TOWARD SYSTEMIC SUFFICIENCY

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Traditionally the preserve of ecological nonprofits and a small handful of institutional actors, sufficiency is beginning to be recognized as a key lever for much-needed environmental transition. It is now a regular feature of public policies, particularly in Europe following recent concerns over natural gas supplies and large spikes in gas and electricity prices, and appeared in the most recent IPCC report.

However, work still needs to be done on defining exactly what sufficiency looks like: when not simply confused with efficiency, it often takes the form of "personal" sufficiency, a more or less voluntary approach that looks a lot like austerity and essentially involves turning down the heating, choosing public transportation, so-called green mobility or car sharing, and consuming a little more frugally (food, tech, clothes, etc.). This in turn raises the issue of its acceptability to people mired in a consumerist outlook.

But rather than depending almost entirely on consumers, sufficiency could be given a deeper reach, become more systemic and more organized, facilitated by authorities at every level, in every sphere, from transport to telecommunications, construction to regional planning.

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For a long time, the notion of sufficiency was confined to a small circle of energy specialists, ecology nonprofits such as négaWatt (which made a big contribution to cementing the use of the term in France) and certain institutional actors such as ADEME (France's ecological transition agency), although they were largely preaching in the desert. Things have changed in recent years and the term now crops up in the discourse of many public and private sector actors.

One of the reasons for this marked change was, of course, the outbreak of war following Russia's invasion of Ukraine which in turn triggered massive uncertainty about energy supplies and sharp spikes in European gas and electricity prices. But irrespective of this situational effect, sufficiency was also referenced in the most recent report from the IPCC. Sufficiency policies are defined as "a set of measures and daily practices that avoid demand for energy, materials, land and water while delivering human wellbeing for all within planetary boundaries."

Calls for sufficiency come on the heels of a decade when all the major international agencies stressed the massive material requirements of an energy transition predicated on renewable energies and electric vehicles,[1] adding to already well-established trends for the world's urbanization, industrialization, and digitalization. Every year humanity extracts over 100 billion metric tons from the environment, three quarters of which are non-renewable resources such as fossil fuels, minerals and ores, sand and gravel, etc.[2] And the combination of economic and demographic growth could see a 70% increase in this figure by 2060.[3] Faced with this level of acceleration, it is clear that any measure able to "avoid creating needs" – without calling into question the goal of human wellbeing and development – would be very welcome. The best, most ecological kilowatt-hour is undoubtedly the one we had no need to use!

So, sufficiency is beginning to be recognized as a key lever for much-needed environmental transition. Specifically, the switch to new practices in the aftermath of the 2020 pandemic crisis (travel by bike, rise in working from home and remote meetings, etc.) and the real reduction in energy consumption during the winter of 2022-2023 resulting from various public policy measures (heating offices and public buildings to 19°C, various incentives, etc.) were surprising in their scope and speed of adoption. Sufficiency went from key lever to something that could be activated without triggering a social meltdown.

SUFFICIENCY OR AUSTERITY?

But what form of sufficiency are we talking about? Work still needs to be done on defining exactly what sufficiency looks like, as the term, alongside sustainability, resilience, and a few others, has multiple meanings: governments, advocates for degrowth, major corporates and environmental protection nonprofits all have very different perceptions of sufficiency.

When not simply confused with efficiency, it often takes the form of "personal" sufficiency, a more or less voluntary approach that looks a lot like austerity and essentially involves turning down the heating, choosing public transportation, so-called green mobility (riding bikes and scooters, walking, etc.) or car sharing when there are no alternatives, and consuming a little more frugally (eating less meat and opting for local and seasonal food, embracing responsible tech, buying fewer or secondhand clothes, etc.).

This in turn raises the issue of its acceptability: to people mired in a consumerist outlook and manipulated by advertising ("consume and be happy") who may – legitimately enough – feel they are being encouraged to tighten their belts "for the planet" while the dominant political and economic classes carry on much as usual; and to governments and economic actors that may view sufficiency policies as threats to the survival of economic models or the balance of public finances.

The spat between France's Ministry of Finance and Ministry for Ecological Transition (which oversees ADEME) following a "consume responsibly" campaign launched in November 2023[4] is an interesting example of this tension. Advertisements featuring "de-salespersons", quirky and slightly disconcerting but very appealing, questioning people's real needs rather than letting themselves be wooed by the siren calls of excessive consumption, quickly caused outrage among retailers' associations and forced the government to walk a tightrope between concerns for the environment and for GDP.

SYSTEMIC SUFFICIENCY

The debate surrounding personal consumption may be important and legitimate, but in reality it masks two key elements. The first is the fact that, in many cases, consumers simply have no choice, and berating them excessively is not necessarily very productive. If you are looking for kids' clothes made locally, organic yoghurt in returnable packaging or spare parts to repair your hairdryer, the chances are that your shopping trips will turn into a major ordeal. Contrary to what economists may think, we don't live in a pull economy driven by the customer as king, but in a push economy driven by businesses producing goods and services.[5]

The second element is that this "virtuous" call for personal sufficiency masks the fact that another very different form of sufficiency exists, depending not on each individual but on action coordinated, organized, steered, and chosen by governments. Let us look at a few examples.

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We will start with telecoms. Competition has been created by granting licenses to various operators that each install and run their own radio access networks (antennas and base stations). This means that in France, apart from a very few areas that are shared, we have four overlapping networks (2G, 3G, 4G, 5G) providing coverage in the same places. This would clearly be impossible in any other networked industry (water, electricity, gas, road, rails, etc.): you do not see buildings connected to four separate electrical or water supplies, nor can you choose your supplier from one of four parallel highways. By creating a shared and optimized single-access network compatible with competition, every operator would enjoy undifferentiated access to a network that might, for example, be granted as a regional concession. This would halve electricity bills, saving around 2 TWh a year in France,[6] not to mention the resulting savings to customers.

1 IEA, (2021), *The Role of Critical Minerals in Clean Energy Transitions.*

2 UNEP, (2024), *Global Resources Outlook.*

3 For example: OECD, (2018), *Global Material Resources Outlook 2060.*

4 ADEME campaign (2023) "Ask the right questions before buying".

5 Galbraith, J.-K. (1967). *The New Industrial State.*

6 1 TWh = 1 billion kWh. Annual electrical consumption in France is approximately 450 TWh.

In terms of fiscal choices, far-reaching changes are required if we are to see widespread adoption of virtuous behaviors and new methods of production and consumption, such as reusing, repairing, recycling, renovating, short retail circuits, farming practices that regenerate soils and ecosystems, and a focus on craft professions. All these activities share the characteristic of needing far more human labor. However, current fiscal systems treat natural resources as free and have made human labor the basis of social welfare systems for healthcare, pensions and unemployment benefits: carbon tax represents less than 2% of social insurance contributions on wages[7] and taxation of resources, land take and waste production remains extremely limited.

The upshot is that the incessant quest for "productivity" – reducing the amount of human labor needed to produce goods and services – is considered necessary and natural by all actors, from public administrations (faced with their taxpayers) to businesses (faced with their competitors). It is this productivity, so terribly costly in resources and energy, that prevents us from entering the age of reuse and maintenance, where making things last, repairing and remanufacturing would be the norm not the exception.

Finally, let us consider regional planning. For several decades the idea that "the denser the city the less it pollutes" has gained currency: land take is reduced and public transportation is more economically viable. Policymakers, justifiably concerned with job creation, have proactively supported and amplified this metropolization by launching regional marketing campaigns, boosting attractiveness to businesses and tourists and competing for new infrastructures in an attempt to make their cities powerhouses in a globalized economy.

However, all of this has exacerbated the amount of existing housing stock left vacant. In France, we build two new homes for every new inhabitant! Between 2016 and 2021, the average annual increase in the population was 165,000, while the number of new homes grew by 350,000. This eye-catching ratio can, of course, be explained by a number of factors. Firstly are the social changes that are shrinking household sizes, including an aging population and separations. The average household in 1960 contained 3.1 people compared to 2.2 today. But vacant housing stock is also growing by 50,000 units a year. France has 3.1 million empty homes and a further 8 million that are under-occupied. The national housing stock does not match people's needs (or desires) because of the condition, size, format, setting, or location of homes. Single occupancy and metropolization keep the house-building industry afloat.

7 €450 billion in social insurance contributions and €50 billion in environmental taxes, including €8 billion from the carbon tax.

To fully mobilize the potential offered by existing homes and retail and industrial buildings, cities must hive off, putting an end to efforts to attract newcomers and to expansion that harms smaller towns. Authorities at every level must now leverage their ability to lead the way and set an example, using all possible measures to promote better redistribution of the population, reviving smaller cities and towns, villages and country areas, public and private sector jobs, services, shops, medical, social and entertainment provision, etc. This type of redistribution could go hand in hand with a slower pace of life and would tie in with other environmental transition issues, such as cutting the need for unavoidable and ever longer daily journeys to and from work.

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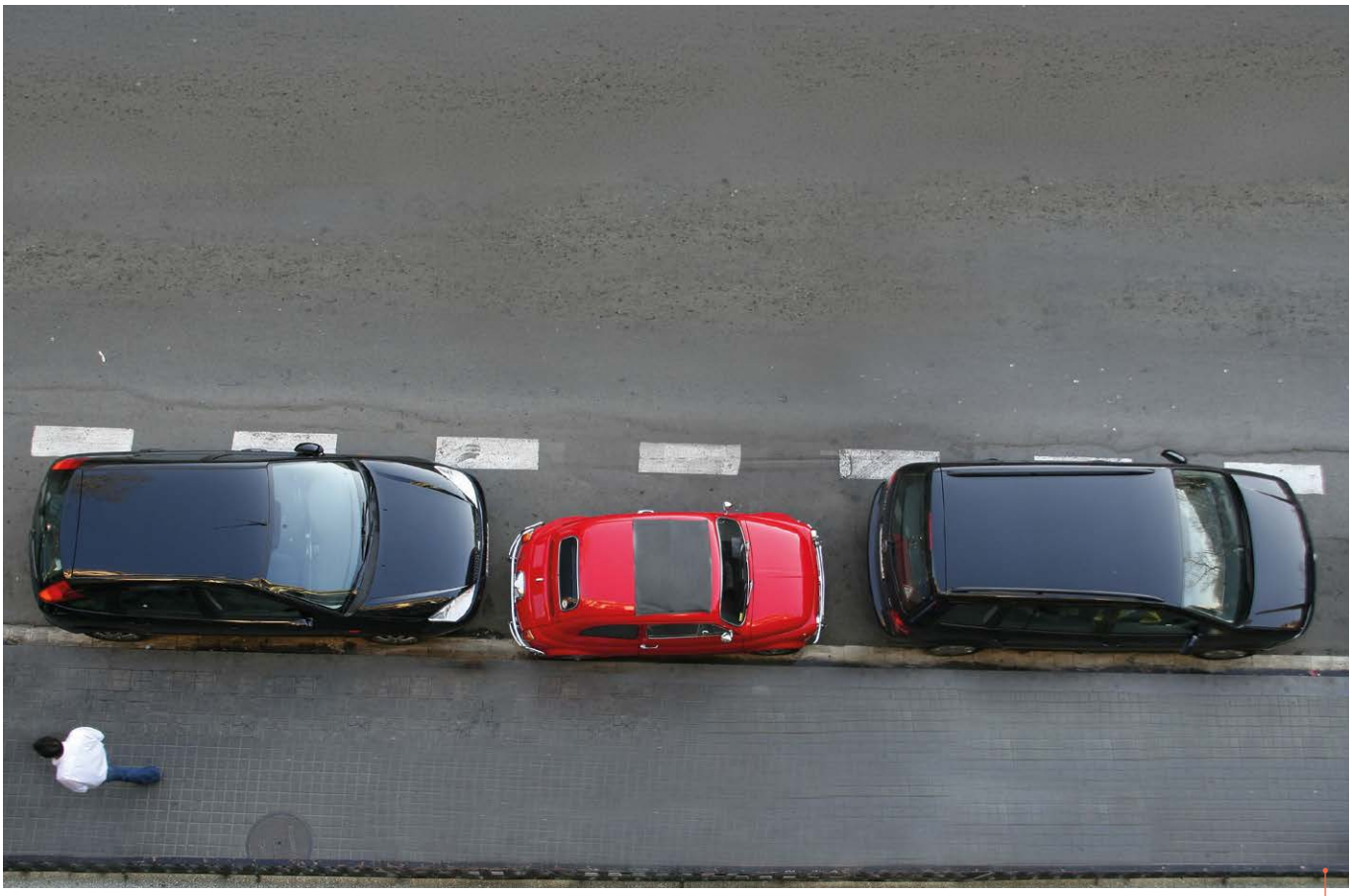
VIRTUOUS CIRCLE

Systemic sufficiency, if effectively organized, guided and anticipated, could be the trigger for loops that create environmentally virtuous circles. Take the private car as an example, imagining that the switch to electric vehicles happens based on very different criteria from today. The first step would be to build smaller cars. You need fifteen times fewer batteries, and all the lithium, cobalt, nickel and other metals they require, to power an 800-kg microcar with a 200-km range than a 2-ton SUV with a 1,000-km range. Modern cars, along with products in many other sectors, are victims of the rebound effect: gains from optimized powertrains are lost because new vehicles are heavier and more powerful. From the technical perspective this is a great pity.

And, in the decades to come, will we really need to keep manufacturing so many new cars every year? There are two levers available for reducing the number of vehicles required: first is the number owned per household, another area where sharing and pooling could be embraced to a far greater extent than today. But it is also possible to leverage vehicle lifespans. Electric motors are considerably less prone to wear than internal combustion engines. Why should a car not last as long as a locomotive or an airplane, at least 30 or 40 years, if certain consumable parts are replaced on a regular basis? We have General Motors to thank for the joys of regular car purchases, after it invented the model-year concept in the 1930s to capture market share from Ford and its timeless cars. Isn't it about time for a change?

What would happen, from a physical standpoint, if we switched car production toward producing far fewer, far lighter vehicles? There would be less need for manufacturing plants, assembly lines and robots; fewer materials (steel, glass, aluminum, synthetic rubber, paint, etc.) and fewer raw materials (oil, sand, iron ore, coal, etc.). As a knock-on effect, there would be less need for infrastructure to extract, transport and process these materials: fewer machines and access roads for mines and quarries, bulk more carriers and port facilities, heavy trucks, etc., all of them also dependent on consuming steel and other materials. Smaller vehicles would not take up so much room in the public space, parking lots would be smaller and in turn require less steel and cement, and so on.



Cars are getting bigger and heavier...

There is a massive ecosystem that lies behind motorized mobility: roads, highways, toll plazas, bridges, parking lots, and more, all supported by tarmac, steel, cement, aggregate, bulldozers, graders, etc.; energy infrastructure (oil-based today, electric tomorrow); commercial and technical networks of dealerships, garages, dismantlers, landfills, storm basins, depollution, etc., and countless related activities, from radar speed traps and roadside inspections to hospitals, insurance companies and the offices they occupy. A portion of national armed forces can be added to this list as they are used, albeit indirectly, to secure our supplies of certain indispensable resources.

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SUFFICIENCY OR POST-GROWTH?

The application of systemic sufficiency to the motorized transportation sector, to take just one example, would thus have major consequences for all other spheres of economic activity. Scaling cars back down to their "proper" size and, especially, returning them to their proper role while organizing civilization's exit from the private car model in the space of a few decades would be extremely virtuous from an environmental perspective (transporting a 100-kg load in a 2-ton vehicle will forever be a physical and environmental aberration) and is probably culturally achievable. After all, humanity lived carless for eons and would doubtless be able to reverse direction – provided this "restriction" came with advantages. Those advantages are not hard to identify, including a more localized economy and reinvigorated social life, additional free time, a major reduction in noise and pollution, and making it safe for children to play in public spaces.

Equally, this cascading list of impacted activities is exactly what prevents us collectively from making radical choices. Less consumption also potentially means less employment, more public and private sector insolvencies, and so on. There is a tendency to glorify Schumpeter's creative destruction rooted in technological innovation, but imagining the same thing applied to the environmental field terrifies us. The argument about job losses is always used when certain activities (such as private jets) are challenged! This underlines the urgency of theorizing, then putting into practice, a post-growth, full-employment economic system able to distribute wealth, deliver human wellbeing for all – in the words of the IPCC – and, finally, respect planetary boundaries.