



Policy Proposal

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Economics of the environment: Local currencies as a way to reduce the scale of trade

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Context

- Environmental dynamics are affected by human emissions and collateral effects of a surplus of production and consumption
- Global scale economic exchanges are one the main cause of this environmental degradation
- Institutions failed managing a responsible global trade because of the multiplicity of actors

Policy proposal

- Reduce the gap between the producer and the consumer (one at most intermediary)
- Introduce local currencies for a reduced range of persons, at the scale of a city.
- Developing circular economy to boost recycling and long-term sustainability

“1028 days: they correspond to the 3 years we have left to succeed in reversing the balance.” These are the words of a young French activist, tied to the net of the Roland Garros semi-final. Today, many scientists agree to say that there is a “high probability of a climate-induced economic catastrophe”.

Since the beginning of the Industrial age, the emission of greenhouse gases, in particular CO₂ has been subject to a hockey-stick growth, as can be seen in Fig. 1 (see annex). It has been proven and demonstrated, most notably by the latest IPCC reports, that anthropogenic greenhouse gas emissions are most certainly causing climate change worldwide, triggering global warming, exacerbating natural disasters and the migration of a predicted 1.2 billion climate refugees by 2050.

One of the first sources of greenhouse gas emissions is the burning of fossil fuels, used particularly in transport. With approximately 19 trillion US\$ worth of exported goods throughout the world in 2019, and as the top section of Figure 1 shows, it seems that international transport has a central place in the emissions of greenhouse gases. Fig. 2, besides, demonstrates that this amount is increasing, with about 5700 MtCO₂ emitted by international freight in 2000 and over 7000 MtCO₂ in 2020.

IPCC reports are definitive: Human activities are responsible for the storage of greenhouse gases (GHG to be shorter). If we exceed the threshold of 3.4°C we will increase the probability of climate-induced economic catastrophe by 10%¹.

¹ Gernot Wagner and Martin L. Weitzman. 2015. [Climate Shock: The Economic Consequences of a Hotter Planet](#). Princeton, NJ: Princeton University Press.

Indeed, environmental scientists are increasingly pointing to the existence and importance of tipping points in environmental systems, which represent a point which, if passed, sets in motion a process leading to abrupt and hard-to-reverse destruction of an environmental resource.

However, as we know, there is no economics without environment. The international market, then, seems to be a major challenge in tackling climate change and reducing GHG emissions.

To counter this issue, more virtuous economies can be put into place. For example, circular economies, in contrast to international markets, seem to have positive effects on the reduction of emissions. The circular economy model relies on the local recycling of used goods and therefore fosters material savings, job creation and local consumption, which might be a solution to limit the emission of CO₂. Indeed, encouraging local consumption would reduce the need for international freight and delocalised production and would therefore incentivise people to consume goods produced and sold in their city or region. The circular economy aims to save resources throughout the life cycle of a product. There are multiple actions that can be put in place such as eco-designed products that can be repaired, valorization of waste with recycling, composting... The consumers play a role in it by paying attention to their purchases and exchange, donate, and repair. Indeed, a study of seven European nations found that a shift to a circular economy would reduce each nation's GHG emissions by up to 70% and grow its workforce by about 4%².

A form of circular economy has already been put in place in Paris with different start-ups: Repair Café, DIY workshops, Too Good to Go (to reduce food waste) ... The list is not exhaustive.

One of the tools used by the circular economy model, tested in a few locations around the world, is a local currency. Local currencies can encourage ultra-local consumption and social networks between producers and consumers in one place and it is possibly a solution to limit GHG emissions caused by the international market. A law enacted in July 2014 provides a framework for the use of complementary local currencies³.

How can local production and consumption be encouraged?

Policy Proposal: Introduce effectively a local currency in Paris to foster local consumption and limit greenhouse gas emissions

There is already a local currency in Ile-de-France, Paris's region: La Pêche. Created in 2013, it started in Montreuil and the equivalent of 180 000 € is in circulation⁴. In fact, one Pêche has the same value as one euro. It is used to encourage the local economy, to reduce the ecological footprint and to combat speculation and tax havens. It can also finance associations: for each conversion in Pêche, 3% is given to non-profit organizations. But compared to the 12 million people who live in the region, the introduction of this local currency seems rather unsuccessful, and very few shops accept it as a means of payment.

With our policy, we intend to make its use easier, so that it can be put in place at its full potential: to buy all kinds of goods and services and ensure all types of exchanges between firms, firms and consumers, consumers and charities. The advantage of introducing a local currency within the city itself, so in a much more restricted region, would be that more information campaigns could be conducted in the city and more shops and consumers would be incentivised to use it, since its use would be more concentrated and more easily accessible. Moreover, research has shown that 47% cities encourage strategies related to urban infrastructure and repair and reuse actions, so local currency can be a new strategy for this purpose.

² Stahel, W. R. *The Circular Economy* (Nature, March 2016)

³ LAW No. 2014-856 of 31 July 2014 on the social and solidarity economy: COMMON PROVISIONS (Articles 1 to 17) - Chapter I: Principles and scope of the social and solidarity economy (Articles 1 to 3)

⁴ Official website of the currency: <http://peche-monnaie-locale.fr/category/medias/presse/>

The efficiency of this policy relies on several points. Firstly, all local shops in Paris would need to accept the Parisian currency as a way of payment, and its acceptability would have to be officially enforced. Secondly, *only* local firms, with headquarters implemented in Paris or in the region should be able to use the currency. This excludes TNCs and international brands, thus avoiding a great part of delocalised production sources. However, its use could be extended to public service companies such as the RATP, EDF, GDF or for tax payment... Although the process for them to put local currency in place might be challenging.

It is also essential that a large communication campaign be put into place to ensure the adoption of the currency by the maximum number of people in the city. An efficient campaign could also be combined with a health program to show people what the advantages of consuming local products are for the environment, the local economy and personal health. Communication needs to be put in place in the mainstream media to be available to a larger part of the population. Indeed, there is a network effect: the more people use it, the more efficient it can be. A city-wide competition can also be held to ask citizens to suggest what improvements they would like to see to the local currency thus increasing the take-up.

Finally, the system must be extremely efficient and secure. Because local currencies are exchanged against traditional money (in this case, euros), the people who decide to adopt the currency must feel safe using it without risking financial loss. For instance, the local currency needs to have both bank notes and coins. The current Francilian currency faces this issue because there are no small coins, which means there is an economic loss for one or the other party in the transaction due to the impossibility of paying the exact price of a good, because it can be difficult for shops to give back change when the local currency system is not used enough yet. The provision of the currency would also have to be particularly efficient.

A physical currency being more in line with the idea of the project – virtual money would certainly increase the quantity of numeric-sector-related emissions and is less secure – it does need to be provided in sufficient amounts for a local economic system to function. However, if the physical version should be the most used, a digital version could increase take up and could be a transition tool and make conversion easier.

Nevertheless, speculations and bubbles are more likely in such an open market, facilitated by numerical versions of the local money. To reinforce the use of this local currency we must consider a wide range of parameters, but particularly the guarantee of safety and sustainability: that comes after acceptability.

The logistic questions that emerge from this policy are numerous and need to be rigorously defined to ensure the smooth functioning of the system. These issues will be developed in the **Limitations** section.

Relevance –

As outlined in the introduction, the international market has been shown to put great pressure on environmental boundaries in terms of resources and GHG emissions. If local economies are not proven to be completely more virtuous, there is still a large amount of evidence suggesting that local consumption would limit the number of emissions and would encourage the development of recycling circuits.

One could take the question in reverse: we all know the causes of climate, as described above. Global trade is now the main source of emissions: in 2020, the International Maritime Organisation (IMO) estimated their impact at nearly 3% of GHG emissions⁵, and aviation accounts for about 2.3% of global emissions⁶. This is significant information, which deserves the notion of quantitative studies (because a rate of about 2%, does not strike the general public as much). However, it must be considered that emissions are increasing. The notion of scale is one of the most important points in this policy brief because the causes of our current large-scale exchanges are costly.

In addition to this, the introduction of a local economy in Paris may be particularly beneficial in social terms. In the atmosphere of a large city, and in the current post-COVID economy, local relationships and markets are in dire need of stimulation to improve their activity and find a new balance after the withdrawal caused by the several lockdowns put into place during the pandemic. People are central to this type of economy, and it could lead to more human connection and cooperation, much needed in a high-density city and in the context of climate change. This connection, in contrast to an individual consumer behavior, could help to face some of the issues in capitalism, such as the monopolies.

⁵ Report of the International Maritime Organization (IMO), 2020 edition

⁶ <https://www.globalcarbonproject.org/carbonneutral/CarbonCalculators.htm>

Local currencies can boost local exchanges, keep economic power within the territory, create new jobs, reduce the ecological impact and improve social links. Moreover, it can implicate young people who are missing parties in global scale decisions about climate change.

The international visibility of Paris and its high rate of tourism, besides, might make the introduction of a local currency promoted and inspiring for other communities, cities, or localities worldwide.

Research has shown that larger cities provide a wider range of strategies in circular economy. Cities with over 500,000 inhabitants promoted 4 to 6 strategies on average per city.

There are occurrences of local currency in a lot of different places in the world: in North and South America, Asia, Europe, Africa. There are examples of local currency that worked effectively. In 1932-1933, in Wörgl, Austria⁷, unemployment had increased by 30%. A local currency was put in place, easily accepted by the population and this enabled public works to be done. The currency was circulating more and lead to less unemployment. During the Argentinian economic crisis in 2002, a local currency system was also put in place.

Limitations –

The circular economy might have costs of changing production processes and purchasing practices and implementing it only at an ultra-local scale may not be efficient. Still, local currencies have already been put in place in a lot of regions all over the world and can easily cover larger territories while still being “local”.

However, the impact of international fiscal policies needs to be taken into account. The accumulation of money could cause hyperinflation; however, it is not the case if local money is easily exchangeable in national currency and if it is widely used by the population. Moreover, in times of crisis, local money can have many advantages because it circulates more rapidly than national money and can increase the economic activity and increase employment.

The issue is rather to define how far monetary policies can apply to these local currencies. For instance, would the devaluation of the national currency affect local currencies? In what ways?

The displacement of jobs created by TNCs is not a major issue most importantly because it does not replace the current system of money, but it is a complementary type of currency. Above all, it will make consumers more aware of the choices that they make and their impact on the environment. However, it can be completed by a shift of banks towards more environmentally friendly activities.

Circular economy is gaining popularity, but it is still necessary to have research throughout the whole process, in order to have feedback about whether it works to the desired extent for reducing GHG emissions. If large population density makes cities one of the key levers, this population density is also a challenge and therefore requires constant monitoring and lawmaking.

Our policy could be included as part of the circular economy action plan that the Mairie de Paris developed in 2015. Indeed, its implementation can meet the objectives of other more regional currencies already developed, which besides will help solve logistical issues. La Pêche has the same value as euros which makes it easier to use and to exchange. We could for example partially pay with local currency. Today, there are few exchange counters. As part of our policy, it is needed to open more exchange counters that are easier to access to and that are continuously open. By opening centers of exchange, local money would have a higher accessibility and certainly a higher popularity among people.

To avoid the case where the local currency would be adopted only through a coercive measure, it is necessary to add other incentives like, for example, subsidies. Indeed, if the government gets involved, by offering subsidies, local businesses will have an incentive to choose the currency. If not in the form of subsidies, it could be a simple tax reduction.

Moreover, local banks (such as La Nef as an example⁸) could be associated to the local currency thanks to agreements. It should be concretized by offering an amount of money at the opening of a new account in the local bank, to incentivize people to subscribe to the bank as shareholders of the bank capital.

There is also naturally a risk that the currency may become an asset like it has been done with cryptocurrency. The fact it is ultra-local might help avoid this. Keeping it fully physical would also mean that it is not used outside of the local sphere. The local aspect of it is also necessarily the reason why it does not risk becoming an asset, since only local firms can use it.

⁷ The Wörgl Experiment, Wikipédia page

⁸ <https://www.lanef.com/particuliers>

Further Research –

Research on circular economy is needed at social, technological, and commercial levels. Economists need to assess the costs and benefits of products and research is needed to design products that can be easily repaired. Moreover, to convince businesses and governments to adopt this type of economy, more research is needed. There is also a need for more collaboration between researchers in science, sociology, economics and the industry and non-profit organizations. Indeed, a systemic approach is much needed. Some researchers have questioned circular economy to understand if, in fact, it prevents primary production. They called it the “circular economy rebound”. It occurs when circular economy causes increased levels of production, when secondary products have a limited ability to substitute for primary products and there can be price effects. However, there are potential strategies to avoid it, but they need to be more developed. Moreover, if we want to go further down the road of circular economy, laws and contracts must be developed to ensure the proper functioning of the economy.

Specific to our policy, however, research must be developed to follow the evolution of consumption in the currency’s implementation zone. For example, studies should be conducted focusing on the evolution of the currency’s use, of the viability of local shops and of the impact the currency has on greenhouse gas emissions and social issues like poverty, health and food security. It would also be useful to study whether the policy is reproducible at a different scale and in different regions of the country, or internationally, or not.

The question one would raise is the following: what do we want for the future of economics? As we know, future generations will be affected with a high degree of variability because of environmental uncertainties and differentiated economic circumstances of households.

This is a global perspective: indeed, 200 nations in the world are going to face environmental challenges. It requires a high level of cooperation between countries. Yet, the point is where do we want to put cooperation? Do we need to make global market, with high energy-level consumptions and exchanges?

Institutions should work hand in hand, while the economy should focus on a specific area through closer relationships between actors. Although institutions and the economy are closely linked, because of the "rules of the game" that institutions set, the economy should be seen as a possible transformation from a large-scale market to a smaller one. Lower productivity does not mean lower profitability, it depends on the way we measure it. As we illustrated earlier, local currencies are just one model of a complete relocation of the economy, offering new perspectives on employment, health, working conditions, choices, equality, and the environment.

For our near future and next generations, we need to be mindful of the scale and impact of our daily actions on the wider environment. This impact will have to be social, economic, equitable, ecological and responsible. This paradigm shift is necessary if we do not want to make the 1028 day deadline too big and unbearable.

APPENDICES

Annual total CO₂ emissions, by world region

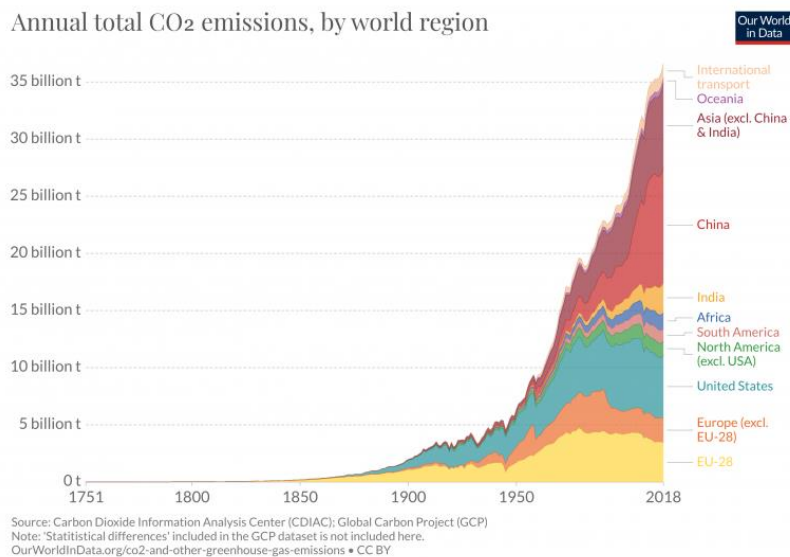


Figure 1

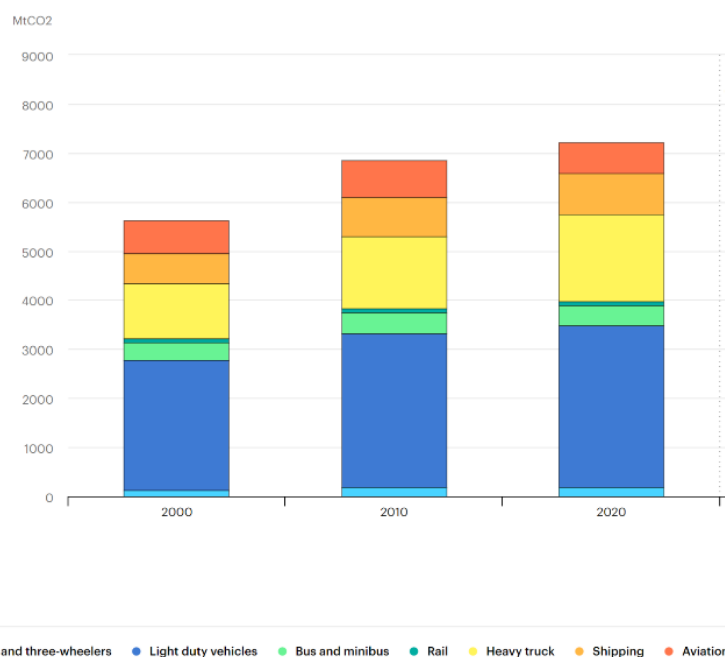


Figure 2_International Energy Agency

References

1. Corvellec, 2022. *Critics of the industrial economy*, Journal of Industrial Ecology: Wiley Online library
2. Yong Geng, *How to globalize the circular economy*, Nature.
3. Piero Morsetto, *Targets for a circular economy*. Resources, Conservation and Recycling (Volume 153, February 2020, 104553)
4. Zink, 2017. *Circular Economy Rebound*, Journal of Industrial Ecology: Wiley Online Library
5. John A. Mathews, 2016, *Circular economy, Lessons from China*, Nature
6. Ken Webster, 2021, *A Circular Economy Is About the Economy*, SpringerLink
7. Anna Petit-Boix, 2018, *Circular economy in cities: Reviewing how environmental research aligns with local practices*, Journal of Cleaner Production
8. Sihao Chen, Michael B. Devereux, Kang Shi, Juanyi Xu 2021, *Exchange rates, local currency pricing and international tax policies*, Journal of Monetary Economics
9. [World Trade Statistical Review 2021 \(wto.org\)](https://www.wto.org/)
10. [Supports juridiques – Monnaies Locales Complémentaires Citoyennes \(monnaie-locale-complementaire-citoyenne.net\)](https://monnaie-locale-complementaire-citoyenne.net/)
11. [Accueil - The Shift Project](https://www.the-shift-project.org/)
12. Bernard A. Lietaer, July 1990, *A Strategy for a Convertible Currency*, Norwegian University of Science and Technology