they represent?

The BoerBurgerBeweging, or BBB, is rooted in the agricultural sector. Caroline van der Plas – formerly a journalist covering the pig sector – founded the BBB in 2019 with help from various agri-food industry stakeholders out of frustration about the nitrogen crisis and the proposed (non-existent) government response.

BBB has close ties with the livestock feed and other agricultural input industries and uses an agricultural marketing company to advertise its policies and create its campaigns.

Over time, the party has successfully broadened its agenda to speak to the growing urban-rural cleavages previously ignored by the other political parties. Even though farmers make up a very small percentage of the electorate, BBB won around 20 per cent of the vote. The party gained significant support in the countryside, where frustration is strongest over the closure of schools, public transport options, and hospital infrastructure due to austerity measures. But it also attracted urban voters who previously supported the more extreme, right-wing populist parties – which lost out considerably. The BBB has connected various groups who currently feel underrepresented in

FARMERS ARE
UNDERSTANDABLY
ANGERED BY THE
INCONSISTENT
DIRECTIVES AND
POOR PLANNING

the Dutch political system or are disillusioned by the parties that have traditionally represented them, such as the Christian Democrats.

Arguably, the world is hitting the limits to growth. Has the Netherlands – a small, highly developed, and densely populated country – hit them first?

I would agree with that statement. The Netherlands is an extreme case; it has the highest livestock density in the EU. Even if it reduced its livestock numbers by 30 per cent, as the current government intends to do, it would still end up with the same livestock density as the Belgian region of Flanders, which also has a nitrogen crisis on its hands.

The Dutch government still believes it can decouple economic growth or further economic development from environmental impacts and resource use. But environmental indicators – biodiversity decline, climate change, greenhouse gas emissions – demonstrate that it has not been very successful in doing so. There's a very strong tendency by techno-optimists to invent end-of-pipe solutions, such as more innovative stable management, rather than looking at some of the root causes of this crisis of ecological poverty. The current state of the agricultural sector clearly shows that the functioning of the economic system is the source of multiple and interconnected crises.

Why didn't the Dutch government and political parties make preparations for an agricultural transition they knew needed to happen?

We've known for decades that nitrogen is a problem for both biodiversity and the climate. It's the same with greenhouse gas emissions from the agricultural sector and peatland degradation. Yet the government enabled farmers to expand their businesses and increase livestock numbers. Now it's telling them to do the opposite. Farmers are understandably angered by the inconsistent directives and poor planning.

The environmental permitting system was deliberately designed to prevent the slowing down of economic development and also to delay effective environmental action. But with this approach, the government has unwittingly created public resistance to the latter. Countries such as Denmark or France may have their own issues, but their governments have been promoting organic agriculture or agroecology and sustainable consumption for years. The Dutch government decided to do otherwise.

Is food particularly tricky because its symbolism is tied up with identity? You have the caricature of granola-eating lefties telling meat-eating "real" people to change their diets.

Identity certainly plays a role. In a neoliberal country like the Netherlands, market regulation is taboo and can feel like interference in individual choices. Food plays an important role in people's lives and livelihoods, which makes it a challenging domain for the government. This explains their reluctance to go beyond simply providing consumer information.

Compared to other countries in Europe, Dutch food policy tends to not look too far into the future; it is reactive. It is also more consensus-oriented and neoliberal. The government bargains with industry and relies on self-regulation. By contrast, French food and agriculture policy

is more anticipatory and favours more coercive measures – although it must be said that this approach doesn't always work.

More effective measures would involve taxing or simply banning certain products or regulating food environments. In the UK, for instance, the Tories imposed sugar taxes on sodas and regulated the amount of salt in products, justifying it in public health terms and particularly as a response to rising obesity. I mentioned the example of Denmark earlier, with its organic agricultural policy. And New Zealand is now introducing a system of emissions taxes for its huge dairy sector.

How do you assess the EU plans to support the green transition in agriculture?

Farm to Fork is one of the more salient strategies of the European Green Deal. It's a first step towards a more comprehensive reintegrated food policy at the EU level. At the moment, however, the Farm to Fork strategy, which aims for coherence across all sectors and policies, exists in parallel with the Common Agricultural Policy (CAP). The Commission has been unsuccessful in aligning the two policies, so major inconsistencies remain. This is mainly because the current CAP was put forward in 2018, before the new Commission came into office in 2019 and proposed its Green Deal the following year.

What is also difficult with Farm to Fork is that, although agricultural policy is one of the most Europeanised policy domains, it largely relies on the national level. Apart from labelling, anything related to consumption – such as fiscal interventions, education, or spatial planning to change food environments – is still within the remit of member states. While the Commission has put the food system transition relatively high on its agenda, most of the member states have not.

The incoherence between the CAP and Farm to Fork and the recognition that these challenges are all related has only resonated in a relatively limited number of member states. The Netherlands has so far failed to develop a more integrated food policy. In that sense, the new sustainable food system initiative that the Commission is likely to propose in 2023 will be an exciting development; it will probably include some reporting requirements and may ask member states to develop national food strategies. Consumption has been one of the main weaknesses of the Farm to Fork strategy. If you look at the targets, they are quite specific on the farming side regarding pesticide and fertiliser reduction, for example. But on the consumption side, they are very generic.

What are the key lessons to learn from the Dutch case?

We need to be thinking about how we will evolve. The fact that food policy is even on the agenda is a positive step, but the approach remains very technocratic. At the same time, society is interested in adopting sustainable practices. The question is, how are we going to organise new forms of participation by food system actors to increase not only the quality and effectiveness of our food policies but also their legitimacy? This is crucial in fostering behavioural change at the scale that is needed.

The key lessons for transition management are to anticipate; to adopt a systemic agenda; to recognise that challenges are interconnected, and to address their root causes, rather than come up with short-term solutions. These are rather abstract and generic recommendations, but I think the Dutch government has clearly failed on all these aspects.

Do you think forces similar to the Farmer-Citizen Movement will become a part of European politics more generally?

Yes. Political scientists have long predicted that the ecological transition will become one of the new political cleavages. An increasing number of political groups and scientists argue that our current capitalist system is running its course and call for radical economic system

change. What will come in its place remains to be seen. There are certainly vested interests in keeping things as they are and using politics to accomplish this.

Green parties' food policies are built around approaches such as agroecology. But, in the Netherlands at least, it seems that farmers aren't convinced, and green politics are far less popular in the countryside than in urban areas. How can a green-minded party win them over?

Green parties tend not to do too well with farmers. If you argue in favour of systemic overhaul, it's not going to go down well with the people who would have to radically transform businesses they feel genuinely proud of and land they are deeply attached to.

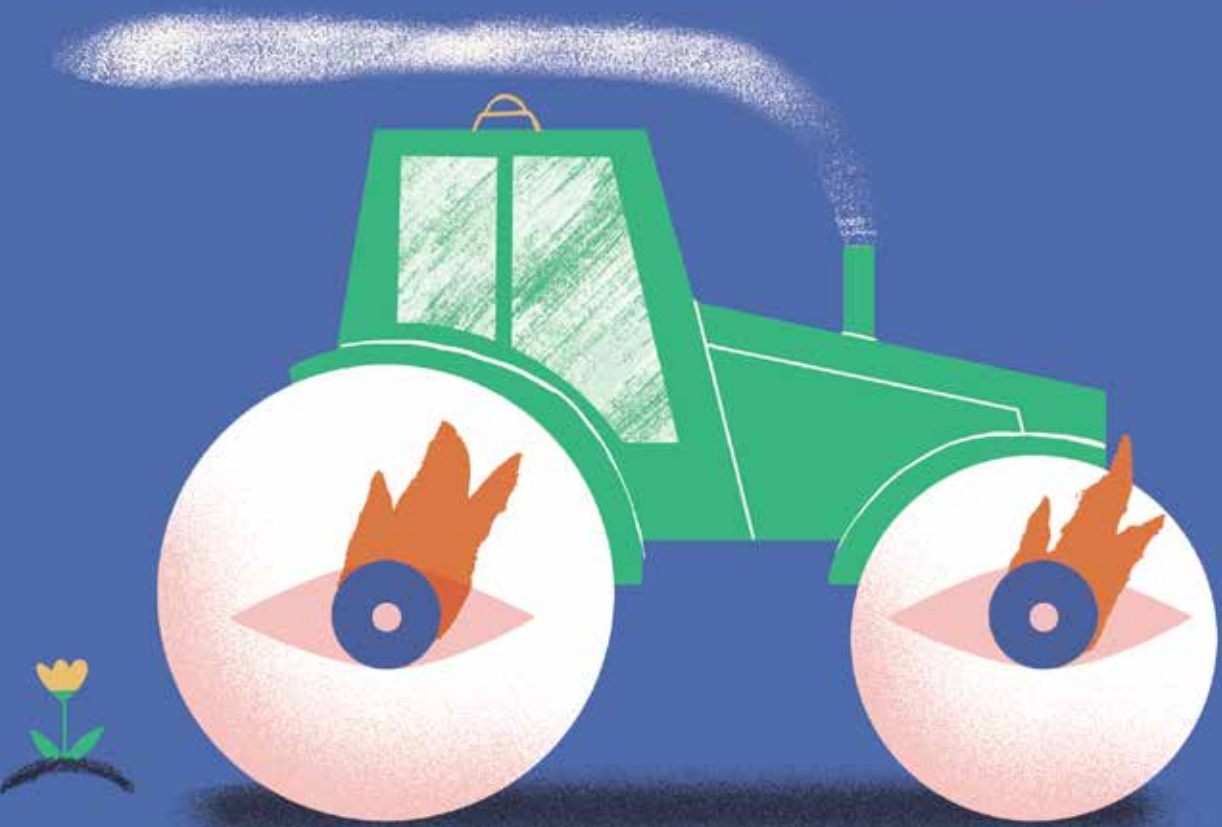
What the Greens in the Netherlands are doing – also through cooperation with the Labour Party (PvdA) – will be essential to a successful ecological transition that avoids a populist backlash and deepening polarisation. My conviction is that the transition can only work if it's combined with a radical redistribution of financial resources. Many political scientists suggest that people only accept large-scale change if they feel that it's fair. We live in a time where a small percentage of society profits from economic growth while the welfare state and public infrastructure are deteriorating. This has eroded public support for the ecological transition.

A green future would also need to include expanded public services and more generous social safety nets. This could serve to convince a large part of the electorate, including rural residents and particularly farmers. It may well be challenging to persuade farmers who don't embrace progressive farming ideas to switch to sustainable farming. But for society at large, this has to be the strategy to follow.



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THE CITIES FEELING THE HEAT

ARTICLE BY

CELIA FERNÁNDEZ

Rising temperatures are making European cities increasingly unliveable in the summer months. Access to cool homes and climate-resilient facilities such as parks and pools should not be limited to those who can afford it.

Experiencing a historic heatwave – every year – has become the new normal in Europe. As is the case with diseases and natural disasters, though the heat will affect us all, the pain will not be shared equally. Zoom in to street level, and you will find that it is the delivery rider who has the most sweat on her brow. Underpaid for her shift, she worked long hours under the burning sun without sufficient protection. Now she arrives home to a cramped apartment in a treeless, concrete neighbourhood. There is no air conditioning, and she has no shady garden to cool off in.

As the continent warms, Europe's growing cities and their ageing populations will become increasingly vulnerable to extreme weather events. Temperatures are rising in the Mediterranean region much faster than the global average. Cities such as Madrid, Rome, and Athens are some of the most likely to be struck by heatwaves, according to a study co-led by the Italy-based Institute for Environmental Protection and Research (ISPRA). But while heatwaves will hit the south harder, vulnerability to heat exposure associated with ageing, disease, and urbanisation is highest in northern Europe, according to the European Environmental Agency.

North or south, no one will escape the high temperatures. Yet for a long time, the urgent need to adapt to climate change has been ignored by the EU and its member states. This is slowly shifting. Since the adoption of the European Climate Law in 2021, EU member states

have started developing climate adaptation strategies. The year 2023 will be important in this context, with the European Commission due to publish a progress report on adaptation measures. However, the picture is still far from ideal. Where adaptation policies are put in place, they generally fail to embrace a multilevel and intersectional approach, which should be non-negotiable. Most countries still rely on soft policies, and the social justice aspect is often overlooked.

People belonging to certain groups are more vulnerable to high temperatures than others: older people, children, people with pre-existing medical conditions, pregnant women, and socially isolated individuals. Perhaps surprisingly, low-income residents are particularly at risk. A study by Spain's National School of Public Health (ENS) on the impact of heatwaves on mortality in Madrid found that more people in lower-income neighbourhoods die from heat-related causes than in richer ones.¹ Income level was found to be a greater explanatory variable than population age. Cristina Linares Gil, who co-led the research, explained to the *Green European Journal* that “people on lower incomes generally live in city centres, with inadequate housing conditions, increased exposure to air pollutants, and lower access to air conditioning, and more of them live alone”.

In *Nomad Century*, journalist Gaia Vince [see interview on page 72] argues that demand for cooling will skyrocket this century, and that access to cooler temperatures will become a key social justice issue. During heatwaves, this can be a matter of life or death. More cities are boarding the adaptation train, but access to cooling tends to be unevenly distributed. And when poorly implemented, adaptation tools can even cause further harm to vulnerable groups.

¹ J.A. López-Bueno, J. Díaz, C. Sánchez-Guevara, G. Sánchez-Martínez, M. Franco, P. Gullón, M. Núñez Peiró, I. Valero, C. Linares (2020). “The impact of heat waves on daily mortality in districts in Madrid: The effect of sociodemographic factors”. *Environmental Research*, 190 (November 2020).

**MORE CITIES
ARE BOARDING
THE ADAPTATION
TRAIN, BUT
ACCESS TO
COOLING TRENDS
TO BE UNEVENLY
DISTRIBUTED**

ESCAPING THE HEAT AT HOME

Air conditioning is the elephant in the room when it comes to cooling. In southern cities during the summer months, society seems divided between those with air conditioning systems and those without. “Your friends when you just had your air conditioning installed,” reads a Spanish meme depicting a man looking on expectantly from behind a tree. In the summer of 2019, sales of air conditioners and fans in France grew by up to 300 per cent compared to the previous year as households sought refuge from the heat.

Global sales of air conditioning units are poised to increase dramatically, but it is the high-income households that will find it easiest to buy and install the equipment. Aside from the environmental impacts of energy-hungry cooling technologies, researchers at the University of California have found that this disparity in access will deepen existing inequalities in health, productivity, and learning outcomes in education.

Not everyone can afford an air conditioning unit, but even if they could, they would also need to be able to cover the running and maintenance costs. When electricity prices increase, costs already push households with the lowest incomes into energy poverty. While we are accustomed to thinking of energy crises as a winter problem, summer demand for cooling will increase – especially in France, Italy, and Spain – causing surges in electricity consumption that leave power systems vulnerable. Climate adaptation for the energy sector therefore also means maintaining the stability of electricity networks during heatwaves.

Air conditioning will become increasingly common. The European Environmental Agency warns, however, that social and individual dependence on air conditioning can lead to overuse. This can prevent people from naturally adapting to the heat and cause them to forget traditional energy-free practices, such as using natural ventilation at night and blinds during the hottest hours.

CLIMATE ACTION

FOCUSED

ON REDUCING

EMISSIONS

RATHER THAN

ON HELPING

CITIES PREPARE

FOR EXTREME

WEATHER

EVENTS

Natural ventilation is often praised as an alternative: effective, low cost, and environmentally friendly. In some neighbourhoods, however, it is not so straightforward. Keeping windows open may be difficult because of pollution, noise, or even safety issues at night – all of which are generally more prevalent in low-income neighbourhoods. The European Environmental Agency highlights that this could be counteracted with integrated urban planning aimed at lowering noise pollution by reducing the number of cars and adapting buildings to noise and heat by using, for example, ventilation openings with sound-attenuation features.

Some households have air conditioning or may already live in climate-proofed buildings, but many do not. The fact that lower-income neighbourhoods experience a greater burn during heatwaves is also a question of housing quality. Daniel Aldana Cohen, director of the Socio-Spatial Climate Collaborative at the University of California, Berkeley, calls for a Green New Deal for Housing: an egalitarian green investment to address the climate and the cost-of-living crises at the same time. This would include “targeted investments in racialized, working-class communities to decarbonize and increase resiliency”, which would go to “improving building design and increased greenery and cut energy demand further”.

Until recently, climate action in the EU – including for housing and energy – focused almost entirely on reducing greenhouse gas emissions rather than on helping cities prepare for frequent and intense extreme weather events. Energy efficiency efforts tend to focus on managing through the winter rather than the summer. The “green buildings” strand of the European Commission’s European Climate Pact aims to double building renovation rates by 2030 and ensure this leads to better energy- and resource efficiency. But the European Commission’s article on the initiative focuses on reducing emissions and preventing heat from escaping, mentioning cooling only in passing.

A Green New Deal for Housing would look at building planning, including measures such as painting roofs and other surfaces with white paint, as traditionally done in Greece, or a specialised reflective coating that operates according to the same principle. This simple step has been proven to have an effect on temperatures not only inside buildings but also in their surroundings.

URBAN PLANNING MADE SOCIAL

Stepping outside buildings to look at the broader urban environment, there is a wide consensus that nature-based solutions such as trees and artificial lakes are silver bullets for reducing the “urban heat island” effect, i.e. the higher temperatures urban areas experience compared to their surroundings. Vegetation also improves the air we breathe and offers other physical as well as psychological benefits. Recently, the World Health Organization introduced the “3-30-300” rule: everyone should be able to see at least three trees from their home, every neighbourhood should have a tree canopy cover of at least 30 per cent, and every citizen should have a green area within 300 metres of where they live.

In most cities, the achievement of this goal remains far off. A 2022 European Environmental Agency briefing on access to green and blue spaces finds divergent situations across Europe. Overall, cities in the north and west of Europe have more green space than those in southern and eastern Europe. Within cities, the degree of greening varies across neighbourhoods, with fewer and lower-quality green spaces typically found in poorer communities. In the socio-economically disadvantaged neighbourhoods of Helsinki, Berlin, or Lisbon, urban parks have less greenery and fewer facilities than those in wealthier city areas, reducing their appeal to residents.

Paradoxically, whereas the greening and blueing of cities seems to be pure common sense, such steps can trigger “climate gentrification” in

the context of unequal housing markets. A study published in 2022, led by the Institute of Environmental Science and Technology of Universitat Autònoma de Barcelona, looked at 28 European and North American cities over six years. It found that green cities risk becoming more unequal and unjust: “[While] creating green space or deploying climate-adaptive green infrastructure improves an area’s attractiveness, [it also results in] increased property values, housing prices, and physical displacement of working-class residents and racialized groups and cultures.”²

Copenhagen, Nantes, and Barcelona have all experienced the green gentrification dynamic in recent years. These cities have also seen social protection and housing affordability policies dismantled to various degrees over decades. Progressive mayors, however, are making nascent efforts to put the right to housing at the centre of their politics. Barcelona, for example, is introducing measures to keep housing prices down and curb tourist rentals.

Although not natural blue infrastructure, swimming pools can also act as weather shelters when even the shade becomes unbearable, especially for those for whom switching on the air conditioning is not an option – making access a social justice issue. On this basis, this year the regional Government of Catalonia has allowed community swimming pools to be filled despite drought conditions. The decision has been justified for public health reasons.

In July 2022, temperatures reached 40 degrees in Madrid for the first time since records began. The city recorded the highest number of public pool users in history in the same month. While in 2021 and 2022 pools were kept open at the highest rate since 2008, some remained closed. These were mainly in lower-income districts. There is one public swimming pool for every 59,000 people in Spain, but availability is

² Anguelovski, I., Connolly, J.J.T., Cole, H. et al. (2022). “Green gentrification in European and North American cities”. *Nature Communications*, 13, 3816.

HERE IS
ONE PUBLIC
SWIMMING
POOL FOR EVERY
59,000 PEOPLE
IN SPAIN

halved in the capital. However, when private pools are added into the equation, Madrid is the municipality with the highest number of pools in the country. Pozuelo de Alarcón, located within the region of Madrid, is one of the wealthiest municipalities in Spain and ranks tenth for the number of pools per capita nationally.

The question of who gets to cool off in the pool then leads to another question: at whose expense? In periods of drought, swimming pools compete with industry, agriculture, and households for limited water resources. Jorge Dioni López's award-winning essay *La España de las piscinas* (Swimming Pool Spain) highlights this reality. The title alludes to the green and blue islands found in the affluent suburbs of Spanish cities, where a large part of the aspirational middle class resides. "A world of villas, housing developments, mortgages, alarms, charter schools, multiple cars per family unit, shopping malls, online consumption, and private medical insurance. A world that favours individualism and social disconnection," Dioni writes.

The tendency towards urban sprawl that has developed over recent decades is not only detrimental to social cohesion but also to the environment. "Around the world, the most successful migrant cities tend to be dense but not too high," featuring buildings with direct street access and the presence of schools, healthcare, and social services in the local area, as well as green spaces clustered in communities, points out Gaia Vince.

Although there is a link between higher temperatures and more populated cities, population density in itself is not what causes temperatures to rise. Universidad Politécnica de Madrid professor Javier Neila, who specialises in bioclimatic architecture, explained the dynamic to the *Green European Journal*: "Population density is not a simple determining factor in increasing the heat island effect. The use of more household appliances, vehicles, and air conditioning systems is."

Interestingly, a study of 53 US metropolitan regions found sprawling urban development patterns suffered more acutely from extreme heat events compared to those that accommodate more compact ways of living. According to a 2022 report from the American Planning Association, denser development patterns can also increase the urban heat island effect, but greenery, cool surfaces, and other heat mitigation strategies at the design level can mitigate such increases. “15-minute cities reduce dependence on combustion vehicles, and therefore pollution. At the same time, they are a strategy of social cohesion in contrast to the dispersed city,” concludes Neila.

For cities to adapt to climate change in ways that protect all communities, experts highlight the need to involve vulnerable groups in urban planning. There are some good examples: Barcelona has been cited by the European Climate Adaptation Platform for its work involving stakeholders in the greening of the city. Moreover, some cities have recognised the need for special assistance in the context of rising temperatures. The region of Kassel in Germany, for example, operates “Heat Hotline Parasol” (Hitzetelefon Sonnenschirm), a free-of-charge service. Volunteers call registered elderly people and provide them with information on the health risks posed by heatwaves; they also suggest ways to stay cool and reduce the dangers.

A CLIMATE-PROOF WELFARE STATE

Climate adaptation policies have always taken second place to mitigation. For a long time, some believed that full acknowledgement of the need for adaptation would mean accepting the inevitability of climate change. But while policy has remained passive, people have not, as shown by the drop in housing prices in coastal areas of the US prone to flooding. Writing in *The Atlantic*, Jake Bittle, author of *The Great Displacement: Climate Change and the Next American Migration*, states, “As home values fall to reflect climate risk, wealthy homeowners and investors will dump their distressed

assets and flee, while middle-class homeowners will be left to deal with climate catastrophes and costly mortgages.” Climate adaptation is already happening. Without state involvement, personal wealth and resources become the determining factors.

The welfare state was built around the notion of social justice. Prior to the rise of neoliberalism in the 1970s and 1980s, Western democracies developed vast social programmes to fulfil the right to housing. Housing was a pillar of the post-war social model. To rebuild that vision for the 21st century, we also need to recognise the central place of climate and environmental risks in inequality and social injustice.

Climate adaptation – including the greening of the welfare state to mitigate climate-related risks – concerns all levels of political and institutional power. Cities and regions cannot act alone. They need the backbone of nation-states and supranational entities such as the EU to fund and enable their resilience. Climate-proofing our homes and cities will require a multi-level plan that reaches across sectors from urban planning to public health to education and that ensures the participation of vulnerable groups. The alternative is what Aldana Cohen refers to as “eco-apartheid”: a society where the rich cool off in pools while the poor suffer in the ever-increasing heat.



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CLASS POLITICS FOR THE ECO-ANXIOUS

AN INTERVIEW WITH
NIKOLAJ SCHULTZ

Once a symbol of unrestrained freedom, islands are now an outpost of ecosystem loss. Meanwhile, billionaires are taking off into space, leaving behind the existential conflicts of a climate-damaged planet. If eco-anxiety has no earthly escape, argues Nikolaj Schultz, we need to find new ways of organising, and of relating to the non-human forms of life that we depend on to sustain our lives.

GREEN EUROPEAN JOURNAL: Eco-anxiety is increasingly recognised as a particularly prevalent psychological issue among young people. Is there any escape from the feeling that our world is changing due to the ecological crisis?

NIKOLAJ SCHULTZ: I see eco-anxiety as part of a wider set of changes to the planet Earth and to our existential condition as human beings. Both are undergoing transformation. The term “land sickness” is my attempt to describe this nauseating, simultaneous double movement of the soil and the human. I’m not sure if it’s possible or desirable to offer “escape routes” from this situation; what I am trying to do is better understand these new conditions. We need a clearer idea of how our emotional and existential landscapes are changing. What does it mean to be a human being in an epoch in which the conditions needed to sustain life on Earth are disappearing? We need descriptions of what it is like to experience the “self” in a world that is shrinking because of our actions, habits, and ways of inhabiting it. What are the emotional registers at play in this situation?

Like Bruno Latour, I strongly believe in description, even if what we are trying to sketch out is the psycho-existential terrain of human beings. If we want to stitch this terrain back together, we should probably first collect its splinters and fragments.

In *Land Sickness*, you visit the French island of Porquerolles and come across an elderly woman driven to desperation by the erosion of her land, her home. Who is she, and what did this encounter show you?

The woman I met was born on the island. She explained to me that, while this land shaped her identity, there is no longer room for her on the beach because of erosion and mass tourism. She explicitly asked me to leave, because my presence and the traces I was leaving behind were forcing her off the territory where she belongs. This encounter shows that there is no escaping the Anthropocene. Whatever you do – eat, drink, dress, shower, travel – mirrors your entanglement with the unfolding climate catastrophe.

Will environmental conflicts draw the lines of politics in the years to come? You describe how such lines lie even within your family, with your future buried in your grandmother's past.

Yes, I believe they will. The intergenerational aspect of this issue has landed straight in the middle of politics. As philosopher Pierre Charbonnier has shown, the climate situation is characterised by a modern disconnect between the world or the territory we live in and the one we live off. In the same way that certain groups live off other people's territories, certain generations colonise other people's present.

My grandmother's generation, for example, lived in the present, but off the future. This is becoming increasingly visible with the threat to the material conditions of life of younger and future generations. This is why it makes sense that young climate activists are framing their battles in terms of generational struggle: the young are those who have witnessed the colonisation of their territory and their present. Their futures have been stolen from them.

At an existential level, this weighs heavily. In the same way as I unwittingly leave destructive traces behind me, my grandmother has become the bearer of a responsibility she did not know she was carrying.

She is part of a generation that, after the Second World War, fought to develop an economy that could secure freedom and affluence. She was sure that her descendants would embrace these values with open arms. But now, things have changed, giving her life a completely different meaning. She now realises that the horizons she believed in have become obsolete. Even worse, she knows that everything she fought for has trapped her descendants on a burning Earth. This is an existential drama, the depth of which is difficult to fathom. This is why I think it's so important to describe the affective implications of this experience.

Environmental divisions and conflicts are starker on a small island like Porquerolles. Are the social and existential questions you analyse in *Land Sickness* present more generally?

Just like existential divisions on the individual level, geo-social conflicts are at play everywhere: indigenous peoples resisting land dispossession, activists in Germany opposing the expansion of coal mines, people in France fighting against the development of *méga-bassines* [massive water reservoirs], and so on. But I find island and coastal settings especially interesting. They formerly encapsulated the idea of distance, isolation, and freedom. Now, islands are among the places where climate issues are manifested most visibly and violently – in the form of rising sea levels, coastal erosion, biodiversity loss, polluted waters, and disappearing beaches.

Coastal areas have turned into “Anthropocene laboratories” that can teach us a great deal about what we have become, where we are now, and where we are heading. They are a petri dish for many of the dynamics of [Bruno Latour’s] New Climatic Regime – including intensifying socio-territorial conflicts and agonising existential divisions.

These aesthetic, social, and territorial conflicts are leaving their mark on our emotional landscapes, terrains of life, and existential modes of orientation.

Your work with Bruno Latour theorises a new class politics around the ecological crisis. Who and what is the “new ecological class”?

What we argue in *On the Emergence of an Ecological Class: A Memo* is that we are beginning to see the emergence of an “ecological class”, assembled around a collective interest in fighting against the destructive consequences of current production practices, and for the habitability of the planet.

On Porquerolles, a new type of division and conflict has emerged from the ecological ruins of the tourist economy. On the one hand, you have those who wish to maintain or develop the island’s tourism sector. On the other, there are those who are fighting the ravaging effects of tourism on the island’s habitability. This is a conflict between two distinct geo-social classes. The group fighting for the habitability of the island exemplifies what we call the “ecological class”. This emerging class is not simply fighting to take over the means of production or distribute profits differently; it has detected the damaging costs of current production practices and is working to safeguard the island and its ability to sustain life.

IT IS THE RESPONSIBILITY OF
GREEN PARTIES TO REPRESENT
THE ECOLOGICAL CLASS

The Memo was intended to be read by Green party members and Green voters; it even says so on the cover of the original French edition. Are they the forces that will lead the new ecological class?

It is the responsibility of Green parties to represent the ecological class, to take part in its ideological and organisational development, and to present a political offer in line with its collective interests. But yes, the book is also meant for present and future Green party voters. It has been picked up differently by different people in different countries.

In France, certain groups within the Green party – which suffered an awful defeat in 2022 – have used the book to restart discussions on the party, its ideological foundations, the people it represents, and the alliances that should be made. In Germany and Denmark, the book has been embraced by climate movements and distributed among participants, including younger activists, as a starting point for organising their actions. German climate activist Luisa Neubauer has done a great deal of work with and for the book. So it seems that the idea of an ecological class has been picked up on two different fronts at least. Ideally, these fronts would cooperate more closely, especially in Germany, where there is a big conflict between the Green party and young environmental activists.

Land Sickness starts with a feeling of being trapped and ends with billionaires taking off into space. What does this mean for our politics?

Like the billionaires buying up climate-safe bunkers in New Zealand or elsewhere, these space cowboys represent an extreme example of the geo-social class struggle. Of course, they frame their space projects as a collective endeavour – a continuation of modern principles and politics. But to me, these efforts more closely resemble escapism.

The elites are going beyond the earthly limits of a climate-damaged planet, leaving behind the ideals of collective progress. They are abandoning the idea of a common, habitable world, sacrificing it on the altar of personal survival. At the end of the book, I try to sketch out a few individual and collective principles for staying together on a damaged planet. These principles can be most easily explained as doing the opposite to the space-conquering billionaires. They involve constructing a link between humans and the ecological conditions needed to sustain life, embedding society in local and planetary habitability. We need to approach the future in a reflexive manner, continuously mediating between the multiple forces and life forms that ensure the world's habitability. This requires knowledge mixed with curiosity, attentiveness, prudence, and imagination.

Can we be free amid the ecological crisis?

I believe we have to stick with the concept of freedom, even if many ecological theorists consider it unfashionable or problematic due to its contemporary connotations. People's emotional, existential, political, and aesthetic attachment to the ideal of freedom is too strong to simply leave this concept behind or think of it as an outdated fiction of the past. We need to stay loyal to the ideal of freedom but betray the hegemonic notions currently attached to it. Luckily, this is not impossible, because freedom has been understood, institutionalised, practised, and experienced in various manners and forms throughout history.

We need to develop an idea of freedom grounded in the earthly dependencies that allow us to breathe, live, and prosper. This kind of freedom is negotiated with the non-human forms of life that human societies depend on to sustain their lives. Freedom could be experienced as “being-myself-with-another”, where “another” includes forms of life that have traditionally been excluded from the realm of freedom. Of course, it will be difficult to institutionalise a new conception of freedom, and even more so to make it emotionally appealing. Like all other values, it must be nurtured. Yet we have no choice but to try.



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From the Streets to the Institutions

The most significant social movement in France since 1968, the *Gilets jaunes* has become a byword for unjust climate policy across Europe. Can the green movement learn from the streets and unify the love and rage of the few with the solidarity of the many?

movements rarely spread beyond narrow circles. Even when their struggles intersect with questions of public health – the dioxin and “Mad Cow” scandals at the end of the 1990s are prime examples – wider support is by no means guaranteed. Droughts may be affecting more and more people and climate change may now be acknowledged by the majority, but the climate movement remains small.

Public awareness can, from time to time, lead to electoral gains for Green parties and lasting spells in local or national government. But despite the progress of environmental awareness in Western societies, the mobilisation of a chunk of European youth, repeated scientific warnings, and tangible environmental emergencies, social tensions rarely boil over because of environmental matters.

True, one can point to the demonstrations against nuclear power stations, from the 1970s to the massive protests that followed the Chernobyl and Fukushima disasters. Or the first global Fridays For Future marches led by Greta Thunberg. But environmental movements have throughout their history been rooted in the mobilisation of certain sections of society, not in social struggles and their associated imaginaries.

The difficulty of mobilising popular support for environmental causes undermines the prospects for political ecology’s success. Simultaneously global and local, the very nature of environmental concerns makes mass mobilisation seemingly impossible. It is either pioneering, ultra-aware citizens concerned about climate justice and the state of the planet; or it is local, potentially violent, battles. These struggles can be territorialised to the point of becoming “Zones to Defend”, the protest camps emerging from occupations such as that organised against the Notre-Dame-des-Landes airport in the 2010s. From campaigns against mines, reservoirs and infrastructure projects to direct actions blocking shipments of nuclear waste, this second category has a hard time attracting support from beyond the affected areas. The fundamental problem is that grassroots environmental



This article is available in French on the *Green European Journal* website.

ET SI LES GILETS JAUNES ÉTAIENT ÉCOLOGISTES ?

Un des plus grands mouvements sociaux de ces dernières années a des racines profondément écologistes.



EDOUARD GAUDOT

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Despite the best efforts of Green leaders and intellectuals, the priorities of political ecology fail to line up with social cleavages. Recent social movements demonstrate the divergence between the imaginary of social justice and that of the green political project. In the protests in France against the raising of the retirement age, the language used by unions and opponents of the law has borrowed from the labour movement and its fight for workers' rights. The environmental necessity of finding a new balance between productive and contemplative life, the need for the proper, material recognition of all forms of paid and unpaid work, and a questioning of the values of our consumerist society has gone unmentioned.

Worse, it is often out of a rejection of green proposals – seen as illegitimate limits on individual freedom – that powerful social and political movements emerge. In the Netherlands, the BoerBurgerBeweging (Farmer–Citizen Movement) has harnessed the anger of livestock farmers against the government's plans for a drastic reduction in nitrogen emissions by 2030. Across Europe, radical right-wing parties are attempting to build working-class support by capitalising

on opposition to low-emission zones in cities, forthcoming bans on petrol and diesel cars, and the nudging of consumer behaviours.

THE GILETS JAUNES AS ENVIRONMENTAL ACTIVISTS?

Despite appearances, one of the biggest social movements seen in recent European history has deeply ecological roots. Sparked by the lowering of the speed limit on many main roads, followed by an increase in fuel duty, France's *Gilets jaunes* movement kept the country on a knife edge for 18 months with its nationwide weekly protests. Only brought to a halt by the Covid-19 lockdowns, this movement encapsulated the contradictions of the car-based society. It was rural and suburban people – geographically, culturally, and economically distant from urban centres of power – who bore the brunt of the fuel price hike. For them, the price of a full tank of petrol was equivalent to that of bread for the revolutionaries of the *Ancien Régime*.

In autumn 2018, a petition against fuel price rises garnered over a million signatures. Businesswoman Priscillia Ludosky's initiative was just one of many spontaneous protests against the government's decision to raise fuel taxes to

finance the energy transition. But it was the one that most clearly and directly highlighted the dead end of our car-centric way of life – and questioned the untenable duplicity of an environmental policy based exclusively on the contributions of the poorest.

The *Gilets jaunes* movement was a revolt against the "social ideology of the motorcar", a familiar phrase coined by philosopher André Gorz in 1973. It highlighted the price paid for the freedom that the car brings: the end of local amenities and the erosion of community, declining local services, and anonymous strips of supermarkets and entertainment megaplexes: "a society of roundabouts".

"The *Gilets jaunes* were the first to expose the undeniable links between social and environmental inequalities," observes former leader of the French Greens David Cormand in his 2022 book *Ce que nous sommes*. Analyses of the reasons for the protestors' anger unanimously emphasised the sense of downward mobility and precarity felt by the lower-middle and working classes, the decline of social connection, and the widespread loss of confidence in institutions, elites, and "the system".

For the *Gilets jaunes* were also an uprising against a

THE GILETS
JAUNES
MOVEMENT
WAS A REVOLT
AGAINST
THE "SOCIAL
IDEOLOGY OF
THE MOTORCAR"

faceless and dehumanising system. The symbolic democracy of these improvised gatherings at roundabouts was not lost on honest observers of the movement. By reappropriating these ugly, concrete places of transit, the *Gilets jaunes* were recreating communal spaces. They fitted them out with gazebos, tents, artworks, and makeshift shelters, turning them into public places for direct democracy, meetings, debates, camaraderie and even, according to some reports, love.

**THE SUBALTERN
COULD NOT SPEAK**

Those who took the movement seriously understood that the discontent and alienation caused by the reign of individualism was not just felt by the affluent and the urban middle class. A backlash against anonymity and polarisation, loneliness, and isolation, the movement revealed a thirst for community and togetherness and the desire to share common cause and culture – but outside of a system on its last legs. It recreated symbolic connection.

All that was needed was a film by a great chronicler of working-class struggle and social decay like Ken Loach to produce a French *Raining Stones*, thus allowing entry

into the middle-class cultural canon. This absence became a key impediment for this spontaneous, informal, and inexperienced movement.

Torn between the need for spokespeople and a refusal to be trapped in a game of political demands and figureheads, the *Gilets jaunes* were unable to overcome the contradictions of their movement for direct democracy. Harassed by a toxic media that insisted they participate in a system designed by and for political and cultural elites, they lacked real "interpreters" as defined by anthropologist and activist David Graeber. Political parties sympathetic to working-class concerns, both on the far right and far left of the political spectrum, tried their best. But their media gaffes, ideological wavering, and distance from a France they no longer live in confirmed the *Gilets jaunes'* belief that all they could expect from political parties was co-optation.

The *Gilets jaunes* was one manifestation of the "political multitudes of anti-politics", another step on the long march by those on the margins of the system to hold the self-proclaimed democrats in power to account. Without interpreters, credentialled intellectuals, or leaders, they found themselves at the mercy of those from their ranks keen to get their 15 minutes of fame, or simply likened to media stereotypes of mob violence – a new, updated version of the "dangerous classes".

Amidst this mutual incomprehension, the accusation of "populism" took root. Populism is born when subalterns are forbidden or disqualified from speaking, explain philosopher Étienne Balibar and feminist critic Gayatri Chakravorty Spivak. It is in this sense that the *Gilets jaunes* movement was "populist"; as the expression of subalterns marginalised by a dominant culture that sneered at their appearance, tastes, and attitudes – or worse, pretended to like them from afar and reframed them as part of a rigged "great debate".

The symptom of a deep "democratic breakdown", what the *Gilets jaunes* sorely needed to become a genuine political movement – a green social movement – were

intermediaries. Spokespeople who could avoid the traps of the institutional and media system. Interpreters of anger and revolt who could translate the reality of some into the language of all. The violence that characterised some of the movement's excesses was in part down to a hearing failure by those who should have been listening.

EVERY REVOLUTION NEEDS A POET

If France's umpteenth peasant revolt turned into the political upheavals that gave us the French Revolution, it is precisely because the Third Estate also included an intermediary class of bourgeois heralds. Lawyers, tradesmen, country priests, and journalists were the ones who mediated and voiced grievances.

In August 1980, Catholic journalist [and future Polish prime minister] Tadeusz Mazowiecki and Jewish historian and former communist Bronisław Geremek arrived in Gdańsk with a message of support from 64 Polish intellectuals for the striking workers at the Lenin Shipyard. Together with leader of the union movement Lech Wałęsa, their delegation stood for the unity of the intelligentsia and the working class. Geremek later recounted that, as he

and Mazowiecki were about drive off, Wałęsa stopped them and demanded that they speak on behalf of the workers in concrete terms. The intellectuals were often former Communist Party members and could speak the language of their adversaries; they knew the rules, the tricks, and the traps. Culminating in the Round Table Agreement of 1989, Solidarność's struggle against the communist system would never have succeeded

it from grassroots meetings to middle-class dinner parties, translating it from the language of the street to the idiom of polite society.

They are the messengers, the interpreters. The people who carry the voices of the subalterns and help them to be heard. For it is from mutual miscommunication that mistrust and violence are born.

The only political family with a lens that could have understood the democratic, environmental,

THERE CAN BE NO POLITICAL OUTLET FOR A SOCIAL MOVEMENT WITHOUT THE WORK OF INTELLECTUALS

without this alliance between intellectuals and the social movement.

There can be no political outlet for a social movement without the work of intellectuals. It is not enough for the leadership to channel the anger and hopes of its followers; the members themselves must be able to negotiate and reach an agreement with the adversary. It is the Byrons, Goethes, Lamartines, Petöfis, Hugos, Bölls, and Sartres of this world who help give those on the barricades a voice in the corridors of power, carrying

and social issues at the heart of this profound popular revolt – the French Greens – failed to be its champions.

Europe's populist moment is not over. If Greens – all over Europe – are to seize this opportunity without it corrupting them, they must acknowledge what is required: to interpret popular aspirations and offer them a political outlet. This effort will require that they venture beyond urban centres and grow new roots in society. And above all to learn to speak the languages of classes other than their own. ■

"IF THE WATER DISAPPEARS, LIFE WILL DISAPPEAR"

PHOTO ESSAY BY
**MARIE-MONIQUE
FRANSSEN**

Lithium powers the batteries needed for the energy transition. The Salta and Jujuy regions in northern Argentina have the world's second-largest lithium reserves. But mining it is water intensive, increasing the risks of resource competition and social conflict within nearby communities. Multinationals backed by the Argentinian government set their sights on this "white gold", how can the EU ensure a fair and inclusive energy transition that does not stop at its borders?

We are in northern Argentina, near the Bolivian border, at an altitude of over 3000 metres. The sun shines brightly on the vast, snow-white landscapes of the Salinas Grandes, the country's largest salt flats. In summer, temperatures here soar to 45 degrees Celsius. The air is thin – it's harder to breathe, and walking takes effort – and the light is different. Brighter, warmer, more immediate. It is bone dry, and the salt crunches beneath our feet. We have driven a hundred kilometres without seeing a single oncoming vehicle – only vicuñas (a wild relative of the llama), jackals, and hawks. Passing through a landscape almost devoid of vegetation, the road was littered with stones, reminiscent of the Dakar Rally. It is here, in these arid Argentine highlands, that the world's second-largest lithium reserve is located.



This article is available
in Dutch on the *Green
European Journal* website.

**"ALS HET WATER
VERDWIJNT,
VERDWIJNT
HET LEVEN"**

Over de socio-
ecologische impact
van lithiumontginning
in de Argentijnse
zoutvlaktes.

THE WHITE GOLD RUSH

Lithium is sometimes called white gold. "With its attractive silvery-white colour, lithium is the least dense of all metals. It is so light that it floats on water, and so soft that it can be cut with a knife. But the



The Salinas Grandes, the largest salt flats in Argentina

property that makes it such a coveted and strategic element today is its great capacity for energy storage,” writes Spanish science journalist Héctor Rodríguez. Used in electric car batteries, wind turbines, solar panels, mobile phones, and computers, lithium is indispensable for the energy transition. A World Bank report published in 2020 predicts that by 2050, graphite, cobalt, and lithium production could increase by as much as 500 per cent to meet the rising demand for minerals associated with the transition to renewable energy. The war in Ukraine is further speeding up the energy transition as countries aim to generate more green energy domestically, thus reducing their exposure to geopolitical tensions. As a result, renewable energy could become the main source of electricity worldwide as early as 2025. A resource rush in the Salinas Grandes, led by the Argentine government as well as Australian, Chinese, and Canadian mining companies, therefore seems inevitable.

The so-called Lithium Triangle, comprising the border region of Argentina, Chile, and Bolivia, accounts for more than 60 per cent of the world’s lithium reserves. Brine rich in the metal is pumped



Murals on an abandoned house translate the communities' discontent

from reservoirs 200 metres beneath the salt flats and transported through pipelines to a series of large open-air basins, where most of the water slowly evaporates. The remaining brine is then pumped to a recovery facility, and the metal is extracted. The region's aridity favours particularly rapid evaporation, conferring a financial advantage on operations there. However, it also means that water resources are scarce. As the lithium extraction process is highly water intensive, with an estimated 400,000 to 2 million litres of water needed to extract one tonne of lithium, it is unsurprising that it is leading to the depletion of groundwater in the surrounding regions.

WATER AND DROUGHT, LIFE AND DEATH

A 2020 projection estimated that lithium mining in Argentina would use up to 50 billion litres of water in 2022, equivalent to the annual consumption of a city with a population of 350,000. This is catastrophic for a region already experiencing severe drought linked to the increasingly tangible effects of climate change. Most residents depend on agriculture for their survival. If the groundwater runs dry, crops will fail, and there will be no food on the table. According to social movement news portal *El Ciudadano*, farming communities in this drought-stricken corner of South America fear for their

livelihoods. Gil Cruz, a weaver from Santa Cruz, testifies, “The day I run out of llamas, I don’t know what I’ll live on, what I’ll feed my children. If the water runs out, life will disappear. What will our cattle live on if there’s no water left? The mining companies think of today’s bread, but not tomorrow’s. We are worried about the future of our children and grandchildren.”

“Aquí la Pacha se defiende” is written in large letters on the walls of the villages that line the salt flats. This phrase, which means both “Here the Earth is defended” and “Here the Earth defends itself”, gets to the crux of the matter: the fundamental clash between two worldviews. On the one hand, that of the indigenous communities of the salt flats in their struggle to protect their livelihoods, traditions, and ecosystem. On the other, that of the modern world in its desperate need to find an alternative to oil that will allow its system of production and consumption to go unchallenged. Since the beginning, the exploration and exploitation of lithium have led to territorial conflicts with local indigenous communities. In the case of the Salinas Grandes, this concerns a population totalling 6000 people who depend on small-scale agriculture, salt mining, and tourism. But the problem extends much further, with protests also growing in the Atacama Desert, just across the Chilean border.

THE SALT FLATS AS A SACRIFICE ZONE

In the Argentine region of Jujuy, locals have been resisting the continued expansion of mining projects for more than a decade. They organise regular inter-communal consultation meetings, raise awareness of the cause via social media, and create murals. Every year on 12 October – the day Columbus first set foot in the Caribbean, a day that for them marks the beginning of genocide – they organise a march for water and life. “Our ancestors cared for this land for centuries, now it is up to us. The rotation of crops, of pastures... These companies don’t understand that. They come, they clear the land, and leave again. But that’s not how

it works: it's about a delicate collaboration [with the planet Earth and water] so that there is enough for everyone," says Clemente Flores, a representative of the 33 communities resisting the advance of mining in the Salta and Jujuy regions. "We depend on the landscape for our agriculture, for cattle breeding. And tomorrow, what then? Moreover, the mines do not provide many jobs even though they claim otherwise."

One of the major problems is the infringement of the right to free, prior, and informed consultation as recognised in the United Nations Declaration on the Rights of Indigenous Peoples – both by the government and by the companies themselves. "We are not against mining per se," Flores continues, "we just want our voice to be respected." The communities inhabiting the region have complained for years that

Local communities resisting the advance of mining use a variety of tools, including social media, to attract attention to their cause





Clemento Flores: A still from the documentary *En el nombre del Litio*

the government approves mining projects without consulting them, despite the fact that these projects have a direct impact on their culture and way of life and take place on their ancestral land. They refer to the right to self-determination of indigenous communities, which should allow them to “freely determine their political status and freely pursue their economic, social and cultural development”. “If these rights are not at least respected, colonialism in all its facets remains in force,” says anthropologist Gustavo Ontiveros, himself a member of the Omaguaca community in the region.

In spite of the protests, the colonisation of indigenous territories and sacrifice of their traditions to “save the world” appears to be inevitable. Are we doomed to repeat the history of past centuries? Will the salt flats and the life they support become *zonas de sacrificio* (“sacrifice zones”) for the North American, European, and Asian energy transitions? Sociologist and activist Maristella Svampa and environmental lawyer Enrique Viale underline the importance of recognising the role of historical ecological debt: the Global North’s centuries-long predation on the natural environments and human rights of the Global South. The high environmental costs still paid by the peoples of the Global South reflect the deep inequalities between continents.



Flamingos in the Andes

THREATENED LOCAL ECOSYSTEMS

A large-scale 2021 study by Wetlands International confirms that lithium mining is associated with massive water loss and leads to freshwater salinisation, posing a huge threat to fragile wetlands in Argentina, Bolivia, and Chile. These ecosystems in the heart of the Andes are not only of great value to the local economy; they also support unique ecosystems and represent an invaluable cultural heritage. Moreover, a group of scientists from the British Royal Society concluded in a 2022 study that the recent large-scale flamingo deaths in the region were effectively due to a lack of water. The bird, emblematic of the region, lives in large flocks in the salt lakes. A further increase in lithium mining and an associated reduction in surface water could have dramatic consequences for the population.

The debate around lithium extraction is a microcosm of the broader cultural-philosophical crisis faced by contemporary industrialised societies. We continue to view the environment as the backdrop to human activity, thus placing ourselves outside nature. This clashes heavily with the worldview of communities seeking to preserve their environments and traditions. The example of lithium also highlights the importance of climate justice: it is often the most vulnerable groups in society that are hit hardest by the effects of climate change. The case

of the salt flats, however, seems to present us with a “Sophie’s choice” between the consequences of climate change and the harm done by extracting the resources necessary to fight it.

There is no doubt that the energy transition is a necessary step in the move to a post-fossil society. The continued rollout of renewable energy is crucial to keep our planet liveable. The only question is how to make it happen in an equitable way, involving all parties. There is much talk in progressive European circles about a just transition, but this is still too often limited to workers’ rights within the borders of our own continent. If we want to combat global inequality, we need to broaden our perspective and apply these principles of justice and compensation to the entire supply chain.

In this context, the rollout of EU due diligence legislation is a hopeful step forward. Its aim is to promote sustainable and responsible corporate behaviour and embed human rights and environmental considerations in companies’ operations and governance. The new rules will ensure that companies address the negative impacts of their actions, including in value chains within and outside Europe. This is clearly a positive development, but it is not enough. We need global due diligence legislation that goes beyond the European Union to include the rest of the world.

DUE DILIGENCE AND THE ETHICS OF CARE

The due diligence principle aligns with what we call a “care ethic” in *Dare to Care: Ecofeminism as a source of inspiration*. Such an ethic assumes that we, as human beings, are embedded in numerous natural and social relationships and dependencies that must be taken into account when considering a particular course of action.¹ Science and technology professor and feminist thinker Maria Puig de la Bellacasa translates this insight as concern for “more-than-human

¹ Dirk Holemans, Philsan Osman, & Marie-Monique Franssen (2022). *Dare to Care: Ecofeminism as a source of inspiration*. Ghent: Skribis.



The Wiphala, the flag of a number of South American indigenous communities

worlds”. She shows that we cannot separate human and non-human care relationships. Those who care for nature also care for humans. There is only one health, and planet and people are inseparable. This new position calls for us to carefully decentralise ourselves – not always considering humans as the centre of everything – while at the same time staying very close to the fortunes of people in their concrete and sometimes precarious life situations. It demands that we change some of our fundamental conceptions. It involves re-grounding ourselves with an open gaze and taking responsibility for the world that sustains us.

In their book *El colapso ecológico ya llegó*, Maristella Svampa and Enrique Viale stress the importance of decentralising energy systems. According to them, the lithium issue inhabits both the old paradigm of predatory extractivism – linked to unsustainable water consumption, the destruction of biodiversity, and disrespect for human rights – and the new paradigm of a post-fossil society and renewable energy. The energy transition should not and cannot be limited to a mere switch to renewable energy sources that allows our current mode of consumption to go unchallenged. Decarbonisation must lead to a profound change in our production, distribution, and consumption systems. Above all, it must change our social conduct – towards each other and towards our

environment. It must restore and strengthen our interdependence with nature. This can only be achieved by adopting a perspective that considers the rights of local populations and nature as well as environmental costs. Besides recycling and developing a circular economy, we need to develop energy systems that operate by decentralisation and devolution to guarantee equal access to and distribution of energy. Energy cooperatives are one means to ensure civil society participation in energy governance and production.

The case of the Argentine salt flats demonstrates that the way we generate energy, whether fossil or green, has a concrete impact on the lives of people worldwide. It is imperative that we continue to work towards an energy system that emphasises social and environmental responsibility along all parts of the supply chain. This is not an individual, but a collective, political task.



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SERBIA'S LITHIUM

SACRIFICE ZONES OR OPPORTUNITY FOR EUROPE'S PERIPHERIES?

ARTICLE BY
**PREDRAG
MOMČILOVIĆ**

The green transition relies on the use of numerous rare minerals. Lithium is crucial for electrification, in particular for electric cars, and demand is growing. Currently dependant on imports, the EU would like to source the lithium needed for decarbonisation closer to home. But with huge protests in Serbia, it is clear that local communities are asking, “Whose green transition”?

In Serbia, lithium has become a divisive topic. Citizens, environmental activists, and green political parties stand on one side. On the other stands a major company supported by Serbia's ruling parties, as well as certain political forces from within the EU. Polarisation between supporters and opponents of lithium extraction has made genuine debate impossible. The question of whether there is even a need for lithium mining – and under what conditions it might be acceptable – rarely figures.

THE IMPORTANCE OF LITHIUM

The lightest metal in the periodic table, lithium is used in most batteries due to its ability to “do the most work with the least mass”.¹ While batteries can also be made of metals such as sodium, magnesium, or aluminium that are found abundantly in nature – lithium, by contrast, makes up less than 0.002 per cent of the Earth's crust – these are less practical because of their larger volume.

Barring a major technological shift, demand for lithium is likely to increase fivefold by 2030 according to US public-private alliance Li-Bridge. Most of the demand will be generated by the car industry,

¹ Eric C. Evarts (2015). “Lithium batteries: To the limits of lithium”. *Nature*, 526, S93–S95 (2015).

which is planning an accelerated transition to electric vehicles. Nevertheless, it should be noted that the price of lithium carbonate – the main material for electric batteries – has been falling since early 2023 due to a slowdown in the sale of electric vehicles in China. Predicting how prices will move in the future is not easy.

Global lithium production is dominated by Australia, Chile, and China. The largest European reserves are found in Germany and Czechia, followed by Serbia, which has an estimated 1.2 million tonnes of this lightest of metals. However, lithium is not extracted on a major scale in Europe.

Currently, the EU is therefore almost entirely dependent on imports for lithium, as well as other raw materials that are crucial for the green transition. In spring 2023, the European Commission published a proposal for the Critical Raw Materials Act. With this act, the EU plans to reduce its current dependence on the import of critical raw materials, especially from China, which is currently the world's largest exporter. It sets the goal that, by 2030, European mines and recycling centres should produce 10 per cent and 15 per cent respectively of the raw materials needed by the EU's green industries. The draft act introduces the possibility of declaring certain raw materials projects as "strategic", which would bring a series of administrative "benefits" in the form of shorter waiting times. It would also imply

higher ecological costs, as the time allocated for assessing the environmental impact of such projects would be significantly reduced.

It remains unclear how this new proposal will affect Serbia. As part of its accession negotiations with the EU, Serbia is obliged to harmonise its laws with EU legislation. Increased pressure to open up access to the country's lithium reserves is to be expected.

SERBIA AS A SACRIFICE ZONE

At the beginning of 2004, a new mineral with the chemical formula sodium-lithium-borosilicate-hydroxide was discovered in western Serbia. It was named jadarite after the surrounding area and nearby river Jadar. This new mineral initially attracted media attention for its chemical similarity to the fictitious kryptonite after the supposed formula of the latter was revealed in the 2006 movie *Superman Returns*. Kryptonite is Superman's weak point; while it can give otherwise ordinary people superhuman abilities in the short term, it is deadly over the long term.

Similar to the story of Superman, the fight against the planned exploitation of lithium in western Serbia is full of dubious characters and sudden turns but also struggle and solidarity. The story is far from over. Currently, we are in the calm before the storm that no doubt lies ahead.

Gornje Nedeljice is a small village in the western Serbian municipality of Loznica. The degree of economic development in the region is between 60 and 80 per cent of the national average, and its economy is dominated by agriculture – mainly cereals but also fruit and livestock farming. This village and its surrounding area is where multinational mining behemoth Rio Tinto was planning to start the underground mining of lithium.

Despite the initial hype, jadarite was soon forgotten by most. Not, however, by Rio Tinto, which spent years conducting research. For a time, its activities went relatively unnoticed by locals and ecological organisations. But, in 2020, they suddenly became aware of the company's intention to open a mine in their area – a mine that would produce the raw material for major industrial chemicals boric acid, lithium carbonate, and sodium sulphate. But also a mine that, according to local activists and academics, would cause ecological devastation and turn the predominantly agricultural area into a “sacrifice zone”. To obtain lithium and boron from jadarite ore, large quantities of sulphuric acid are needed. As the planned location of the mine and the tailings dump was next to abundant river courses that often flood, there were justified fears of water and soil contamination.

The mine threatened more than 15,000 local households, in particular those living in

properties located within the area of the proposed site, which could be seized by the state – on behalf of corporate actors in this instance – if their owners are not prepared to sell their land.

That the area around Jadar was planned as a sacrifice zone for the sake of Europe's green transition was also flagged up by British anti-capitalist research group Corporate Watch, which has criticised the EU as well as Rio Tinto for appearing ready to sacrifice the Serbian environment for the benefit of the European car industry.

THE FIGHT FOR A CLEAN ENVIRONMENT

After attempts to contest the proposed mine through formal channels failed to yield any results, local activists turned to protest. Gornje Nedeljice was the site of the first protests, which in 2021 spread to regional centre Loznica, where the planning decision permitting the construction of the mine was taken. These protests were ignored by the local and national government, which in Serbia is under the absolute control of the Serbian Progressive Party, which emerged from the far-right Serbian Radical Party and currently occupies a strong centre-right position.

The protests against the exploitation of lithium – and Rio Tinto – soon moved to

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Serbia's capital and largest city, Belgrade. At a large environmental protest held there in September 2022, the organisers demanded that the controversial proposed laws on the expropriation of land and on a planned referendum – meant to facilitate the implementation of the lithium mining project – be withdrawn. The third demand was that Rio Tinto leave Serbia immediately.

As the adoption of the disputed laws approached, the protests became more radical, culminating in blockades of all Serbia's major roads. In Belgrade, over 10,000 people blocked Gazela Bridge, which is part of the international highway. According to some estimates, during the largest blockades, around 100,000 people gathered across the country. These were the largest environmental protests in Serbian history.

The protests succeeded. In early 2022, President Aleksandar Vučić announced the withdrawal of the two proposed laws. A few weeks later, the Jadar lithium project was removed from the spatial plan of the municipality of Loznica. This was achieved due to unprecedented pressure from citizens, but also in order to calm the country before the elections on 3 April 2022.

GREEN WAVE IN SERBIA

The fact that environmental issues occupied an important place in the campaign for the 2022 elections was at least partly thanks to the protests against the Jadar mine. For the first time, environmental topics were on the agenda of political actors in Serbia, and there was active debate on the possible exploitation of lithium in the country, with all opposition parties speaking out against the project.

The fight against lithium mining, together with the campaigns for clean air and against harmful mini-hydroelectric projects – backed up by a clear municipalist programme and support from the Ne davimo Beograd (Don't drown Belgrade) movement in the

capital city – contributed to the success of green candidates in the elections. In both the national parliamentary elections and the Belgrade city elections, green-left coalition Moramo achieved good results – 4.7 and 10.8 per cent respectively – and managed to get a genuinely ecologist option into the institutions for the first time.

All members of the Moramo coalition were actively involved in the protests, and they continued to institutionally oppose lithium exploitation in Serbia. In the meantime, a petition organised by the Kreni-Promeni (Move-Change) movement calling for a ban on lithium and boron mining was signed by more than 30,000 citizens and submitted. Not only did the National Assembly of the Republic of Serbia fail to make a public statement on the petition, there were also claims that the signatures were lost. Moramo MPs continued to insist that those responsible for this alleged loss be identified and that this issue be raised in parliament.

Meanwhile, President Vučić – who has immense de facto decision-making power in spite of the purely representative nature of his role – often makes reference to lithium mining in his speeches. He emphasises how a great opportunity was missed and how foreign intelligence services played a key role in preventing the project, thereby denying the role of the citizens who braved freezing

temperatures to protest and block roads – a narrative that leaves the door open for further attempts at lithium exploitation.

ANOTHER EXTRACTION IS POSSIBLE?

Despite the so-far successful opposition to the mine, there is no getting around the importance of lithium to the green transition.

Of course, no one would want a mine opened right next to their house or in their local area. Still, if we are to be guided by a development paradigm that envisions a green transition to a low-carbon society, lithium must be mined somewhere. If the ore isn't mined in Serbia, it will be mined in Bolivia, Argentina, or Chile, where local communities will also be affected. How, then, to deal with such challenges?

As a strategic resource for the future, the Serbian state should under no circumstances give up the country's lithium to a private company that would have a monopoly over its extraction and production. For guidance, Serbia could look to Bolivia and Chile, who are moving to nationalise lithium in order to secure control over and profit from the mineral's extraction.

The Serbian state could, for example, establish a public company under direct citizen control to manage its lithium reserves. In this

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way, instead of receiving a meagre resource rent, the public purse would keep the profits from ore production. If mining is to take place, the state has a responsibility to its citizens to employ the best available technologies and commit to the repair of pollution damage, which is unfortunately inevitable no matter the technology used.

Besides mines, the state should also ensure that lithium processing plants (in which finished products in the form of lithium batteries are produced) are opened. And why not take things further and envision electric car factories based in Serbia? That way, lithium could bring long-term development – not only to the Loznica area but also further afield.

WHAT IS TO BE DONE?

The citizens of Serbia are not convinced that the plan to exploit lithium in the country has been permanently blocked. The government is sending mixed messages, and trust in political parties and institutions is generally low. That various European officials are directly or indirectly exerting pressure in favour of lithium exploitation hardly helps.

They are distrustful because they fear that lithium exploitation could cause ecological degradation and that all the profits would go elsewhere. Serbia has one of the lowest mineral rents in Europe. While the development of a lithium processing complex would be desirable, it seems that instead, ore extracted in Serbia would be exported unprocessed. Serbia would not make batteries for new electric cars. Nor would those cars be assembled in Serbia. The surplus value would be generated elsewhere for someone else's benefit.

They also know that they will not drive those electric cars. In a society where the average net monthly salary rose above 500 euros for the first time only last year, affording a 50,000 euro electric car remains a dream. As per the relationship between the European periphery and

its capitalist core, Serbia can expect old cars with internal combustion engines that make the country's dangerous levels of air pollution even worse.

In the global push for electrification, whether there is even enough lithium to replace all fossil fuel-powered vehicles with electric cars remains questionable. Should we not instead be thinking about how to replace cars – the most inefficient form of individual transportation – with collective forms of transport that are significantly more sustainable?

Keeping lithium reserves in the ground would require a paradigm shift at all levels – from local to national and European to global – towards societies that will spend less, but more fairly and more efficiently. After all, the greenest products are those that are never produced.



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MINING FOR DATA

THE EXTRACTIVE ECONOMY BEHIND AI

AN INTERVIEW WITH
KATE CRAWFORD

ChatGPT and other large language models are triggering a profound industrial reorganisation in the digital economy. Leading AI expert Kate Crawford looks at the risks posed by the extractive practices that lie behind these technologies.

GREEN EUROPEAN JOURNAL: The release of ChatGPT for public use has sparked worldwide hype around artificial intelligence. What are the politics and interests driving this and other similar large language models (LLMs)?

KATE CRAWFORD: The first thing to note is that large language models are a very significant inflection point. In the AI field, I haven't seen anything like this since the creation of the web, and possibly further back. This is causing a profound industrial reorganisation, where LLMs are not just a new interface, but the new medium through which we will receive and create information in the years to come. It is a very meaningful change, because it comes with a variety of technical and political questions. For me, the most important aspect is the material one.

In my book *Atlas of AI*, I look at the three main components that drive artificial intelligence: data, human labour, and environmental resources. Generative AI (referring to technology that can produce text, imagery, audio, and other kinds of content) increases the use of each of those components. It requires a vast amount of data, more people working behind the scenes as clickworkers and in factories, and much more energy. This leads to a larger carbon footprint and greater water consumption than ever before.

THE ENVIRONMENTAL
COSTS OF AI ARE
CLOSELY GUARDED
CORPORATE SECRETS

Would there be a way to create large language models without this level of extraction?

Part of the reason I describe AI as an extractive industry is that it has always relied on extracting data, labour, and natural resources at scale. Evidence from the first phase of this “generative turn” in the AI field suggests that it is heavily dependent on extraction. There is ongoing research trying to create generative AI models with less data and make them more energy efficient, but there is a widespread belief in the field that scale is the solution to making LLMs work better. This entails billions of hyperparameters involved in the machine learning process and extraordinary amounts of energy to sustain LLM-based searches. For this reason, rather than asking whether the AI industry could be different, we should look at how it works right now. And it is raising a lot of environmental red flags.

You argue that AI is neither artificial nor intelligent. Can you explain why?

AI is often described in terms that make it sound like science fiction, as if it were just immaterial data in the cloud. But in fact, AI has enormous material implications connected to its energy use, water consumption, the extraction of minerals, the construction of data centres, and so on. In this sense, AI is not artificial at all, but deeply rooted in the material world. As for the intelligence part, I find it problematic

that people approach LLM systems as if they were interacting with other humans. This anthropomorphisation generates the belief that there is a form of consciousness emerging from AI, but this is simply not the case.

It is important that we demystify the way these models function. And that means looking at the technical and social layers, the hidden labour, and all the components that make a system work. They are forms of statistical probability and analysis at scale – something very different from human intelligence. In many cases, it requires thousands of humans to prop these systems up all along the supply chain, from dataset labelling to content moderation. In some cases, we even see people pretending to be AI. For all these reasons, AI is neither artificial nor intelligent.

In the book, you also discuss AI's almost colonial logic, its attempt “to capture the planet in a computationally legible form”. Can you explain how that works?

The large training sets behind LLMs are scraping the entire internet, using data from sensors in cities, robotic vacuum cleaners, and every other possible source, which will all become a form of data input to train ever-larger models. In this sense, LLMs systems harvest everything that can be made digital, and then use it to train corporate AI models.

Why are environmental aspects still downplayed in the discussion about the possible harms of AI?

Because the true environmental costs of AI are among some of the most closely guarded corporate secrets. Despite the lack of reliable data from the industry, several studies have modelled the impact of AI. One study estimated searches through LLMs to be five times more energy consuming than traditional search engines. Another claims that every ChatGPT query is the equivalent of pouring out half a litre of water onto the ground. That's very disturbing, considering that fresh water is such a scarce resource.

So there are studies looking at the empirical evidence, but it is difficult for this story to really catch on because it takes time to do this investigative work. I spent five years researching around the mining that goes into the creation of these systems, and to assess the true environmental cost of Bitcoin. It will take time until we know the true carbon footprint and environmental costs of generative AI. But we already know that it is more energy intensive than it should be, and that it is going in the wrong direction at a time when we urgently need to curtail our energy use and carbon footprint.

What could be done to move this issue up the agenda?

I think it has to be a regulatory issue. We should have transparency laws that force companies to release reliable data around the environmental cost of their systems, similarly to what has happened in the automotive industry. It is also very important that we start to have a public debate around where and when AI systems are useful. What we are seeing now is a situation in which generative AI is the hammer, and everything is a nail. We see generative AI being built into everything from search to document writing, image generation, video editing, and so on. We need to ask whether systems that are so energy intensive should be used so pervasively.

Part of what is happening comes from a condition of ignorance: people are not aware that every time they use generative AI, they contribute to the pollution of the environment. But to make users more aware, we should first have some transparency.

It is often said that AI could be useful – or even essential – in the fight against climate change, but people who take this position rarely explain why they think this is the case.

Taking action on climate change will require governments to do much more than they've done so far. We know that a small number of companies is responsible for a big part of the total carbon footprint. So more than artificial intelligence, the solution to climate change is political action, including some real regulation around what is currently happening. AI is commonly described as a solution to everything, when often it is just part of a much more complex picture.

What kinds of developments can we expect within AI in the near future? Could it be approaching a plateau?

There is a lot of debate around whether the current techniques for building LLMs will plateau at a certain point. The answer will depend on whether the industry can sustain the extraordinary amount of computing necessary to build these systems. Currently, there is a global shortage of specialised chips for AI training rounds due to extraordinarily high demand. This shows that the choke points concern the materials and infrastructure needed to do AI at scale. The conversation about AI needs to look beyond algorithmic approaches and ask whether we are going to hit a plateau in terms of what the planet can sustain.

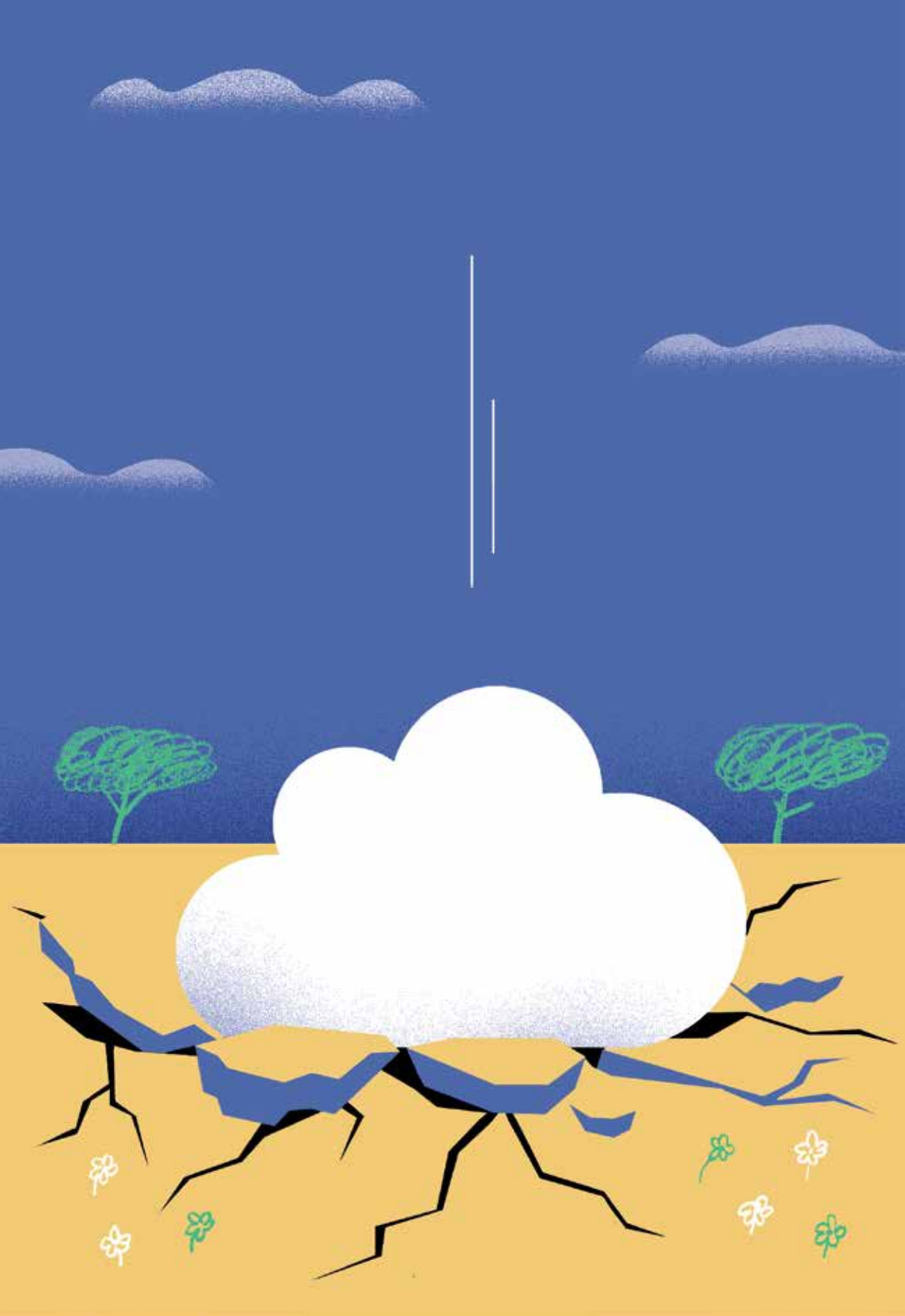
Great powers have their different approaches towards AI and are actively trying to manipulate each other's access to the value chain. What lies ahead for the geopolitics of AI?

The geopolitics of AI is already heating up. The EU is now creating its own policies on the production of semiconductors. In April, the European Council and Parliament reached a political agreement on the so-called Chips Act. In the United States, the Biden administration has an increased focus on localising the production of technological infrastructure and is looking to break its reliance on China for rare earth minerals and other components. At the same time, Taiwan is a major exporter in the digital economy, so AI is already an important phenomenon in today's geopolitical conflicts. It remains to be seen how this is going to play out with the additional infrastructure demands linked to generative AI.



KATE CRAWFORD

is a leading scholar of the social implications of artificial intelligence. Her latest book is *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence* (Yale University Press, 2021).



"COUNTRIES WILL SOON BE COMPETING FOR MIGRANTS"

PREPARING FOR CLIMATE MIGRATION

AN INTERVIEW WITH
GAIA VINCE

Most climate migrants move within countries or across nearby borders, but they may soon need to travel further as entire regions become unliveable. What awaits them is a system of control and exclusion that is woefully unprepared to meet their needs. Gaia Vince calls for multilateral cooperation and honest leadership that reframes climate migration in adaptation terms, shares responsibility equality, and harnesses its potential in the context of the European demographic crisis.

GREEN EUROPEAN JOURNAL: Your latest book, *Nomad Century*, is about a world transformed by the impacts of climate change. It's not some imaginary sci-fi scenario; this will be our world in a few decades. Why aren't we talking about changes that we know are coming?

GAIA VINCE: Our leaders are not honest about the challenge ahead. We're currently around 1.2 to 1.3 degrees above the pre-industrial average. And we're already witnessing extreme weather conditions that climate modellers weren't expecting to see for decades: droughts, extreme heat, and so on. This year, Spain has already had a huge wildfire, and thousands of people had to be evacuated – in March! So partly, this is unexpected for leaders, but they're also not engaged. Some are better than others, but most haven't looked at the detail of what these impacts will look like for their own countries, let alone globally.

The effects of climate change will be harshest on the Global South. You talk about an “arc of uninhabitability” stretching around the globe. Where are we talking about? What will happen to people living in those regions?

This isn't some point in the future; it's already happening. Argentina has just had its worst heatwave in decades. The arc of uninhabitability is essentially the tropics, extending south down to Australia and up north to southern Europe, parts of the Middle East, and across the United States. At least for part of the year, these places – now home to millions of people – will soon be unliveable for large populations.

What makes somewhere uninhabitable? Heat, flooding, droughts, and wildfires are the four main things that hit people's livelihoods and properties. These are all increasing in this tropical zone, including increased storm surges on coastlines and river deltas, where most major cities are located.

Looking at heat alone, about 1 per cent of the world's land surface is currently classed as uninhabitable. Some models suggest that by 2070, this will have risen to about one fifth of all land, leaving up to 3 billion people living in uninhabitable areas. Some of these will be within the EU.

The other side of the climate crisis is the effect on the parts of the world that are today frozen and support few people and little agriculture. What will happen to the far north in the 21st century?

Nowhere on Earth will be spared. The far north is one of the fastest heating places on the planet. In terms of its comparative liveability, it will be much more liveable than the tropics. There will also be more fresh water there, and agriculture will spread. Satellite images already show a massive greening of the Arctic. There will be negative effects too, but in general we can expect to see cities expanding and new cities growing up in places that are currently too cold to live in.

Greenland, for instance, which has been too cold to support most agriculture or larger populations, will become increasingly habitable and desirable, with a warmer climate and plentiful water. We can expect a booming Arctic region, spanning Alaska, Canada, Scandinavia, and Siberia, all peopled with immigrants. In the context of the demographic crises and labour shortages experienced by many nations, immigration will become an important way of maintaining these northern economies and providing labour for the energy transition and other new industries in the coming decades.

***Nomad Century* argues that people will move from the uninhabitable tropics to the newly inhabitable north. How is this happening, and how should it happen?**

Not everybody will have to move. There are already people living in pretty much unliveable places – in the Middle East, for example. But they live in very adapted spaces; essentially air-conditioned shopping malls, where everything they need is brought in: food, water, etc. That's only sustainable for a small, wealthy population, not for, say, 30 million people living in Mumbai. Small populations can adapt to live in these places, but large numbers of people living in slum housing will not be able to survive under these conditions. They will have to move. Presently, most migration is internal or to bordering countries, but these countries and their neighbours will be severely hit. People are going to have to move further.

Our current global migration system is completely broken. It's ad hoc, and it causes huge distress. It doesn't help the economies of the host countries or countries of origin, and it certainly doesn't help the migrants. Migration provoked by the climate crisis has the potential to be utterly disastrous and cause huge loss of life and conflict. So we need to start talking about it now.

Today, asylum processing by most countries is disgracefully slow, with people waiting years,

if not decades, for permits and documentation. It is inherently complicated, and people usually have no legal right to work or access to essential services including healthcare. This leads to the growth of an underground economy, exposes migrants to crime, and creates fear and marginalisation. The long wait leaves migrants in limbo, unable to take part in society or contribute to the host economy.

We've seen countless disasters at European borders, whether off the coast of Italy or in the Channel. Across Europe, the far right is playing upon demographic anxieties. Is the figure of the climate migrant driving extreme right-wing politics in Europe and North America? How can we dispel the notion of the migrant as a security risk?

A strong message of *Nomad Century* is that migration is not a security issue. Many leaders in centrist or left-wing parties have abdicated their responsibility to challenge this toxic narrative. Migration is an economic and a humanitarian issue. It's not migrants that are driving far-right politics, it's populist leaders and nefarious interests. The mismanagement of migration also plays a huge role.

There are better ways of managing migration, but we need to face up to the task. There certainly needs to be proper investment in housing, healthcare, education, and infrastructure. But without that very important

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social investment – inclusion in society, so that immigrants feel part of that society, city, or country – all efforts will fail. Immigrants need to feel that they are citizens, and that the population in their host countries recognise them as such.

That didn't happen in Sweden. Despite its generous welfare benefits, the state failed to invest in social programmes. The two populations were very segregated. The immigrants weren't seen as Swedes, and didn't see themselves as Swedes either. This social divide is at the heart of rising crime, competing underground economies, and the growth of the far right. We can do better. We need to talk to electorates honestly and stop saying, "We're going to turn back boats," or "We'll keep the migrants in camps."

Many countries have benefited enormously from immigration. We're all migrants, you know. If not first generation, then not very far back. We've all moved around. We can see genetically how mixed up we are. Some nations, like the United States or Australia, were obviously built on recent migration, but the same is true for many European nations. We need these people for our economies and societies.

The job of leaders is to show the way forward. What institutions do we need to build to manage migration in the 21st century?

We need a new United Nations-based institution with real power to manage the movement of people and help migrants transition to work and education. It needs to be organised democratically between nations, and it has to be well financed. The Global Compact for Migration, adopted in 2018, was an attempt to address the issue and create a safe, orderly system for refugees, but it's nothing more than a symbolic gesture. The compact is not legally binding, and many countries either voted against it or abstained. Refugees are not going to disappear; this is a problem that needs urgent international attention and an ambitious, negotiated strategy.

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But efforts also need to be made at community level. There are already groups doing remarkable inclusion work; this needs to be broadened out to other levels. We need better education in schools, and we have to rethink what it means to be a citizen of a nation, or indeed of our shared planet. We need to get away from poisonous ethno-nationalist ideas and look towards a future where nations are made up of citizens who are aligned on key issues – such as wanting to live in a habitable world, wanting clean air, good schools, access to healthcare – and where being a citizen involves cooperating towards that project.

At regional level, the vital negotiations between countries on managing migration have largely broken down (apart from within the European Union). That lack of coordination is a huge problem.

You call for opening channels for migration. Would you go as far as no borders?

No, I don't think we need to do that. Certainly not in this short time. We need to work with what we've got and make it work for the Anthropocene.

A new approach to migration can go hand in hand with the institutions we already have. Canada plans to triple its population through immigration over the coming decades because it wants to grow as a country. It's put lots of policies in place, such as inclusion and speeding up applications.

Now they are having to deal with migrants coming in via the United States under terrible conditions and overwhelming small border posts. This could be managed a lot better if the United States were proactive on this, but ultimately Canada, by welcoming these migrants, will be the winner. In a few decades, as the demographic crisis hits, countries will be competing with each other for migrants, based on opportunities and services like well-planned housing. That planning needs to start immediately; many of these countries are not even capable of providing the basics for their own populations, let alone for new arrivals.

The migration politics of the European Union are currently based on keeping people out. What could be a more pragmatic and human migration policy for the EU?

We need to rethink how people are managed; the current system is inhumane and causes unnecessary hardship and loss of life.

Countries like Italy and Greece take on the burden of these huge numbers of people. Clearly, better management is needed here – perhaps through a quota system, and with much more assistance from other member states. Successful immigration requires initial investment, which is more than repaid by migrants' contributions. These funds could be channelled directly to city mayors from a central EU pot and supplemented by contributions from businesses and, if appropriate, nations of origin. There needs to be much more joined-up, long-term thinking about how to support migrant flows of different types, from students to families to labourers.

We're facing a huge demographic crisis in the north; we're just not having enough babies to support an ageing population. Italy's current far-right leadership wants to prevent migrants from coming to its shores, but the country also has a demographic crisis. Sicily, for example, has one of the highest rates of depopulation in Europe.

This demographic decline is a global trend. In many countries, a crisis is about to hit as the social contract by which young people pay taxes that help support ageing populations is being broken. The one way to fix that is through increased immigration. Many countries including Britain, Germany, and the United States are experiencing huge labour shortages in almost all sectors. There are large numbers of young migrants who could be in education or who are already qualified and could be solving this problem, but they're not permitted to work.

NONE OF THIS IS EASY,
IF WE'D HAVE ACTED ON
CLIMATE CHANGE IN THE
1980S, IT WOULD ALL BE
MUCH MORE MANAGEABLE

We need an honest, grown-up conversation

about these things. On a shared planet, we have a responsibility to ensure that our species has access to its habitable areas. This means recognising our common humanity. We need courageous leaders who can spell this out, and who can also be strong on climate change, poverty, and biodiversity loss. It's an unfortunate coincidence that, at this time of global crises, we're experiencing a poor calibre of global leadership.

So we need leaders to plan for the inevitable, rather than trying to pretend it won't happen.

Exactly. Be pragmatic about what we are facing and what our choices are; then we can take a democratic decision as a society.

You're also open to geoengineering. Isn't it a Pandora's box in terms of who has access to the technology and who doesn't and what the expected and unexpected side-effects will be?

Absolutely, but that's where we're headed at the moment. That's why we need to be honest and talk about it. I think it's almost inevitable that geoengineering – such as reflective technologies – will be used to cool the planet in the next few decades. Perhaps by a state that has experienced some sort of extreme disaster and decides to deploy it unilaterally.

We need to discuss all sorts of issues around

geoengineering: under what conditions would we use it, which states would do so? What would the parameters be, and the target temperature? How often would it be reassessed? How would populations be compensated for negative effects? If at the end of this, we decide to roll out geoengineering democratically, great. If not, what's the alternative?

None of this is easy. If we'd have acted on climate change in the 1980s, it would all be much more manageable; we wouldn't be having these conversations. But we didn't. This is where we are: millions of people are dying because of climate change, and it's going to get worse.

Geoengineering is currently taboo, but we must have that discussion. If we do go down that route, I would much rather this is done under agreed conditions, with proper governance and oversight, than by one company, individual, or country acting unilaterally. We need to listen to the scientists who have done the modelling, and then reach a globally negotiated decision.

The idea of a “new commonwealth of humanity” comes up a few times in your book. It’s a hopeful phrase. What would this look like to you?

If you zoom out from our planet, it is just one ball of biosphere – of habitable world – in the universe. Through billions of years of evolution, our one ape species has emerged. We were several different kinds of humans for hundreds of thousands of years, and today we’re just one species of human dispersed across the planet. Now we’re cooking this planet and making whole areas of it unliveable.

If we look at the Earth system, and at the biology of our bodies and what we need to eat, it becomes obvious that species will need to migrate to zones of safety in the habitable parts of our planet, all of which will have to be adapted. We need to abandon the belief that some of us belong to certain areas only and are not allowed to move. The idea behind the commonwealth of humanity is that we all have as much right as anybody else to the habitable spaces on our shared planet.



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CLIMATE SCEPTICISM THE RUSSIAN WAY

ARTICLE BY
MARTIN VRBA

The world's fourth-largest greenhouse gas emitter, Russia has consistently avoided the path to decarbonisation. Instead, it has contributed to the growth of climate scepticism and outright disinformation. The transformation of the country's fossil-dependent economy appears more distant than ever, especially in the context of its disastrous invasion of Ukraine. But what does this mean for global climate efforts, and for Russia itself?

When we reflect on climate change denial and the deceptive disinformation campaigns that surround it, we usually think of fossil-fuel giants such as Shell and ExxonMobil. For decades, misrepresentations peddled by these companies have spread a web of confusion around the true nature of climate change. Their profit-driven opposition to any move to phase out fossil fuels continues to linger, casting a shadow over our shared future.

But no representation of the climate-sceptic movement would be complete without taking into account the often-overlooked role of Russian propaganda in fuelling climate disinformation. In recent years, pro-Kremlin media outlets such as *RT* (formerly *Russia Today*) and *Sputnik News* have been criticised for disseminating false information about climate science. However, the tone of President Vladimir Putin's public statements on climate science and policies has frequently shifted. This ambiguity offers a good insight into the evolution of climate change denial in the country.

SHIFTING NARRATIVES

In 2003, when asked whether Russia would sign the Kyoto Protocol, Putin answered that climate change would probably not be a bad thing in a cold country like Russia. “Two to three degrees wouldn’t hurt,” he said. “We would spend less on fur coats, and the grain harvest would increase.”

More than a decade later, Russia was among the last countries to sign the Paris Agreement. On that occasion, Putin publicly acknowledged climate change as a serious threat and made an ambitious promise to slash Russia’s emissions by 70 to 75 per cent compared to 1990 levels. Yet no concrete action followed.

Any hope for a greener Putin was short-lived. In 2017, he claimed that the amount of greenhouse gases produced by volcanic eruptions exceeded that generated by human activity. The following year, he stated that alterations in the global environment, variations in cosmic ray intensity, and undetectable shifts in the galaxy were the true causes of climate change.

2020 seemed to mark a shift from outright denial to more subtle forms of climate delay characterised by criticism of emerging green technologies and accompanied by moderately promising developments. In April 2021, Putin asked his cabinet to create a strategy to significantly cut Russia’s emissions, and

in September of the same year he announced the ambitious goal of achieving net zero by 2060 – an objective in line with countries such as China and Saudi Arabia. Many saw this announcement as a breakthrough that would bring Russia, the world’s fourth-largest greenhouse gas emitter, onto the shared path to decarbonisation.

But in spite of its signature of the Paris Agreement and these positive developments, Russia has never made serious efforts to decarbonise its economy. Independent research group Climate Action Tracker (CAT) rates Russia’s climate transition as “critically insufficient” due to its lack of real commitment to curbing greenhouse gas emissions. CAT notes that the Russian Federation’s Energy Strategy to 2035, adopted in 2021, “focuses almost exclusively on promoting fossil fuel extraction, consumption, and exports to the rest of the world”, concluding that “such a strong focus on increasing reliance on fossil fuel revenues poses a considerable economic risk” in a future compatible with the 1.5-degree target.

THE ENVIRONMENTAL COST OF WAR

In February 2022, the launch of Russia’s full-scale invasion of Ukraine dealt a final blow to the international credibility of Putin’s declared climate goals.

In Ukraine, forest fires sparked by bombs and missiles, explosions at oil depots and gas-fired power plants, and the deployment of fossil fuel-powered heavy military vehicles and equipment have caused serious environmental damage. At the same time, however, the reduction in Russian gas exports to Europe resulted in a decline in emissions and accelerated the global transition away from fossil fuels.

After its invasion of Ukraine, Russia found itself politically isolated and unattractive to foreign investors who could contribute to the modernisation of its economy. In an article in *The Conversation*, environmental historian Katja Doose and geographer Alexander Vorbrugg wrote that the economic sanctions imposed on Moscow “have strong implications for Russia’s already slow and rather unsure green transition, be it the modernisation of its energy sector or climate science”.¹

Russian research institutions have also been sanctioned by foreign governments and scientific bodies as a consequence of the war. Russia’s participation in Horizon Europe, the EU’s flagship research programme, has been suspended, and collaborations with the national research councils of various European countries have been put on hold. Moscow now lacks the foreign technologies

needed for scientific research – a direct result of the prohibition on exporting electronic devices to Russia that could be used for military purposes. In the Arctic, research has largely stalled, and climate scientists in Russia have been denied access to the Climate Data Store, a platform that provides a centralised access point to a broad array of climate-related datasets.

AUTHORITARIAN CLIMATE SCEPTICISM

But what does climate discourse look like in Russia? A recent study found that climate scepticism plays a significant role in both Russian and Western public debate.² In Europe and the US, scepticism is largely “reactive”, competing within social arenas around the framing of climate change. Under Russia’s authoritarian regime, however, public debate is dominated by opportunistic state interests defined by political, business, and media elites. Instead of developing as a “conservative countermovement” fighting a progressive movement, Russian climate change denial reflects the flexible policies of a state whose budget is largely dependent on fossil fuels. In this sense, Russian climate policies are consistent in their inconsistency. Putin may have signed the Paris Agreement

1 Katja Doose & Alexander Vorbrugg (2022). “Other casualties of Putin’s war in Ukraine: Russia’s climate goals and science”. *The Conversation*. 23 May 2022.

2 Teresa Ashe & Marianna Poberezhskaya (2022). “Russian climate scepticism: an understudied case”. *Climatic Change*, 172.

and declared his intention to decarbonise the economy, but he also launched a major war of Ukraine that was only possible due to financing from fossil fuel exports.

One of the distinctive features of Russian climate scepticism is that it is not always rooted in a free-market ideology. In the West (the US in particular), climate sceptics typically resort to libertarian arguments against climate policies, which they perceive as a threat to the free market and a free society. While Russia never fully adopted this model, it has nevertheless had some influential pro-market voices. Economist Andrei Illarionov, one of Putin's key advisors on climate change in the 2000s and now a staunch critic of the current regime, believed that the Kyoto Protocol would hinder economic development and instead supported pro-market policies.

ALTERNATIVE SCIENCE

This political context also has implications for the role of science in Russian society. In the past, by discrediting the evidence on climate change, Russian scientists played a significant role in legitimising opposition to the ratification of the Kyoto Protocol. Current political debates on the potential benefits of global warming for agriculture, as well as for the accessibility and appeal of the Northern Sea Route and the Arctic, will no doubt receive similar support.

In the past, certain Russian scientists went as far as to defend climate denial. Astrophysicist Khabibullo Abdussamatov, head of the Space Research Laboratory at Pulkovo Observatory, suggested that solar radiation has a greater impact on the Earth's climate than human activity, and that we are about to enter a new ice age. During the Kyoto Protocol ratification process, he argued in favour of postponing it by at least 150 years. Other scientists, such as the late atmospheric physicist Kirill Kondratyev, have criticised the climate modelling methodology and tried to "debunk the myth of climate change".

IN SPITE OF ITS
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Another influential figure was physicist Yuri Izrael, who held prominent positions at the World Climate Conferences, the IPCC, and the Russian Academy of Sciences. Izrael strongly opposed the IPCC's findings and the Kyoto Protocol. In 2001, the Russian Academy of Sciences released a two-page memorandum arguing that there was a "high level of uncertainty as to whether the temperature rise [...] was in fact due to human activity". In the early 2000s, Izrael was a policy advisor to President Putin, and his opinions held considerable political sway.

After the ratification of the Kyoto Protocol, climate scepticism among Russian scientists underwent developments similar to those observed in Europe and the Anglosphere. The debate started to move from outright denial to a more nuanced questioning of human causation and the real impacts of climate change. This shift was accompanied by claims that the ability of Russian forests to absorb carbon emissions was much higher than previously thought. In their 2022 study on Russian climate scepticism, Teresa Ashe and Marianna Poberezhskaya showed that prominent scientists played a major role in the emergence of climate scepticism between 1998 and 2004. Their importance seemed to decline from 2008 to 2012 during the presidency of Dmitry Medvedev, which was marked by a more pro-climate policy stance – similar to that adopted by Putin in 2021.

CLIMATE-SCEPTIC PROPAGANDA IN THE MEDIA

In Western democracies, the media plays a major role in disseminating climate scepticism. The fact that public opinion can contribute to pressuring governments and shaping policy decisions explains the importance of trying to control the media narrative. In Russia, however, the influence of public opinion on policy-making is limited. For this reason, and due to the Russian elites' limited interest in climate change at that time, there was initially little coverage of climate change in the country's media.

Between 2000 and 2014, however, coverage of climate change increased in Russia, and climate scepticism became a prominent narrative. This trend could be attributed to the perceived dangers that the recognition of anthropogenic climate change would entail for an economy reliant on energy exports. But the lack of trust in authoritative sources that has become ingrained in the wider attitudes of Russian society thanks to decades of state propaganda also played a key role. While there is no clear indication of censorship regarding anthropogenic climate change, the media appears to closely align with the government's shifting stance on the issue.

Climate discourse in the Russian media often slides into the realm of disinformation. Established in 2015 “to improve public awareness and understanding of the Kremlin’s disinformation operations”, the European Commission’s EUvsDisinfo project has been mapping the most radical, conspiratorial form of Russian disinformation. According to its findings, the underlying assumption of various pro-Kremlin media outlets is that climate change is a Western conspiracy that goes against Russian interests.

Examples abound, also internationally. E-journal *Oriental Review*, for instance, has suggested links between Hitler and climate change. An article in the *New Eastern Outlook*, overseen by the Russian Academy of Sciences, claims that an upcoming period of reduced solar activity known as the “solar minimum” is likely the reason for extreme weather conditions. And online magazine *Strategic Culture Foundation* has repeatedly claimed that the climate change agenda aims to reduce the world’s population. All of these online outlets have been subject to US and UK government sanctions for spreading disinformation.

Similar conspiracy theories have reached the highest echelons of the Russian elite. In 2019, Duma member Aleksey Zhuravlyov suggested that extreme weather events were the result of US weapons designed

to alter the climate. Russian state news agency *RIA Novosti* has made a similar claim that Western powers are engaged in experiments with climate weapons. And on *RT*, Swedish climate striker Greta Thunberg was the subject of defamatory articles portraying her as the hateful “children’s crusader” of an alleged “environmental elite”.

THE FUTURE OF DECARBONISATION IN RUSSIA

The role of Russia in tackling climate change is crucial, but if the country is to undergo meaningful decarbonisation, substantial and rapid policy change is needed. However, such changes are unlikely to take place. Internationally, the sanctions imposed on Russia due to its war on Ukraine are restricting access to the financial and technological resources necessary for the energy transition. And at the domestic level, the prevalence of climate scepticism in the media and the heavy reliance of the Russian economy on fossil fuels explain the reluctance of the country’s elite to pursue decarbonisation efforts.

Aside from the difficulties associated with the energy transition, a further reason for this lack of action is the notion that Russia could profit from rising global temperatures to become a “climate winner”. According to this narrative, the large swathes of Siberia that are currently too frozen to support life

or economic activity could become habitable with the rapid thawing of permafrost (which currently covers nearly two thirds of Russia). The melting of the Arctic could also open up new shipping lanes. In theory, this could lead to the expansion of industry, resource mining, and agricultural production.

In reality, the consequences of climate change are already having a destructive impact on Russia. Its territory is warming 2.5 times faster than the world average. Siberia has experienced an abnormally high number of wildfires, which also emit huge amounts of carbon into the atmosphere, and dozens of villages have been destroyed in flash floods. Meanwhile, the thawing of the permafrost poses very serious threats; rather than opening up new possibilities, it is eroding urban infrastructure and threatening oil and gas pipelines, roads, and railways.

Permafrost degradation may also cause the release of vast amounts of methane currently trapped within and below it, what some scientists refer to as a “methane bomb”. Methane is considered to have 84 times the warming power of carbon dioxide and is currently responsible for about 30 per cent of global warming. Unknown bacteria and viruses emerging from the melting Arctic region pose an additional threat, as shown by the 2016 anthrax outbreak in northern Siberia.

These developments prove that climate collapse is a lose-lose scenario for everyone, including Russia. Yet given the country's current situation, it is hard to predict what could change the trajectory of its economy.

With more countries moving towards the energy transition, Russia's fossil fuel-dependent model is likely to gradually become outdated. This, along with political developments inside Russia and the uncertain outcome of the war in Ukraine, will play a crucial role in defining the country's (currently non-existent) path to decarbonisation.

Even after the end of the war, concrete actions aimed at climate mitigation may constitute a prerequisite for the lifting of economic sanctions, thus becoming a tool for climate diplomacy. The harsh truth is that there cannot be any globally effective effort at reaching the goals of the Paris Agreement without Russia's contribution.



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A Convenient Transition for Europe

From the 1884 Berlin Conference to the EU's response to the energy crisis, Europe's strategic priorities have long been tied to the exploitation of African resources. With the European Green Deal, diplomat and expert Olamide Samuel argues the EU falls into the same pattern of relations with Africa, which could sour rather than reset Africa-EU relations.

Climate change and environmental degradation are global challenges, which must be urgently tackled if we are to avoid catastrophic consequences. Addressing these mammoth challenges requires international cooperation and coordination of efforts that, frankly, has no precedent in human history. Yet, even as the EU charts its way towards a green and sustainable future, some of its strategies are predicated on the subjugation and dismissal of African interests. The EU's approach to mitigating climate change has the effect of deepening diplomatic grievance and weakening its foreign policy, as well as perpetuating age-old exploitation of African resources.

The economic interdependence between Europe and Africa has a long history. At the 1884 Berlin Conference, the European

powers decimated and delineated African territories on the basis of natural resources. During World War II, Britain and France relied upon African manpower to fight on the frontlines of a foreign war. The history of European-led colonisation and enslavement are testament to how European requirements have always dictated the nature of the Euro-African partnership.

THE GREEN DEAL IN AFRICA

In July 2021, the European Commission decidedly stepped up to the challenge of mitigating climate change. The Commission adopted a set of policies to ensure that the EU evolves into a modern, resource-efficient, and competitive economy by reorienting its climate, energy, transport, and taxation policies. These proposals, under the umbrella of the European Green Deal, aim to transform Europe into the first climate-neutral continent in the world.

The Green Deal aims to reduce net greenhouse gas emissions by at least 55 per cent by 2030 and set the bloc on course for carbon neutrality by 2050. The assumption underlying the deal is that an ambitious reorientation of climate, energy, transport, and taxation policies should

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be sufficient to achieve the EU's climate targets in a fair and cost-effective way. It is an attractive proposition, with a catchy mantra: "No net emissions of greenhouse gases by 2050; economic growth decoupled from resource use; no person and no place left behind."

The Green Deal typifies European strategic thinking on climate change. Conceived as an internal policy instrument of the European Commission, it proposes significant policy changes that will affect its foreign relations. One of the foreign policy areas that will be overhauled will be the nature of economic and political relationships between the EU and Africa. These changes are most visible in energy and in the critical raw materials trade.

The EU is Africa's largest trading partner, accounting for around 28 per cent of African imports and exports, with crude oil exports and refined petroleum imports representing the lion's share of this trade.¹ As the EU seeks to wean itself off fossil fuels and electrify its economy, the economic relationship will be reconfigured by a decline in fossil fuel demand and a simultaneous increase in demand for critical raw materials.

Weaning Europe off crude oil will shrink exports from countries such as Libya and Nigeria that rely on the EU market. Reducing oil imports from north Africa is particularly important from a climate perspective given that emissions from oil and gas exploitation in this region are among the highest in the world. But the Green Deal approach glosses over the fact that the EU has not been forthcoming on the capacity building, technology transfer, and financial investment that these export countries have called for to lower sector-wide emissions. African leaders have lamented "being infantilised" by European leaders preaching the requirement to reduce emissions, without providing the necessary financing.²

The Green Deal also depends on the exploitation of African resources for Europe's green transition. For example, the EU aims to use natural gas as a bridge fuel to power a greener economy. Given the relative scarcity of natural gas in the EU, gas imports cover 83 per cent of demand. In 2021, Algeria fulfilled 13 per cent of EU natural gas demand, just after Russia and Norway. It seems that immense opportunities lie ahead – if Africans can adapt their extractive and export markets to cater to Europe's needs.

1 African Union (2020). African Trade Statistics 2020 Yearbook.

2 Max Bearak, Melissa Eddy, & Dionne Searcey (2022). "A Power Balance Shifts as Europe, Facing a Gas Crisis, Turns to Africa for Help". *The New York Times*. 27 October 2022.

Similarly, the EU's electrification drive will increase its reliance on critical raw materials such as bauxite, cobalt, and platinum group metals from countries such as Guinea, Democratic Republic of Congo, and South Africa. Analysts estimate that a ninefold increase in electric vehicle sales in the next 10 years will be associated with an almost 40 per cent increase in aluminium consumption. As a result, bauxite (the main source of aluminium) will increase in value. Guinea possesses the world's largest reserves. For African countries with significant critical raw material reserves, there are ample economic opportunities to be had, but they will also shoulder the dirty side effects of Europe's green transition.

*EUROPEAN REQUIREMENTS
HAVE ALWAYS DICTATED THE NATURE
OF THE EURO-AFRICAN PARTNERSHIP*

THE ENERGY CRISIS

As these plans were taking shape, a European geopolitical crisis emerged in 2022, accelerating the new scramble for Africa. The Russian invasion of

Ukraine caused major shocks to global energy markets and exposed the EU's reliance on Russian gas supplies. Almost overnight, the EU embarked upon a scramble for Africa's gas reserves. German Chancellor Olaf Scholz rushed hat in hand to Senegal in May 2022, eyeing its significant gas deposits. Italian president Sergio Mattarella hurried over to Mozambique in July 2022, keen to reduce Italy's reliance on Russia. And Polish president Andrzej Duda toured west Africa, looking to improve energy supplies from Nigeria, Côte d'Ivoire, and Senegal in September 2022.

Suddenly, European leaders were less concerned about African carbon emissions. Domestic political instability in export countries was also of little concern to European leaders. Neither the crippling insurgencies in Mozambique nor the ethical questions surrounding the occupation of Western Sahara by Morocco could deter the influx of capital to fund the extraction of resources. There was also little recognition that Africa remains a continent where 580 million people lack access to sufficient energy. The reality is that African resources are more valuable when they cater to European demand at the expense of local demand. Several countries across the continent experienced historic levels of blackouts in 2022. It is said that "Africa will remain poor unless it uses more energy".³ But that's not important for now; there is a war in Europe.

3 "Africa will remain poor unless it uses more energy". *The Economist*. 3 November 2022.

Climate and environmental concerns cannot be divorced from issues of social justice, equal rights, and resource allocation. We cannot ignore the fact that the exploitation of Africa is intrinsic to European green solutions and that this exploitation requires the cooperation of the African elite. Yet, climate policy discourse in Europe ignores these difficult questions.

This cognitive dissonance is sustained through oversimplified and ahistorical climate policies such as the Green Deal. The Green Deal creates an artificial boundary delineating Europe's climate responsibilities in a manner that prioritises continued Western overconsumption over the needs of the world's most vulnerable. Not only does the European Green Deal carve out Europe's green transition based on arbitrary geographical borders, it does so based on equally artificial markers in time.

SHARED RESPONSIBILITY?

Humanity has "now emitted as much since 1990 as in all of history before that time"⁴. The figure is a damning indictment of our collective and relentless exploitation of the planet. Based on the 1990 benchmark, it makes sense that each human

must leverage all the tools at their disposal to suppress post-1990 emissions.

However, the 1990 benchmark relieves much of the developed world from their historical responsibility for this mess. The climate emergency did not start in 1990. When climate policy starts the clock from that point in history, it masks the regionally differentiated emissions responsibilities in favour of developed countries that have already enjoyed the benefits of accelerated development and industrialisation.

A fresh look at disaggregated emissions data reveals a very different climate reality. Historical emissions data from the Potsdam Institute for Climate Impact Research show that the average EU citizen emitted 279 tonnes of CO₂ from 1960 to 1990. In the same period, a sub-Saharan African produced a mere 28.4 tonnes. Such a disparity exists because of the waves of industrialisation, war, and development that EU states experienced, compared to sub-Saharan Africa, not to speak of the relentless extraction of natural resources enacted by much of Europe through colonisation. Colonisation, it turns out, has had a significant

and measurable impact on emissions data.

From 1991 to 2021, the same European citizen produced 245.52 tonnes of emissions, compared to the African's 26.5 tonnes. On a per capita basis, the data reveals just how differentiated our responsibilities for global warming truly are. What's more, it underlines the inaccuracy of claiming universal and equal responsibility. A more accurate assertion would be that a European Union citizen is 10 times more responsible than a sub-Saharan African.

Notwithstanding these disparities, the EU is not currently seen as responsible for emissions. After all, the cumulative emissions of the EU in the 30 years either side of 1990 appear stable, while those of countries in east and south Asia are rising. In fact, per capita disaggregation reveals that, from 1991 to 2021, an individual in Europe emitted 1.3 times more CO₂ than their counterpart in east and south Asia. It gets even more interesting when we consider Europeans' emissions per capita from 1960 to 1990, which were 3.9 times higher than east and south Asians.

By creating emissions targets pegged to 1990 levels, the Green Deal creates a flawed

⁴ Thorfinn Stainforth & Bartosz Brzezinski (2020). "More than half of all CO₂ emissions since 1751 emitted in the last 30 years". *Institute for European Environmental Policy*. 29 April 2020.

interpretation of history, masking the true scale of Europe's contribution. The reality is that the Green Deal would have to aspire to well over 55 per cent reductions if it were to take cumulative emissions per capita into account. Otherwise, the only "neutrality" the Green Deal proposes is not one of emissions but of responsibility. Desmond Tutu had something to say about neutrality in the face of injustice...

THE GREEN DEAL CREATES AN ARTIFICIAL BOUNDARY DELINEATING EUROPE'S CLIMATE RESPONSIBILITIES IN A MANNER THAT PRIORITISES CONTINUED WESTERN OVERCONSUMPTION

enjoy sustainable economic growth if only they adjust their means of industrial production.

We have a responsibility to understand how our differentiated capacities for climate action today mirror the inequality of our historical relationships. The historical disparity of regional contributions to climate change must be reflected at the level of policy and diplomatic dialogue. Otherwise, the Western insistence on shared, equal, and a historical responsibility will only foster divisions. Many leaders from developing nations have already expressed their irritation with the status quo. It would be a good idea to listen to their concerns. ■

This article began by stating the need for unprecedented international cooperation and coordination efforts to mitigate the impact of climate change and environmental degradation. But the elephant in the room remains our "collective responsibility". The Green Deal, however well intentioned, perpetuates a flawed reading of history and therefore a flawed distribution of responsibility. Equally flawed is the assumption that the EU (and other pre-1990 industrialised countries) can still

HOT CONFLICTS

Coordinated by
JENNIFER KWAO

While the link between environment climate change and conflict are fiercely debated, a generalised sense of fragility is spreading around the world. It is therefore increasingly relevant to ask: where are the seeds of violent conflict being sown today? When do environmental conflicts turn violent? How are military and environmental conflicts related? And what role do resource exploitation and militarisation play in environmental destruction and, in turn, rising tension?

From Ukraine and Ghana to the world's militaries, we hear about how the destruction and exploitation of the environment is linked to conflicts old and new. We look at the violent currents underlying the push towards greener energy and technology, the struggle over the transition, and the environmental impact of growing tensions. The picture that emerges is that of hot conflicts and conditions for spillovers.



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MILITARY EMISSIONS ARE A BLACK BOX

Global military expenditure reached a record high in 2022, with the United States, China, and Russia accounting for 56 per cent of total expenditure. With annual military expenditure increasing to around 2.24 trillion dollars, it is more vital than ever that military- and conflict-related emissions are addressed within the UN's Framework Convention on Climate Change (UNFCCC).

Armed conflicts and military activities can be highly destructive for the environment. Russia's invasion of Ukraine has elevated global media attention on the humanitarian, environmental, and societal impact of the war, with media reporting on the environmental consequences beyond the scale of other contemporary conflicts. This attention is welcomed, but significant data and knowledge gaps remain on the overall contribution that even day-to-day military activities make to the climate crisis.

GLOBAL CONTRIBUTION

Militaries are huge consumers of fossil fuels, with large and complex supply chains. However, because reporting military emissions is voluntary, very few states provide disaggregated data to the UNFCCC. When countries report military emissions they have gaps in their data and the overall datasets are poor. This makes accurately predicting the global military contribution to emissions difficult.

In 2022, an innovative methodology was used to provide an estimate for global and regional military emissions. The estimate was based around active military personnel and found that the total military carbon footprint is approximately 5.5 per cent of global emissions. If the world's militaries were a country, it would have the fourth-largest national carbon footprint in the world – greater than that of Russia. This figure does not even include emissions from warfighting itself, or the additional non-CO₂

heating effect from aviation contrails. The 5.5 per cent contribution from the military emphasises the need for concerted action to robustly measure military emissions and to reduce the related carbon footprint – especially as these emissions are very likely to increase in line with military expenditure.

THE GLOBAL STOCKTAKE

The latest Intergovernmental Panel on Climate Change (IPCC) report only collates earlier research, and, since the IPCC's research does not yet cover this topic, it fails to mention the contribution of military and conflict to the climate crisis. However, the report emphasises the need for deep emissions reductions across all sectors. This should include the military.

The UNFCCC's first Global Stocktake will conclude in 2023 at COP28 in the United Arab Emirates and is designed "to assess the collective progress towards achieving the purpose of [the Paris] Agreement and its long-term goals". Given the extent of their global contribution, ignoring military and conflict emissions would be a critical oversight. To date, academic research on military emissions has been largely focused on the US Department of Defense – the largest institutional user of fossil fuels in the world. There has been limited engagement across the wider environment sector on scrutinising the contribution that the military makes to the climate crisis. Militaries are complex organisations, and such scrutiny can be politically sensitive, especially after Russia's aggression against Ukraine. But further research is urgently needed to better understand the climate impact of militaries and armed conflicts, and to push these issues up the agenda of international climate diplomacy. The military emissions gap is too urgent to ignore. ■

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GHANA'S SMALL-SCALE MINING MENACE

The mad rush for precious minerals is sowing seeds of conflict. In Ghana, this conflict is unfolding around the country's biggest resource: gold.

Galamsey is the popularised term for the "gathering and selling" of precious minerals by locals in Ghana. The use of small-scale, artisanal mining practices in gold-rich districts in Ghana date as far back as 2000 years. After encountering the budding trade and abundance of gold on these shores of the Gulf of Guinea in the 17th century, European colonists named today's Ghana the Gold Coast.

True to the symbolism of the yellow in its post-independence flag, gold mining and export is a key component of the country's resources and ambitions. Gold is Ghana's number one export; the country is the leading producer in Africa as well as the 11th largest producer globally. According to the West Africa branch of the think tank Good Governance Africa, small-scale mining constitutes 30 per cent of the country's total gold export and represents a significant source of revenue for people and government.

However, as the sector has boomed, *galamsey* has become synonymous with illegal industrial mining that leaves destruction in its wake. The activities of *galamseyers* across all the 10 known mining districts in Ghana release toxic materials into rivers, and destroy protected forests and farms including cocoa farms, which are Ghana's third biggest source of revenue. Pollution from mines has turned the blue River Pra, a major source of water supply for communities in three regions, yellow. Since 2013, accidents such as cave-ins at unregulated sites have led to the deaths of hundreds. Studies have found that illegal miners leave sprawling wastelands – including open pits, waste piles and flood terrains – in their trail.

These pressures have only increased as gold has gained importance internationally and in the government's development agenda, bringing new foreign and national players onto the scene. In 2022, global central banks purchased the highest quantities of gold not seen since the 1950s. Gold is also used in the circuitry of smartphones and is a critical metal to the global digital transition. Since the early 2000s, Chinese miners have entered the trade illegally in their thousands, often with wealthy backers and wielding weapons. The arrival of Chinese firms has rapidly changed the sector. Not only are excavators and heavy metals now commonly used, but excavation in some areas also takes mere weeks instead of years.

On the campaign trail, President Nana Akufo-Addo promised a "Ghana beyond aid". Stuck in a downward economic spiral while strapped for cash and under the crushing weight of debt, his administration is turning to natural resources. In the latest development, the government's stake in mining ventures was put on the financial markets while the administration brokered a gold-for-oil deal. Although these deals provide legal routes for scaling mining in the country and for foreign miners, illegal

small-scale mining has only grown, and the government continues to make undisclosed losses in revenue and exports. Armed miners fiercely defend their mines and even plot hostile takeovers of rival mines.

For a country renowned for its stability in a turbulent region, this increasing militarisation and unprecedented destruction has been unsettling and caused public uproar. *Galamsey* is now one of the most talked about issues in the country, framed as an environmental, economic, and security disaster, and uniting citizens in their call for urgent and effective government action.

So far, the Ghanaian government has struggled to handle the problem and some of its actions have only made matters worse. While small-scale mining generally is not illegal, unlicensed surface mining and the use of unapproved methods of exploiting gold is. A 1980 law also bans foreigners from working in the small-scale mining industry. In a renewed effort to enforce these rules, the government deported 4500 Chinese nationals in 2013 and declared “war on galamsey” in 2017. A militarised response was abandoned in 2020 after it proved highly ineffective and generated allegations of excessive use of force, extortion, and corruption.

Ghana is a member of anti-graft body Extractive Industries Transparency Initiative, but Good Governance Africa’s analysis shows that corruption remains a big stumbling block in reining in *galamsey*. Prominent individuals and entities engaged in *galamsey* use their undisclosed profits to influence officials mandated to scrutinise the sector. Some high-ranking officials responsible for the sector are allegedly complicit in *galamsey* activities. Those looking to mine legally complain that the government’s permit system is bureaucratic, confused, and marked by partisan political competition, which makes shortcuts attractive.

The courts have also stepped in. According to Attorney General Godfred Dame, over 700 persons of various nationalities are standing trial for their involvement in *galamsey*. He argues that the court’s slow prosecution process and continuous grant of bail have damaged accountability and the deterrence message to *galamseyers*.

While public attention on *galamsey* is spurring a political discourse of blame, communities in mining districts are left to face multiple stressors: poverty, shrinking clean water supply, pollution, ill health, violence and impunity, a growing appetite for gold, and a warming climate chipping away at resources and livelihoods. This new phase of fragility and environmental conflict is alarming. The story of small-scale gold mining doesn’t bode well for communities in other resource-rich areas where there is heightened interest in extraction. Ghana’s hard-won political stability demands its leaders find a sustainable way out of the impasse and reconcile development ambitions with the right to a healthy and safe environment. ■

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UKRAINE'S RESOURCE CURSE

Russian President Vladimir Putin likes to put forward a lot of reasons for his full-scale invasion of Ukraine, but rarely a classic imperialist thirst for resources. However, a desire to secure key resources could be one of the genuine reasons Russian troops marched into Ukraine in February 2022. Rare earth metals, vital in the transition to renewable energy sources, currently lie untapped in Ukraine's subsoil. Ukraine is believed to have the highest recoverable supply of rare earths in Europe as well as one of the largest lithium reserves, valued at 3 to 11.5 trillion dollars.

Most of Ukraine's rare earth reserves, including those of beryllium and niobium, are situated in areas partly or entirely occupied by Russia, mainly Zaporizhzhia and Donetsk, or close to them, such as Kirovohrad. These deposits have the potential to make Ukraine a superpower in the energy transition. Instead, they currently seem to represent Ukraine's "resource curse", bringing the country conflict rather than prosperity.

By depriving Ukraine of its valuable reserves, Russia would simultaneously achieve several goals. It would expand its own rare earth resources, while eliminating a potential market competitor in the rare earth business. It might also thwart the EU's long-term objective of moving away from fossil fuels, forcing the EU to continue and even increase its dependency on both Russia and China. The EU needs to understand this geopolitical nature of the energy transition and find adequate solutions.

UKRAINE'S ALMOST RISE IN THE ENERGY SUPPLY CHAIN

The EU adopted its Renewable Energy Directive in 2018, announcing that renewables would represent at least 32 per cent of its energy portfolio by 2030. Despite this commitment, the EU was and remains almost completely dependent on China for its rare earths supply.

The European Green Deal further enhanced the need to find alternatives for rare earths. To reach climate neutrality by 2050, the EU will need 10 times its current rare earths supply to cover use in wind turbines and electric batteries.

Prior to Russia's invasion, Ukraine had become a key candidate to contribute to achieving the Union's ambitious goals. In 2019, the EU and Ukraine launched a Raw Materials Working Group, focused on sharing information on the critical raw materials supply chain. Shortly afterwards, in 2021, the EU entered a strategic partnership with Ukraine on raw materials.

This emboldened foreign investors' interest in Ukraine's deposits. For instance, Australian company European Lithium was in the process of securing two lithium deposits, in an effort to become Europe's largest supplier.

Parallel to this budding EU-Ukraine collaboration, Russia was pursuing its own rare earth ambitions. Despite having the fourth-largest reserves in the world, Russia was falling behind in developing deposits, some of which are situated in the harsh eastern Siberian region, as well as its refining technology.

In 2020, Russia pledged around 1.5 billion dollars to become the largest producer of rare earths after China by 2030. Russian control of Ukraine's reserves would advance this goal while allowing it to leverage more power over the EU's and other international actors' energy supply chains. In this, Russia could secure China's support, given their growing partnership and their common goal of creating a new world order.

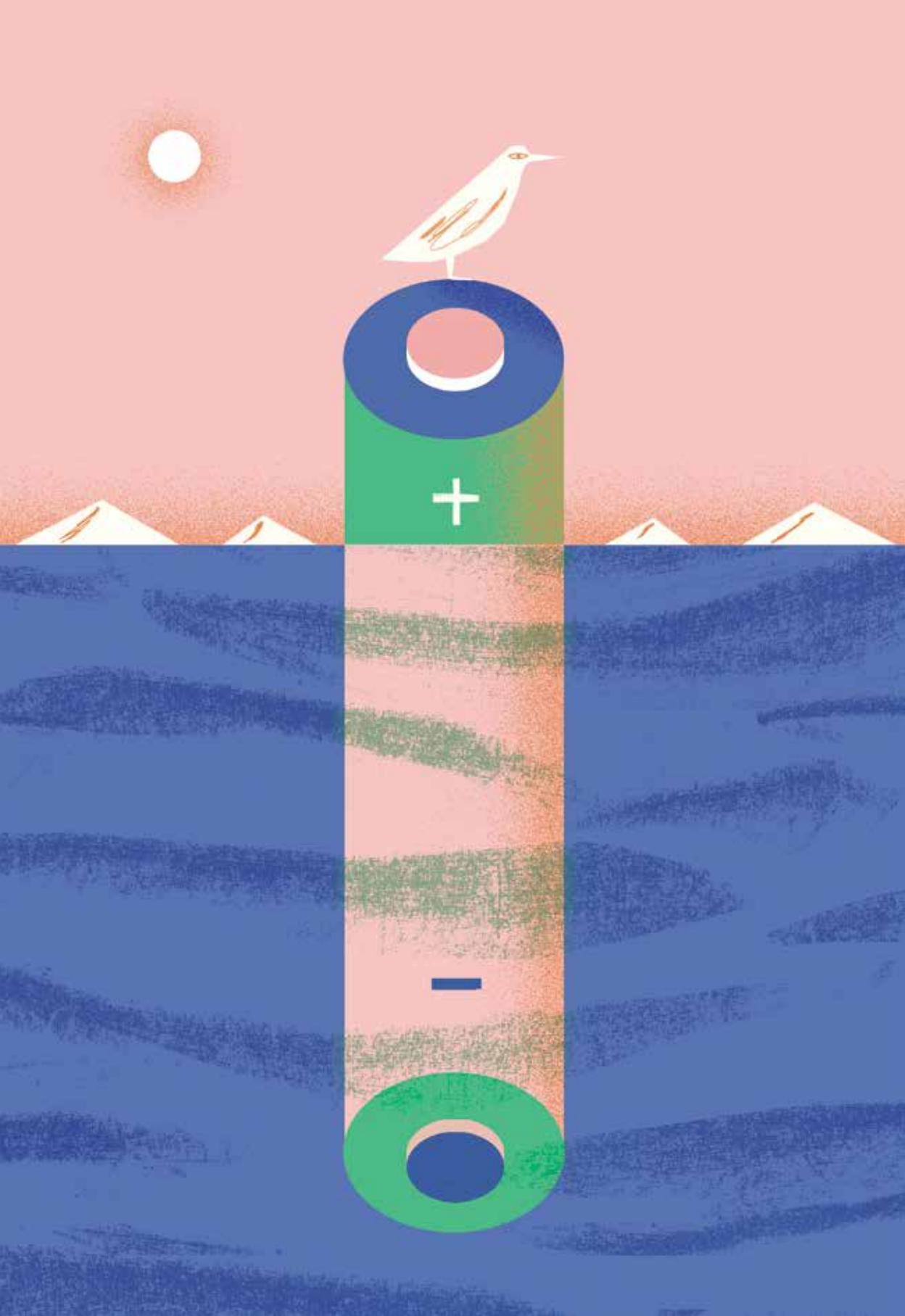
WHAT DOES THAT MEAN FOR THE EU?

A coordinated effort between Russia and China would leave the EU in a difficult position, especially because extracting rare earths in other countries with larger reserves, such as Brazil and Vietnam, is currently fraught with challenges.

These countries lack adequate processing and refining infrastructure, the construction of which would require sizeable investment and involve long lead times. The EU would also have to compete for these resources with other interested actors, such as the United States and Australia, who need rare earths to maintain their economic stature. Faced with resource tensions globally, an essential starting point for the EU is recycling existing resources and using new materials more efficiently. ■

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Deep-Sea Mining: A Scandal About to Erupt

The health of the ocean is central to future-proofing the planet against the impact of climate change. But a meeting of states and industrial interests in Jamaica this summer could put all of this at risk if it gives the green light to deep-sea mining.

We know more about the surface of the Moon than we do about the deep sea. Yet the surging demand for metals for products such as smartphones and electric vehicle batteries is driving the mining industry into the planet's final frontier. Scientists warn that deep-sea mining could lead to large-scale and irreversible biodiversity loss due to ecosystem fragmentation and destruction, noise and light pollution, and the release of sediment plumes mixed with toxic wastewater that would spread far beyond mining sites. Despite this, the Jamaica-based International Seabed Authority (ISA) – an intergovernmental body responsible for the international seabed – has already been handing out exploration licences covering some one million square kilometres of the Pacific Ocean to mining companies. It could begin granting large-scale deep-sea mining exploitation contracts as early as this summer.

In June 2021, the small Oceanian state of Nauru invoked a provision compelling ISA to issue environmental regulations for deep-sea mining in international waters within two years. Nauru is the state sponsor of one of the subsidiaries of The Metals Company, a Canadian corporation that intends to extract metals-rich nodules from the Pacific seabed. If ISA has not issued its regulations by the end of this two-year period, mining operations could be allowed to go ahead.

As of today, 14 states have joined calls for a precautionary pause, moratorium, or outright ban on deep-sea mining. European institutions, industry stakeholders, banks, and hundreds of parliamentarians, scientists, and civil society organisations from around the world have also taken strong positions against deep-sea mining. The European Investment Bank, for instance, has included the "extraction of mineral deposits from the deep sea" on its list of bank-wide excluded activities, considering it unacceptable in both climate and environmental terms.

Also taking a stance against deep-sea mining are some of the very companies that the mining industry claims are reliant on this harmful practice being given the green light.

**DR MONICA VERBEEK**

is executive director of Seas At Risk, an NGO campaigning for the protection and restoration of the marine environment.

BMW, Renault, Scania, Volvo, and Volkswagen have committed to excluding deep-sea metals from their production chains, breaking apart the myth that deep-sea mining is needed to provide materials for the transition to cleaner electric vehicles.

THE UNSUSTAINABILITY OF DEEP-SEA MINING

In a recent policy brief, Seas At Risk, an umbrella association of environmental NGOs from across Europe, demonstrated how pushing forward with deep-sea mining would put the European Union at direct odds with European and international commitments to fight climate change, biodiversity loss, and inequalities, including the UN Sustainable Development Goals.

The blue lung of the planet, the ocean is central to the global fight against climate change, locking away 25 per cent of all carbon we emit – some 2 billion tonnes per year – and 93 per cent of the heat trapped by greenhouse gas emissions. Deep-sea mining threatens to release carbon sequestered for millions of years in the seabed, interfere with the planet's main carbon sink, and harm carbon-fixing organisms such as phytoplankton, all of which play a key role in regulating the climate and marine geochemistry.

By destroying and driving species to extinction, deep-sea mining would also prevent the development of new medical products associated with life forms present only in the deep ocean. A well-known example is the Covid-19 test, which uses an enzyme isolated from a microbe found in deep-water hydrothermal vents now targeted for sulphide mining. Covid-19- and cancer-fighting chemicals have also been found in sea sponges and marine bacteria. Destroying such species and ecosystems before we are able to discover and understand them could prevent future medical breakthroughs.

Lastly, deep-sea mining would work against efforts to preserve the ocean's biodiversity and food webs for the benefit of local communities.

GREEN TECH – A GATEWAY TO DEEP-SEA MINING?

Eyes are also on the EU when it comes to marrying the green transition with its overconsumption of raw materials. Although European Commissioner for Internal Market Thierry Breton has highlighted that “the cheapest and cleanest raw material is the one we don't use”, the Commission's proposed Critical Raw Materials Regulation, announced in March 2023, failed to address the need to reduce demand as a keystone component of EU raw materials

policy. Even more worryingly, the text as it stands does not explicitly rule out deep-sea exploitation. Projects considered to be in the “public interest” could be fast-tracked. To prevent the push for green technology setting the EU on a path towards deep-sea mining and to reverse the general push for more mining, the Commission should introduce a “material footprint” for these finite metals and set binding reduction targets. A stronger focus on resource efficiency and urban mining, i.e. the process of recovering critical materials from discarded electronic equipment, would also contribute to the goal of secured, sustainable access to raw materials without continuing to exceed planetary boundaries.

According to the Deep Sea Conservation Coalition, an alliance of over 100 organisations promoting the conservation of biodiversity on the high seas, deep-sea mining is “not worth the risk”. Why, then, is it being considered? A closer look at ISA might help to answer this question.

AS OF TODAY, 14 STATES HAVE JOINED CALLS FOR A PRECAUTIONARY PAUSE, MORATORIUM, OR OUTRIGHT BAN ON DEEP-SEA MINING

ISA AND THE DODGY TRUTH ABOUT DEEP-SEA GOVERNANCE

In the past, ISA has often been caught up in scandals involving dodgy deals, conflicts of interest, and leaks of confidential information to the mining industry. All levels of its governance and decision-making processes evade transparency, from attempts to exclude non-profits and journalists from meetings to the fact that a small group mostly made up of geologists and lawyers takes closed-door decisions on critical environmental issues using data that is not made public. While ISA’s Legal and Technical Commission has a say on environmental issues, its members are designated by states that often have a vested interest in deep-sea mining and the lucrative contracts that are up for grabs. The ISA too has a vested interest as it receives money for each licence granted.

As calls for hitting the pause button on deep-sea mining grow, so does the urgency surrounding this issue. Once huge investments in deep-sea mining operations have been made, it will be next to impossible to put the genie back in the bottle, to catastrophic effect. ■

A FIGHT FOR EVERY JOB

DECARBONISING EUROPE'S CARS

ARTICLE BY
BÉLA GALGÓCZI

The shift to electric cars is gaining momentum, with huge implications for millions of workers. The priority for trade unions is to secure jobs and workers' rights. But what will a just transition mean for Europe's automotive industry amid growing market competition between the EU, the US, and China?

A timeline for the phase-out of petrol-powered cars produced in Europe has now been set. The transition to electric vehicles is part of the European Union's Fit for 55 package, which aims to reduce the region's net greenhouse gas emissions by at least 55 per cent by 2030 compared to 1990 levels and 100 per cent by 2035 (though with a loophole for synthetic fuels). Decarbonising road transport – a huge contributor to overall greenhouse gas emissions – is key to achieving climate neutrality in the EU by 2050, a commitment that lies at the heart of the European Green Deal. With deadlines looming, Europe's automobile industries are charting the electrification course rapidly. This, of course, is good news. The way the transition is taking place, however, is far from ideal. As one of Europe's largest industries – and biggest sources of employment – shifts into gear for major change, new fault lines are emerging. Its ability to grapple with the inevitable conflicts and successfully weather the transformation will have major implications for millions of Europeans.

WHAT'S AT STAKE?

The automotive industry is currently facing a range of challenges. Besides undergoing an internal shift to digitalisation, automation, and total value chain reorganisation, it now needs to fast-track a move towards electric vehicles.

**EVER FEWER NEW CARS ARE
SOLD EACH YEAR, AND
STABILITY IN SALES REVENUES
IS ONLY DUE TO THEM
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EXPENSIVE**

This transformation is upsetting the long-standing dominance of industry heavy hitters such as Volkswagen and BMW, and allowing newcomers like Tesla to enter the market in a previously unimaginable way. To Germany's shock, the Tesla Model Y outsold the Volkswagen Golf in September 2022. Chinese companies like BYD and SAIC Motor are also gaining new ground, making up 6 per cent of EU electric car sales in 2022. This is likely to reach 20 per cent by 2030. It is increasingly clear that past success offers no guarantee of future competitiveness. The EU's potential diminishing dominance in this global industry is set into sharp relief in this new era of deglobalisation, with pandemic-induced supply chain disruptions and the end of the rules-based post-World War II international order – accelerated by Russia's invasion of Ukraine – raising the geopolitical stakes even higher.

In the European Union, the automotive sector is directly responsible for 2.6 million jobs. With 13.8 million direct and indirect jobs as a whole, it accounts for more than 6 per cent of total European employment. Forecasts on how electrification will affect these jobs depend on their scope and assumptions, but most predict major job losses in the manufacturing segment – between 275,000 and 410,000 by 2040 according to a 2021 study by the European Association of Automotive

Suppliers. This may be partly compensated by increasing value added from electronics, autonomous drive systems, and electric charging infrastructure. According to a study published in 2021 by the Boston Consulting Group, up to three million industry jobs will also be fundamentally transformed in terms of the skills required, place of work, contract type, and working conditions.

These forecasts assume that new car sales will remain stable – but this cannot be taken for granted. Ever fewer new cars are sold each year, and stability in sales revenues is only due to them getting larger and more expensive. This assumption also reveals how many industry players see automotive electrification: not as part of a wider decarbonisation of transport that includes fewer cars and better mass transit, but simply as the replacement of the combustion engine with an electric one.

Media concern has focused on possible employment loss due to electrification. The greatest risk, however, is missing the train. Slowing down the mobility transition at this stage would undermine European competitiveness and result in greater job losses in the long term. At this point, focusing on aggregate job gains or losses is therefore less important than helping European companies, regions, and workers navigate the transition.

It is also important to understand that, even if overall automotive employment in Europe remains relatively constant, European manufacturers and regions – from the generalist volume producers in France and Italy to Germany’s premium manufacturers and the central and eastern European supply chain – will experience the transition in vastly different ways. While all major regions saw a decrease in the number of new cars sold between 2000 and 2019, Germany only saw a 9 per cent reduction, whereas Italian sales dropped by 51 per cent. In the same period, employment in the sector rose by 3 per cent in Germany but plummeted by 43 per cent in France. The car industry in central and eastern Europe – boosted in past decades by foreign direct investment – is a special case. Its cheap and flexible workforce offers a competitive advantage, but the industry’s future here remains uncertain. The region has the oldest, most polluting, and fastest-growing car fleets in Europe and a population largely unable to afford electric vehicles. More problematically, its unions are weaker and often not internationally affiliated. These workers and plants have less bargaining power and are particularly vulnerable to decisions made elsewhere. Also a problem is the industry’s continuing “upmarket drift” – the production of heavier, faster, and more expensive battery electric vehicles and plug-in hybrids that, among other issues, need larger batteries – which is putting a strain on critical material use.

THE TRADE UNION PERSPECTIVE

The primary focus of Europe’s automotive trade unions is clearly to secure jobs and workers’ rights as the industry navigates the green transition, but individual unions play different roles depending on their scope. Workplace unions within specific plants or companies tend to prioritise the short-term goals of their members. By contrast, higher-level trade unions with a more national or international outlook and at one level removed from the immediate concerns of workers – such as the European Trade Union Confederation (ETUC) – are more likely to situate the interests of their members within long-term societal goals such as the need for environmental policies and political participation.

In the industrial relations literature, trade union responses to the green transformation can be grouped into three categories: opposition, hedging, and support.¹ In contrast to an uncompromising opposition to climate change mitigation, hedging strategies accept the need for emissions reduction policies but seek to minimise environmental regulation. Support strategies are in favour of climate mitigation and take a proactive stance on decarbonisation.

Over the last decades, trade unions have developed their ability to challenge profit-

1 Adrien Thomas & Nadja Doerflinger (2020). “Trade union strategies on climate change mitigation: Between opposition, hedging and support”. *European Journal of Industrial Relations*, 26(4), pp. 383–399.

driven changes imposed by capital. The changes proposed under the green transition are of a different ilk: they are policy driven and serve the public interest. Instead of questioning or impeding the necessary restructuring, trade unions must become drivers of this change while working to manage its consequences. This is a huge challenge, and one exacerbated by the capital-labour conflict. Even if unions agree with the long-term objective of the restructuring process, proposed changes such as reducing jobs and lowering conditions can resemble the profit-maximising efforts that unions usually resist on their members' behalf.

On top of that, precarious jobs with less security make up a large and growing share of posts. Such jobs have historically borne the costs and risks associated with change, making it both harder to protect them and to get these workers on board with restructuring. This asymmetry of power, alongside a growing recognition of the importance of climate and environmental objectives, has led to trade unions becoming the drivers behind the "just transition" concept. In 2018, global manufacturing union IndustriALL and others called for balanced emissions reductions that take employment and social aspects into account and for a just transition fund for industry.

Industry stakeholders can exert considerable power at policy-making level. Employer associations – the owners' and managers'

versions of trade unions – have been playing a controversial role in lobbying for lighter regulation on car emission standards. The 2015 Dieselgate scandal – which uncovered that manufacturers such as Volkswagen had installed defeat devices allowing cars to cheat pollution controls – shows how the industry has tried to evade regulation after failing to prevent it.

In the run-up to the European Council's 2018 adoption of a 35 per cent reduction in car CO₂ emissions by 2030, both unions and employers' associations supported the German government's push for a lighter 30 per cent target. With the Fit for 55 package, the cut increased to 55 per cent for cars and 50 per cent for vans by 2030, rising to 100 per cent by 2035. In 2021, German automotive association VDA opposed the phasing out of the combustion engine, and IndustriALL has also expressed concerns about fast-track electrification.

But things are changing. Germany's largest trade union, metalworkers' union IG Metall, has revised its previously cautious approach and embarked on a fast-track transition. And in 2022, European-level trade unions launched an urgent appeal calling on policy-makers to support the automotive sector in implementing a just transition. The sector as a whole is not currently included in the EU's Just Transition Mechanism – set up to "ensure that the transition towards a climate-neutral economy happens in a fair way" – as the latter is limited

to carbon-intensive regions, while the prospective Social Climate Fund will primarily aim to balance the regressive effects of the Emissions Trading System (ETS2).

LOOKING AT INDIVIDUAL PLANTS

For an insight into the conflicts and negotiations taking place within individual plants and companies, we can turn to Germany's car industry. There, "works councils" (*Betriebsräte*) represent the workforce at plant level and are actively co-managing the transition in order to protect employees.

In 2017, the General Works Council of Daimler, which has the right to be advised of future strategies and make proposals, reached an agreement on Project Future, the company's restructuring plan. This agreement protects all Daimler employees in Germany – including those in logistics and branch offices – from operational dismissal until 2029, though without precluding changes to employees' workload and responsibilities. There has nevertheless been a protracted fight for each individual job and production location, taking place within a web of opposing interests operating at different levels: between capital and labour, management and the works council, and different locations both within and outside of Germany. For example, in 2020 the Daimler management launched a massive restructuring programme to "optimise" its global production network. With this came the announcement of 30,000 job losses worldwide, putting the viability of several plants in question. The French Daimler subsidiary that produced the Smart brand was sold, and the manufacturing of the new electric Smart moved to China. Daimler's attempt to end production of the V6 diesel engine at its oldest plant in Berlin created a major conflict; after a year of negotiations by the works council, it was decided that the site will manufacture electric motors as part of a restructuring plan.

Volkswagen is grappling with similar internal struggles. Within its 2016 Pact for the Future, the company announced that although

TRADE UNIONS
HAVE ALWAYS
BEEN ADVOCATES
FOR ACTIVE
GOVERNMENT
POLICY ON
INDUSTRIAL
MATTERS

new technologies and products would create 9000 jobs, 25,000 would be lost. The pact includes a works-council-negotiated job security agreement up to 2025 and secured commitments to keep the production of new e-mobility components in Germany. The agreement, which applies to 120,000 employees, does not exclude job cuts; however, these would take place through managed retirement plans, such as the one agreed in February 2021 for 5000 jobs. The pact made the Wolfsburg main plant the headquarters for digitalisation and electromobility – “Volkswagen’s Silicon Valley”. Tensions around this plant grew in 2021 due to its low capacity utilisation and productivity. When in November 2021 then-CEO Herbert Diess reportedly warned the supervisory board of up to 30,000 job losses in Germany, a full-blown media scandal erupted. He subsequently backed off, mentioning only “some downsizing” at the main plant. Referring to the 2016 Pact for the Future, the works council rejected any further job cuts, but added that the workforce is ready for change, though “only with VW culture. And that includes the works council getting involved”. Its central works council secured the Wolfsburg headquarters’ future by pushing the management to accelerate the launch of autonomous electric vehicles there.

Electric car batteries – which make up between 30 and 40 per cent of the value added of an electric car – will be key to future employment in Europe. The number of jobs created will depend

on the approach taken by manufacturers, however: from BMW’s external procurement to Volkswagen’s integrated value chains. Calls from trade unions for automotive companies to produce their own battery cells in house, thus mitigating job losses, are increasing, and indeed the size and influence of a company’s work council has been found to be a key factor in whether a company goes down this route.

MANAGING CONFLICT THROUGH A JUST TRANSITION

While Europe’s car industry has historically not been concerned by the need to transition to greener transport, the automotive sector is now absorbed with managing the fast-track transformation to electromobility required by the EU, using a combination of hedging and support strategies.

On their side, the industry’s works councils and trade unions have been heavily involved in protecting jobs and workers. Their efforts have met with some success – predominantly in France and Germany. In the latter, the interventions of the country’s powerful works councils have allowed workers and plants to come out of restructuring processes relatively well. French unions, after witnessing significant job losses in the past decades, believe that electrification presents a substantial reshoring opportunity and are calling for policies to incentivise this.

But even in the most positive of scenarios, the process remains conflictual. Just transition policies, while absolutely necessary, are limited in scope as they tend to be available to specific groups of workers only – those with regular employment contracts – and fail to cover the entire value chain, in particular in foreign countries. Trade unions at foreign subsidiaries, such as in central and eastern Europe, have less leverage as strategic decisions are made at company headquarters. As a defensive strategy, they hope for a longer phase-out for the combustion engine. Broader social justice issues, such as regional inequalities and the lack of affordability of the heavier and more expensive cars now guaranteeing industry jobs, are less the focus of trade union attention.

Trade unions have always been advocates for active government policy on industrial matters and have welcomed European Commission initiatives such as the Green Deal Industrial Plan and the Net-Zero Industry Act. But the lack of social conditions – such as quality jobs and apprenticeships attached to the available funding – has drawn strong criticism from IndustriALL Europe and the ETUC, who are concerned that the relaxation of state aid rules may put downward pressure on working conditions.

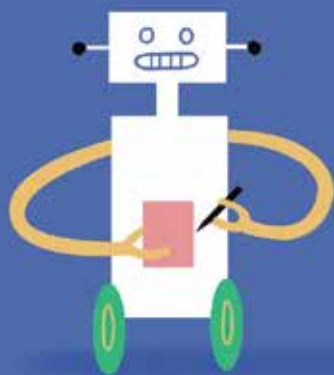
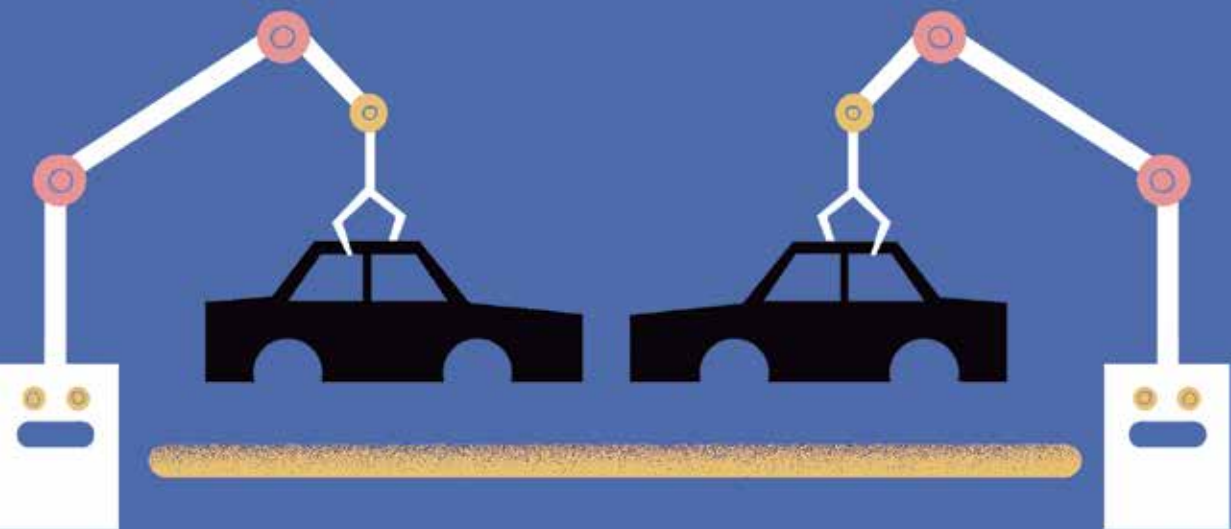
The automotive industry's transition to electric vehicles – as required by the EU under the Fit for 55 package – is a positive step forward and key to wider ecological transition. But at this

time of complete reconfiguration, the sector and its unions need more support to navigate the conflicts inherent in such wide-reaching change. That the automotive industry is not covered by the EU's Just Transition framework is a serious omission that risks deepening an already conflictual and unequally distributed process. If they want to see a green transition that is fair and generates hope rather than discontent in Europe's workplaces and homes, Greens and all progressive voices must add their weight to the call by trade unions, employers, and NGOs for a just transition framework for one of Europe's biggest sectors and employers.



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YOUNG ACTIVISM, OLD POLITICS

ITALY'S DIVIDED CLIMATE MOVEMENT

ARTICLE BY

ANNA TONIOLO
& **SIMONE FONTANA**

On one side, a political party looking for a people. On the other, a people struggling to find a political outlet. In between, an unfolding climate crisis that demands an immediate response from the institutions. In recent months, two very different organisations have managed to pierce the veil of silence that usually surrounds the issue of climate change in Italy.

Europa Verde (EV), the Italian Green party, managed to enter parliament following the September 2022 elections. However, this was only a partial victory for the environmentalist cause. The 3.5 per cent the party obtained at the polls sits in stark contrast to the enthusiasm shown by young people towards climate activism, which brought 80,000 people onto the streets on the eve of the elections.

Ultima Generazione, a transnational activist group known for its non-violent civil disobedience actions aimed at drawing attention to the climate crisis and government inaction, has also managed to make the headlines. At the turn of 2023, the eco-activists sparked debate by spray-painting works of art and symbolic public places, such as *The Sower* by Vincent Van Gogh, the Palazzo Vecchio in Florence, and the façade of the Italian Senate in Rome. Although these initiatives did not cause permanent damage, they roused the ire of the newly elected far-right government led by Giorgia Meloni. A “law against eco-vandals” was introduced in mid-April to severely punish damage to cultural heritage.

IT

This article is available
in Italian on the *Green*
European Journal website.

**NUOVO ATTIVISMO,
VECCHIA POLITICA?
LE DIVISIONI DEL
MOVIMENTO
PER IL CLIMA**

Il conflitto
generazionale sta
condannando gli
ambientalisti italiani
alla marginalità.

While the Italian parliamentary opposition, including Europa Verde, condemned this criminalisation of climate dissent, EV refused to endorse the activists’ actions. The Italian Green party and Ultima Generazione share similar goals when it comes to tackling climate change, but they

differ significantly in their strategies to achieve them. This apparently unbridgeable gap runs along the generational axis and threatens to condemn the Italian climate movement to political irrelevance.

THE ROOTS OF THE DIVISION

This difference of views has historical and structural roots that make it difficult for parliamentary environmentalism and the climate activists to join forces. Fragmentation on the theme of environmentalism is part of the history of the Green movement and its evolution within Italian politics. As Paolo Gerbaudo, sociologist and political theorist at the Scuola Normale Superiore in Pisa and King's College London, explains, "The Italian Green movement as a party dates back to the early 1990s and has had a very troubled history." Although the Italian Green party was effectively born in 1990, it had already made it into parliament three years earlier, as an evolution of various ecological movements dedicated to individual causes. Between the 1990s and early 2000s, the Greens achieved concrete political results such as the approval of a law on protected areas, which still safeguards Italy's natural heritage today. In the following years, internal divisions progressively alienated the party's voters; in 2008, not a single Green representative was elected. For the Greens to reorganise as Europa Verde and make it back to parliament, it took a 14-year-long "journey

through the desert", as party co-spokesperson Angelo Bonelli puts it. Together with the Italian Left, Europa Verde won 3.5 per cent of the votes in the general election held on 25 September last year.

A major obstacle to the Italian Greens gaining wider support is their limited appeal to the less wealthy segments of the population. The party, historically associated with the radical upper middle class and represented almost exclusively in larger cities, has failed to convincingly combine its climate discourse with social issues and inequalities. Another problem of Italian environmentalism, according to Gerbaudo, is that it was institutionalised very quickly, rapidly passing from a protest movement to being part of the system of power. "This trend somehow dried up the aspect of protest and dissent," he emphasises.

In recent years, this void seems to have been filled by a new wave of environmental activism that has attracted the attention of a different demographic in particular: the younger generation. Young activists are putting pressure on the government and public opinion, underlining the urgency of more decisive action to curb climate change. Fridays For Future, Ultima Generazione, and Extinction Rebellion have reintroduced an element of protest, which they deem necessary in the face of the climate crisis. While they employ different methods, these movements share the common objective

YOUNG ACTIVISTS
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of raising public awareness and urging the government and the political class to act immediately to stop the unfolding environmental disaster.

The origins of these movements make them structurally different from parliamentary environmentalism. All three were born in the wake of international youth mobilisation against government passivity. Their approach is decidedly more radical, which places the Greens in an uncomfortable position and hinders attempts to create a common front.

SO SIMILAR, YET SO DIFFERENT

“We absolutely disagree with the actions of Ultima Generazione,” explains Angelo Bonelli. The EV co-spokesperson, a long-standing member of the Italian environmentalist movement, was recently elected to parliament for the second time. According to Bonelli, the activists’ strategy lacks vision and may prove counterproductive for the climate movement.

In 2022, Bonelli met a delegation from Ultima Generazione. He says he is not, in principle, opposed to radical protest. In the early 1990s, he recalls, he filled the fuel tanks of bulldozers with sugar to sabotage the uncontrolled development of a green area of Rome. The problem, Bonelli claims, is rather one of communication. “We only talk about spray paint, never about solutions or proposals to combat climate change,” he explains, “not to mention the effects that these protests have on public opinion.”

Bonelli is particularly critical of Ultima Generazione’s roadblocks – acts of civil disobedience that can paralyse cities’ main traffic arteries for hours. In his view, the ecological transition must be socially desirable, whereas the activists’ demonstrations alienate people from the climate cause.

Delfina, a spokesperson for Ultima Generazione, sees things differently. “Environmental movements have existed since the 1970s, and yet here we are in the middle of a dramatic situation. This means that the more

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traditional practices have not worked,” she told the *Green European Journal*. According to climate activists, the climate emergency demands a more radical approach than institutional policy allows. “Unlike politicians, we are not looking for approval,” says Delfina. “Shocking people is part of the process; when they talk about us, they inevitably talk about the reasons why we’re doing what we’re doing.”

In Ultima Generazione’s view, its methods are similar to those of women’s rights activists, and civil disobedience remains the most effective weapon against inequalities and the indifference of institutions. But will it ever be possible to create a common front of Italian environmentalism? Ultima Generazione is open to dialogue, as long as the principle that different organisations play different roles is respected, Delfina claims. “If we expect to enter politics, it would mean accepting a slow process, and we cannot afford to wait.”

THE THIRD WAY: FRIDAYS FOR FUTURE

What all this boils down to is the ability to influence public debate and policy-making. Bonelli is aware of this, as are the representatives of Ultima Generazione, who put themselves on the line every day to protest against the government’s energy policies.

Yet so far, the efforts of the broader climate movement have had little effect. Since taking office, the current right-wing coalition has been insensitive to the demands of the Greens and climate activists, who are often referred to in government discourse as representatives of an “ideological environmentalism” or even “the green Taliban”. One of the first formal acts of Prime Minister Meloni was to separate environment and energy policy by eliminating the Ministry for Ecological Transition, the creation of which was one of the most significant victories for Italian environmentalism of the last decade. The government has also tried to block an EU-wide ban on internal combustion engines, activate new gas drilling lines in the Adriatic Sea, and stimulate the production

of biofuels in Kenya, Congo, Angola, Côte d'Ivoire, Mozambique, and Rwanda, a move Bonelli criticises as “neo-colonialist”.

In short, the divided Italian climate movement is losing the battle. The only glimmer of hope comes from Fridays For Future, a movement that has proven capable of mass mobilisation.

Like *Ultima Generazione*, the movement founded by Greta Thunberg refuses to channel protest via an institutional path, but shares the Greens' critique of radical eco-activism. Fridays For Future has opted for the “third way”, which consists in embracing the intersectional struggle and sharing the demands of feminist, anti-racist, and queer movements. In October 2022, this “alliance of the oppressed” resulted in the “*Convergere per insorgere*” (Meet to Rise Up) march in Bologna. On that occasion, tens of thousands of people took to the streets side by side with the protagonists of the longest factory occupation in Italian history – former employees of automotive giant GKN who were laid off from the company's Tuscan factory in 2021. This alliance between climate protesters and workers may have paved the way for future climate-related mass mobilisations that could change the face of Italian progressivism.

By allowing different voices to coexist, Fridays For Future also tries to overcome the generational divide. “The experience with GKN has helped us to get closer to a different

generation from the one that takes to the streets for the global climate strikes,” said Fridays For Future spokesperson Marta Maroglio. “It was a dialogue that opened our eyes on the connections that exist between the climate crisis and the world of work. The ecological transition cannot become an excuse for firing workers.”

ITALIAN ANOMALY?

Despite Fridays For Future's attempt to create a united front, the fragmentation of the climate movement is often portrayed in Italian public debate as the inevitable result of incompatible generational sensibilities. But it doesn't have to be this way.

In France, for example, *Europe Écologie Les Verts* is traditionally regarded as an anti-system force capable of combining climate demands with an anti-capitalist consciousness. This has allowed the party to structure itself as a leftist movement, forming a coalition with Jean-Luc Mélenchon's radical left ahead of the 2022 parliamentary elections. This leftist tradition has enabled the French Greens to present themselves as a credible interlocutor for eco-activist movements, as evidenced by the decision of Green national secretary Marine Tondelier to support the actions of *Dernière Rénovation* (the French branch of Last Generation) and to participate in climate strikes called by Fridays For Future. This alliance of climate movements was particularly

evident in protests against the construction of *méga-bassines* – immense artificial water reservoirs for farmers – in western France.

Since her election as Green national secretary at the end of 2022, Tondelier has tried to link the climate movement with transfeminist struggles and the social discontent over President Emmanuel Macron's pension reforms. This choice brings the Greens closer to activism – the milieu in which Tondelier cut her political teeth – and further from traditional political parties.

On the other hand, the most successful Green party in Europe electorally, the German Greens, have gone further than their Italian counterparts in drawing a line between themselves and climate activists.

The German Green party, Bündnis 90/Die Grünen, is more centrist than its French equivalent on issues of civil rights and inclusion, and has a well-established base among young and urban voters. In September 2021, the German Greens came third in the federal elections with nearly 15 per cent of the vote, securing 118 seats in parliament and a role within the governing coalition together with the Social Democrats and the Liberals.

But things have not been easy for the Greens in government. Conflicts over environmental issues have seen the party's popularity decline and the coalition's stability threatened. In the

western German hamlet of Lützerath, which has since been destroyed to make way for the Garzweiler coalmine, the party found itself at odds with climate activists who opposed the mine's expansion. And in a recent statement, the party's chief whip Irene Mihalic condemned the civil disobedience initiatives carried out by Letzte Generation (the German branch of Last Generation), calling them an "elitist and hypocritical protest" that "achieves the opposite of what we need in the current situation".

A FUTURE TO ORGANISE

The fragmentation within the Italian environmental front is effectively thwarting its efforts. Bringing ecology into the Italian national political framework would require a common commitment to a single objective: the approval of policies aimed at environmental sustainability, the energy transition, and climate protection. The transformation of civil society mobilisation into concrete political consequences also requires a certain unity.

Structural contradictions within Italian public debate are reinforcing the impasse. According to data collected by the Pavia Observatory for Greenpeace Italy, in the first four months of 2022, only 0.7 per cent of the stories featured on the main evening news programmes were related to the climate crisis. In the second four months, partly thanks to the debate sparked by the actions of Ultima Generazione, climate

coverage increased to 2.5 per cent of all stories. With 84 per cent of Italians considering climate change to be a very serious problem according to Eurobarometer data published in 2021, this is clearly insufficient. But if the Italian population is so concerned about climate change, why did Europa Verde get only 3.5 per cent of the vote in the September 2022 elections? The problem could lie in the methods used by the party to mobilise the public and, above all, the political response to the issue. According to Gerbaudo, in the current Italian context it is “necessary to remind people that climate policy is a policy of common sense, and common sense dictates that intervention on this issue needs to speed up”.

Without a stronger Green party, however, it will be difficult to capitalise on the growth in interest and activism on climate issues at the polls. Europa Verde is the result of splits and convergences, with a leadership that many consider outdated. The climate movement currently finds itself halfway between a new phase of institutionalisation – which has proved fatal in the past – and a new organisational opportunity as modelled by Fridays For Future. It must use this occasion to develop an approach that, in contrast to existing institutional structures, offers a democratic space for participation that can embrace intersectional struggles, overcome class and generational divides, and thus achieve real political and social change. ■



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ECOLOGY

TODAY'S BATTLEGROUND

ARTICLE BY

NICOLAS TRUONG

The climate crisis is spotlighting the divide between reformist environmentalism and more radical ecologies in France. Meanwhile, the far right wants to associate biodiversity protection with the defence of ethnic identity.

Heat-stunned birds falling from the sky in their thousands onto the cracked earth of India and Pakistan. Salmon scorching to death in a river during a heatwave in the United States. A consortium of intergovernmental climate experts warning that humanity has a limited time to “ensure a viable future”. A battered Ukraine that has become the epicentre of a worldwide energy conflict and food crisis. Ecology has become the great question – and struggle – of this century. But decisions over how to respond are beset with conflicts. These are being amplified by the urgency of the planetary crisis.

FR

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L'ÉCOLOGIE, UNE TERRE DE CONFLITS

Le combat contre la catastrophe climatique oppose de multiples courants de pensée divisés entre un environnementalisme réformiste et une écologie plus radicale.

At their graduation ceremony in April 2002, a group of environmental and life sciences students at AgroParisTech [one of France’s *grandes écoles*] issued a call for “desertion”, referring in particular to the agroindustrial sector. Appealing for a “change of direction” and a rejection of the “system” said to be waging a “war on the living world” and farmers, the students urged their peers not to join professions that would make them “design ready meals and then chemotherapy drugs to treat the resulting diseases” or even to “count frogs and butterflies only for them to be legally disappeared under construction sites”. The movement is reminiscent of – but more radical than – the one launched in 2018 by the student manifesto “For an ecological awakening” [*Pour un réveil écologique*]. Philosopher Dominique Bourg believes that this desire to secede is evidence of a “universal ecological affect” strongly felt by young people. According to the

results of a worldwide survey on eco-anxiety published in *The Lancet* in 2021, 75 per cent of 16- to 25-year-olds consider the future “frightening”, and 56 per cent believe that “humanity is doomed”.¹

Calls to choose a different path – or “fork away”, as philosopher Bernard Stiegler puts it – are driven by the fact that, in the words of philosopher Michel Serres, “our model of development is a model of destruction” and “the real world war” is “the one that pits our entire species against its own environment”. For Bruno Villalba, political science professor at AgroParisTech and author of the 2022 book *L'Écologie politique en France*, the conflict between “two ecologies” lies at the heart of this debate. First to make this distinction was Norwegian philosopher Arne Næss, who formulated the concept of “shallow” and “deep” ecologism in 1973. “Shallow” ecology favours technical solutions to reduce pollution or curb overconsumption without tackling the anthropocentric productivism at their root. By contrast, “deep” ecology strives to associate human and non-human life forms within an ecology-centred metaphysics. An aspect of Næss’s thinking on this issue – ecosophy [ecological wisdom] – was later taken up by philosopher and psychoanalyst Félix Guattari.

GOVERNMENT VERSUS AUTONOMY

Many thinkers agree that there is a divide between an ecologism that is “conciliatory” towards productivism and a “radical” ecologism that seeks to break with it. Dominique Bourg sees this as an opposition between “corrective” and “paradigmatic” ecologism, i.e. between an environmentalism that presupposes an ontological separation between humans and their environment and one that recognises our interdependence with living things. Philosopher Antoine Chopot, co-author with Léna Balaud of *Nous ne sommes pas seuls*, published in 2021, conceives this as the “ecology of government” versus the “ecology of autonomy”.

Of these two forms, the corrective version is clearly dominant. At its root lies “sustainable development”, an idea forged by the Brundtland Commission in 1987, which involves “meet[ing] the needs of the present without compromising the ability of future generations to meet their own needs”. The concept is based on notions such as “transition” (from fossil fuels to renewable energies), “compensation” (such as carbon offsetting), “resilience” (for instance of regions recovering from intensive industrialisation and agriculture), and “sustainability” (which is slowly replacing the term “sustainable development”).

¹ Elizabeth Marks, Caroline Hickman, Panu Pihkala, Susan Clayton, Eric R. Lewandowski, Elouise E. Mayall, Britt Wray, Catriona Mellor & Lise van Susteren (2021). “Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey”. *The Lancet Planetary Health*, 5(12), pp. 863-873.

ECOLOGY HAS
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GREAT QUESTION
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Corrective ecologism, which seeks to adapt to a world of limited resources, is supported in particular by engineer and lecturer Jean-Marc Jancovici, who proposes “reconciling sobriety and capitalism” (*sobriété* being the Francophone term for reduced consumption) through decarbonisation. While Jancovici states that Emmanuel Macron’s first term in office “did not in any way encourage” what he calls “the inversion of decision-making criteria” – i.e. the change in economic “software” needed for climate action – The Shift Project, a think tank he co-founded, proposed a “Plan for Transforming the French Economy” in early 2022.

In order to transition away from the fossil fuel consumption that has “disrupted” the climate and our dependence on oil – “the lifeblood of globalisation”, the group led by Jancovici proposes that we prioritise hydrogen energy storage, electrify car transport, promote the use of bicycles to transport goods, cut beef consumption by two thirds, end “imported deforestation” (caused by the production of soya, shrimps, or palm oil destined for the European market) through compulsory labelling on all processed products, and reduce air travel in favour of rail. A plan, he insists, that is “neither growthist nor degrowthist”.

But the use of technological solutions – such as nuclear energy, which he calls “the safest [energy solution] for humans and the most environmentally friendly” – continues to divide people. This “conciliatory” ecologism also forms part of the European Green Deal, which, according to diplomat Laurence Tubiana, is “the new social contract” of our time. In the 2022 book *Politiques de l'interrègne*, economist Jean Pisani Ferry underlines that the Green Deal will oblige us to face up to “the macroeconomic shock of climate action”. Economist Eloi Laurent, meanwhile, is not hostile to governmental ecologism, provided that “the ecological transition is not subordinated to economic growth” – a criterion he does not believe is fulfilled by the Green Deal. He proposes going further and “getting out of growth”, following New Zealand’s example in the healthcare sector, to achieve a “social-ecological transition”.

THE INDUSTRIAL DOMINATION OF NATURE

Disputes also divide the supporters of an ecologism “without transition”, to use a phrase coined by civil disobedience collective Désobéissance Ecolo Paris. Antoine Chopot notes that “an anti-capitalist and Leninist Left seeking to integrate an ecologism that has long remained outside its focus” is accusing others of “blubbering over the living world”, in the words of [radical left-wing] economist Frédéric Lordon. They see this as a diversion from the unchanging struggle of our time. According to Lordon, “It is capitalism that is destroying the planet, and it is only by destroying capitalism that we will save the planet.” This part of the Left, disoriented by the new ideas of ecosophy, fears that ecology will supplant economy, that nature will dethrone culture, that the love of birds will replace support for the proletariat, and that concern for the wretched land will divert attention from the “Wretched of the Earth”. However, counters Chopot, it is possible to be anti-capitalist precisely “because one is sensitive to the natural world, to the condition of living beings, to their fulfilment, to their points of view, and to their relations with the rest of the Earth’s inhabitants”. It is necessary to not only “politicise wonder”, in the words of philosopher Baptiste Morizot, but also to politicise the emotion and horror provoked by the razing of an ancient beech forest. “Emotions evoked by the destruction of the living world are also gateways to politics,

since they can lead us back to the causes of ecological devastation,” says Chopot.

What’s more, there is no guarantee that other aspects of communism or socialism would protect against the ravages of extractivism. As philosopher Serge Audier has emphasised, the history of Western “Promethean hegemony” shows that the revolutionary syndicalists and orthodox Marxists of the last century saw socialism as “the dialectical heir of capitalism”. In other words, “It could be that the Left has been largely ‘hegemonised’ by the imaginaries and practice of industrial capitalism.”

For most Marxists, the industrial domination of nature is rooted in a separatist and artificialist culture similar to that of the liberals, although American philosopher and gender studies theorist Judith Butler believes that the extent to which Marx himself saw labour as an act of domination of nature has been “greatly exaggerated”. Philosopher Pierre Charbonnier further argues that “the cataclysmic transformation of the chemical makeup of the atmosphere, soil, and oceans happening today is not a normal crisis; it is not an ordinary, internal contradiction of capitalism”. This is all the more true because “it is not only capitalism that has accompanied material development, even if it has ousted all other systems. In fact, it is quite conceivable that the triumph of a global communist revolution in the 20th century would have

left us with an even worse 'carbon footprint' than today, simply because its productive and developmental performance would have been much better."

THE EMERGENCE OF DECOLONIAL ECOLOGISM

Rosa Luxemburg, a central figure of the Spartacist uprising [a January 1919 armed revolt in Berlin, after which she was brutally murdered], addressed these contradictions in her 1918 *Letters from Prison*. To a friend, socialist activist Sophie Liebknecht, she wrote, "Do you know that I often have the impression that I am not really a human being, but rather a bird or some other animal that has taken on human form. Deep down, I feel much more at home in a piece of garden, like here, or in the countryside, lying in the grass among the bumblebees, than at a party congress." Not that this implied deserting the proletariat cause: "You, I can tell," she continued, "knowing you won't suspect me of betraying socialism. You know that I hope to die in the struggle, in a street battle or a penitentiary. [...] But in my heart of hearts, I am closer to my coal tits than to the 'comrades'." It was a matter of sensibility, not sentimentality. Of humanity, not blubbing.

Long before biologist Rachel Carson's 1962 book *Silent Spring* revealed the extent of the damage, especially to health, caused by

pesticides in the United States, Rosa Luxemburg devoured books on the natural sciences, botany, and zoology. She understood that songbirds were disappearing from Germany "due to the spread of rational cultivation – forestry, horticulture, agriculture – which gradually destroys the places where they feed and nest: hollow trees, wasteland, scrub, fallen leaves on the ground. I read this with great sadness". Her grief was not anthropocentric: "I didn't so much think about the birdsong and what it means for humans, but I couldn't hold back my tears at the thought of the silent, irreversible disappearance of these small, defenceless creatures." Her compassion extended to all species and to humans too. Remembering a Russian book she once read on the disappearance of the Native Americans in North America, she laments that "they too are gradually being driven out of their territory [...] and are condemned to a silent and cruel death". Without turning these letters into a treatise on ecopolitical emancipation, we can see that Rosa Luxemburg drew a connection between different types of domination.

For everything is linked in our intertwined world. In recent years this has spurred the development of a decolonial ecologism critical of a "green colonialism", which is centred on the plantation and has been in place since the beginning of colonisation. This was analysed by environmental engineer Malcolm Ferdinand in his 2019 book *Une écologie*

décoloniale, using the concept of the “Plantationocene” as proposed by anthropologist Anna Tsing and philosopher Donna Haraway. Similar ideas have engendered ecofeminisms, occasionally criticised for their “forms of essentialism” that “[associate] women with nature” – to which some feminists who can be considered ecologists, such as Judith Butler, refuse to subscribe.

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GETTING HUNTERS AND VEGANS AROUND THE TABLE

An attempt is underway to overcome the traditional tensions between ecological anti-capitalism and the new environmental humanities, in the same way that the intellectual and political Left is trying to move away from the tired opposition between the “social” and the “societal”. This move is perceptible on the theoretical level, as illustrated by philosopher Paul Guillibert, whose 2021 book *Terre et Capital: Pour un communisme du vivant* sets out to “put the living world back at the heart of a communist politics”, assuming communism is capable of “re-founding its cosmology within a renewed naturalism”. A “communism of the living world” is seen as present wherever “attempts are made to suspend the exploitation of nature and labour in the name of a harmonious use of the Earth”. Examples include the Notre-Dame-des-Landes anti-airport movement in France and the coalition created by the Standing Rock Sioux Tribe in the US to oppose an oil pipeline project that threatens their water resources.

Efforts are being made to reconcile the divide between sociocentric and naturalist visions of ecogism, for instance between small-scale farming and buying land – whether as associations or individuals – in order to return it to nature. The Reprise de terres collective has looked into the conflicts arising between using land and protecting it and has demonstrated that it is indeed possible to combine small-scale livestock farming and wildlife, the production of good quality food, and rewilding.

But this quest to green the world through land policy cannot be reduced to the communalism of France's ZADs (*"Zones à défendre"*) or rewilded archipelagos. In the manner of [former French prime minister] Léon Blum who, in 1920, spoke of wanting to "keep the old house" of the French Section of the Workers' International in the face of the communist split, philosopher Bruno Latour believes that "an ecological front cannot be opened without a culture of compromise, that is to say, without social democracy." Indeed, the ambition to "maintain the habitability of the planet" requires new "geo-social alliances" and must push "hunters and vegans, capitalist entrepreneurs and ZADist anarchists into dialogue". The conflicts between Left and Right, he argues, were built around questions of production, and continue today over questions of habitability.

There is also a part of the Right that believes that ecologism is intrinsically conservative – since it aims to "conserve" the biosphere – and a far-right section of the ecologist movement that bases its reactionary ideology on the preservation of the Earth. "By insisting that ecologism is left-wing, as some activists do, we have forgotten that political ecologism also has right-wing roots, and by sidelining far-right thinking, we have forgotten the effects of contagion and replication," notes political scientist and expert on radical right-wing movements Stéphane François.

THE ECO-REPUBLICAN PATH

"Protecting the environment is obviously the calling of conservatism, which is nothing other than the defence of the home," said British conservative philosopher Roger Scruton, referring to the etymology of the word "ecology". Coined from the Greek *oikos* ("house", "habitat") and *logos* ("discourse", "reason"), this science of habitat and home was founded in 1866 by German biologist Ernst Haeckel. The ambivalence of the term, which refers to both the study of natural ecosystems and the campaign against their destruction, means that ecologism can oscillate between progressivism and conservatism. According to Stéphane François, it can also "tip over to a reactionary, counter-revolutionary, and anti-Enlightenment anti-modernism", which the rise of the radical right has "confirmed and accentuated" in recent years.

The far right's "organicist" conception of the community leads it to want to preserve the particularities of ethnocultural groups from the "ideology of sameness". Alain de Benoist, the French theorist of the New Right, developed the concept of "ethno-differentialism", which seeks to protect peoples and the diversity of cultures from what he calls "a general system of global homogenisation". This, in turn, is based on what Hervé Juvin – columnist and ecology expert of the [far right] *Rassemblement National* – calls the "ecologism of civilisations".

HOW MANY
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Adherents of this [French] conservative revolution are intent on resisting a globalisation that would destroy this ethnic diversity. “Far-right ecologism is fundamentally an ecologism of populations,” writes Stéphane François. It is also based on localism, [certain strands of] neopaganism, and anti-universalism. A further element – albeit perhaps less so than in the past – is a certain conception of “integral ecologism”, which opposes GMOs and medically-assisted reproduction on the grounds of resisting the artificialisation of life. Philosopher Pierre Madelin notes that ethno-differentialism has progressively been coupled with what could be called “eco-differentialism”, i.e. a “green anti-immigrationism” that seeks to enmesh ecology and immigration. Marine Le Pen, he reminds us, has argued for the protection of “ecosystems, starting with the human ecosystems that are nations”, and Hervé Juvin claims that humankind must “defend its biotope” against “invasive species”. “The far right will only gain power if it can persuasively link the rejection of immigration to concern for the environment,” Madelin states. Indeed, identity-based terrorism has already radicalised this linkage.

“I consider myself an ecofascist,” wrote Brenton Tarrant, who in 2019 murdered fifty-one people and injured forty at two mosques in Christchurch, New Zealand. Immigration and global warming are “two sides of the same coin”, he wrote in an online manifesto. “The environment is being destroyed by overpopulation, and we Europeans are the only ones not contributing to overpopulation. [...] We must kill the invaders, kill the overpopulation, and in so doing save the environment.” Ecofascism is a very real threat. “Porosity” between progressive and conservative versions of ecologism “does exist”, insists Stéphane François, notably around “the defence of a pre-industrial and rooted way of life”. Pierre Madelin, however, cautions that “it is futile to essentialise this convergence between different ecologisms. It is not because the far right today claims to be democratic that democracy itself is far right”.

So how many divisions can be found within ecologism? As many as there are ways of greening politics and politicising ecology. Among the attempts to resolve these conflicts, Serge Audier's "eco-republicanism", set out in his 2020 book *La cité écologique*, is an original and little-trodden path. Supported by a new political philosophy designed to confront the climate challenge, it presents itself as a form of civic republicanism capable of "overcoming its dogmatic anthropocentrism". This eco-republicanism "will be cosmo-political or will not be", and is in any case far removed from nationalism, because "political ecology in one country makes even less sense than socialism in one country". But many prefer to politicise ecologism on the basis of "habitability" and "the condition of the Earth". In any case, Audier sees it as "important that ecologism becomes the focus of controversy and political confrontation on the very meaning of society today and in the future". Indeed, there is no shortage of controversy. On the battlefields of ideas and ideals made reality, these debates are inventing a new politics of nature.



NICOLAS TRUONG
writes for *Le Monde*.



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Climate politics is facing a backlash. New conflicts are emerging and unresolved dilemmas resurfacing around the costs and opportunities of the green transition. The sourcing of critical materials, the deployment of renewables, the management of climate adaptation, reforms in agriculture and food policy, and contrasting narratives on migration and the future of mobility are just a few of the fault lines dividing societies. This edition sets out to map how these competing visions are reshaping politics locally, in Europe, and around the world. Built around reconciling the social and the ecological, the Green movement is best equipped to deal with these divides, but it is also most exposed to the social failures of a transition it has long been calling for.

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