

Best greetings from 2030: snapshots from a low carbon lifestyle

Hanoi, 3.2.2030

Dear mum,

Here is a postcard from the future to wish you a happy new year and let you know that I am doing well. I know you were afraid that I grow up to be climate-anxious and depressed, Generation Z style. Be reassured! Generation Alpha enjoys its global, connected, and sustainable lifestyle. Let me show it by telling you about my low carbon daily activities: eating, housing, moving.



More sustainable eating

Nowadays, most of the food served at school is organic, and there is a vegetarian option every day. The herbs are more than just grown without pesticides. They come from the permaculture farm across the river, the same one where I volunteered last summer. There is now a whole network of traditional and young neo-rural farmers across the region doing these kinds of organic farming. After graduation, I plan to take a year of woofing to travel and work

the land within this extended community in and around Vietnam.

Nobody uses disposable plastic in food consumption and plastic bags for shopping anymore. In retrospect, the country-wide ban on single-use plastic was an obvious measure. My friends in Phú Quốc told me their beaches are cleaner every year.

Most of my friends and I see ourselves as flexitarians. Vegetal proteins are good,

and hurting animals is terrible, but we remain open-minded gastronomically. Plant based substitutes and cultivated meat are better and cheaper than rib-eye anyway. I am still worried about rice and beef methane emissions, though.

Intensive agriculture consumes more energy than it harvests from the sun. It is losing ground to sustainable food production:

- Organic farming does not use artificial fertilizers, pesticides, genetically modified crops.
- Regenerative agriculture focuses on improving the soil.
- Permaculture observes flourishing natural ecosystems to manage land and life.

Water management techniques such as alternate wetting and drying, midseason drainage and intermittent irrigation save water and increase productivity of paddy fields while reducing methane emissions. Cows can be given special supplements and grazing in improved and better-managed pastures.

Woofing (worldwide opportunities on organic farms) is a form of homestay, where the volunteer works on a farm in exchange for free board.

Cultivated meat is muscle tissue made by 3D-printing animal cells grown in vitro.

Many startups are scaling up to make it cheaper than slaughtered meat well before 2030.

More sustainable housing

A passive house uses so little energy that its integrated solar panels and other renewable energy sources are enough to power it.

It is a mature technology, e.g. in France all houses build after 2022 must be energy-positive.

Yesterday I visited the University of Science and Technology; they have a Zero-Energy building. All rooms have natural light thanks to ducts of mirrors that carry the sunlight into lower floors. The artificial lighting is very efficient and intelligent, too, with LEDs and automatic switching via photosensors. Ventilation is primarily natural, and it uses the heat generated by the solar photovoltaic panels to pull the hot air up and out using the

chimney effect. The University's Zero-Energy building is ten years smarter than the Green One UN House in Kim Ma built in 2015. It is not just that occupants have ventilation and temperature control at their desks. The building has a digital twin. All energy use data is stored, analysed and optimised according to the best available practices.

Professors told me that the building energy efficiency code became much more strict recently. It says that all new commercial and industrial projects must meet the LOTUS silver standard. And individual homes the green level. Plus, the Carbon Neutrality law recently enacted automatically upgrades these mandates to a higher tier every five years. I wish all houses were already carbon-neutral, but we are only in 2030! I hope that Hanoi house builders will stop making so much noise and dust in the neighborhood, and instead use those new 3D-printers to pour concrete and be done overnight.

I see that new constructions in Hanoi already use many technologies demonstrated at the University. Buildings are getting smart now, not just about marketing but about their energy use. Last month they finished rebuilding auntie's old Khu tập thể in Thành Công. It has a green roof along with collective rainwater and greywater reuse system.

Dad's hospital augmented their backup generators with solar panels on the roof and a battery system. Now

they have an always-on microgrid. They participate in the Northern demand response program. EVN pays them to actively help when the grid needs support when everyone turns on AC simultaneously.

3D printing a house saves time, noise, materials and CO₂: the technology belongs in a carbon-neutral economy. But its economics are better where it saves high labor costs, hence author's frustration.

Demand Side Management allows a grid operator to signal consumers so that they reduce their load, in real time.

The technology is mature and has huge growth potential with the Internet of Things.

Markets for ancillary services to support the grid already exist in many countries. They are the logical evolution of Vietnam's competitive wholesale electricity market.

More sustainable transportation

Shared bikes are an urban mobility solution where the city streets are seeded with a fleet of readily accessible bikes, allowing users to rent one for a short trip using an app on their smartphone. E-scooters can also be used.

The technology is widely deployed in many cities. The Tri Nam Group launched a public bike service in December 2021 in Ho Chi Minh City District 1.

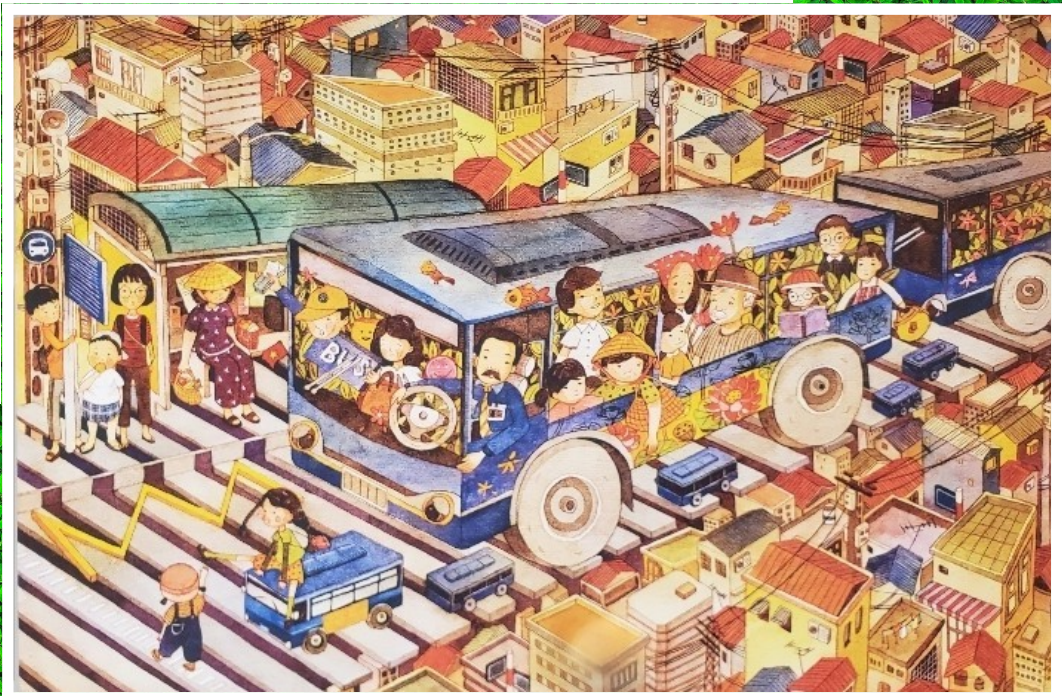
Hanoi banned gas motorbikes from the core districts and has a complete network of bike lanes. Most of my classmates safely walk, ride a bike or e-bike to school. Some use public transport like buses –all are electric– or the metro. I prefer shared bikes and e-scooters. They are more romantic. I noticed no more noisy, dirty diesel boats and barges when walking along the river. Clean hydrogen-fueled vessels are a pleasure to watch.

The electric motorbike you offered me for high school still runs well. I charge it with the intelligent solar bike shed at school only during high production hours in the daytime. Like all public buildings, the school also has solar power on the rooftop. It does not have a battery storage system yet. The director said it was still too expensive. But with our dozens of e-bikes connected, we also do our part to support the EVN grid.

Vehicle-to-grid (V2G) technology starts with smart charging, it can be mandatory in Vietnam by 2030. Bidirectional V2G, that requires more advanced hardware, is only at the prototype stage.

Distributed power generation is a mature technology. Private companies use it when the cost of electricity from rooftop PV is cheaper than electricity from the grid. For a public sector example, see China's recently launched "Pilot Scheme of Province-Wide Distributed Rooftop Project".

I will take only the trains, buses, and boats for my travel year around ASEAN. Flying produces too much CO₂ for me. I am not sure that I will ever want to drive a car. In any case, certainly not a smoking one. The gas price has multiplied severalfold since your time. And the City Council forbade them downtown during high-air-pollution episodes.



In conclusion

As you see, the technologies we use today in 2030 to control our carbon footprint already existed in 2021, when our country decided to become carbon-neutral by mid-century. I have to leave you here. I need to prepare for my Sustainability Sciences final exam. We learned that after the Covid-19 crisis, the National Assembly changed the law to ensure that Vietnam's development cared for the health and environmental issues as much as for economic and social problems. The Constitution now explicitly mentions that

Vietnam is transitioning to a circular economy and carbon-neutral society. We have had our domestic carbon market since 2028. There is even a market for individual consumers to buy CO₂ emission reduction certificates. Would you like to offset my lifetime carbon footprint as my next birthday gift?

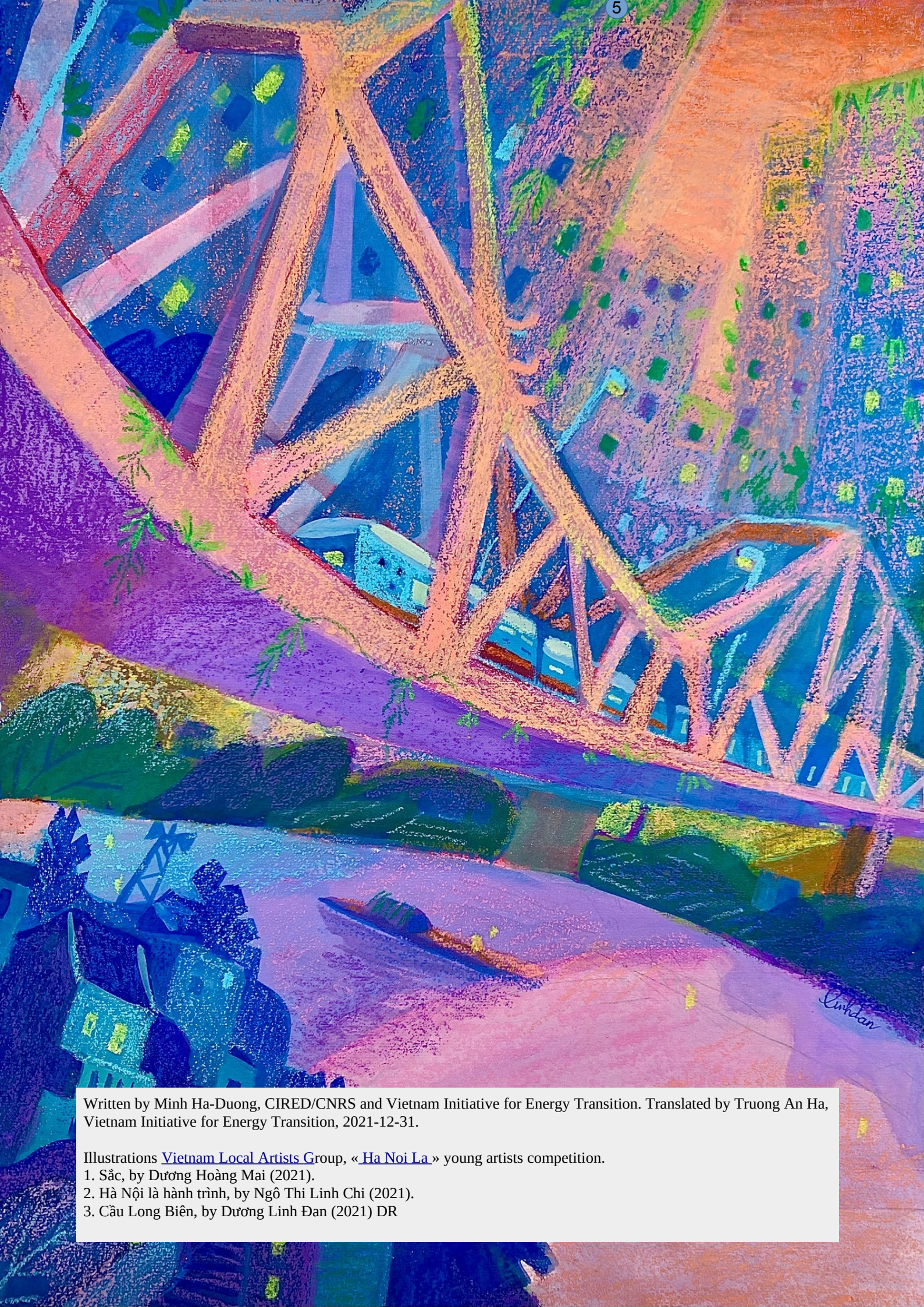
Please receive my wholehearted wishes for the 2022 new year and all those afterwards. Also send my best to the family and your colleagues at work, the Vietnam Initiative for Energy Transition think tank. Choosing the right technologies will empower us, the Alpha generation, to lead a life not just richer in the material sense but also richer in social justice and ecological values.

With love from 2030,
Happy New Year

According to the UN first global report on the Environmental Rule of Law, as of 2017, 150 countries have enshrined environmental protection or the right to a healthy environment in their constitutions. As of 2021, France's president Macron has already attempted three times to be more specific and add Biodiversity and Climate protection in the country's constitution without success. It would have been a first among G20 countries.

Post scriptum: This article's premise is that the degree to which the society's development is sustainable does not depend solely on public governance and on the behavior of firms, but also on actions of the individuals. Many in the future generations are angry and anxious that we their elders are leaving them a damaged world. What existing technologies should we make more available, so that the youth can have a real choice and enact their views of what is a better world?

To go further: One Planet network. (2021). [Good Life Goals](#) [48pp slide deck]. De Koning, Crul, Wever, & Brezet (2015). Sustainable consumption in Vietnam: An explorative study among the urban middle class. *International Journal of Consumer Studies*, 39(6), 608–618. [doi:10.1111/ijcs.12235](https://doi.org/10.1111/ijcs.12235)



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Illustrations [Vietnam Local Artists Group](#), « [Ha Noi La](#) » young artists competition.

1. Sắc, by Dương Hoàng Mai (2021).
2. Hà Nội là hành trình, by Ngô Thị Linh Chi (2021).
3. Cầu Long Biên, by Dương Linh Đan (2021) DR