

SCENARIO 3 – NEW ENLIGHTENMENT

The true impact of the 2008 Beijing Olympics was not quite what China expected. China had expected the world to stand in awe of its accomplishments, and it had every reason to. But the world chose to question how so many formerly unknown Chinese athletes could reap so many medals; tourists and journalists travelled around and brought back reports of polluted rivers, of dangerous chemical factories operating in the middle of newly built cities, of massive expropriations and exploitation; whereas 10 marathon runners almost suffocated in Beijing's hot and toxic air.

None of this should have surprised keen observers, but billions of people had it thrown in their face right between a 100 m race and the gymnastics final. And it got them thinking: Is "*this*" what the world is turning into? Which was, of course, what a small group of Chinese intellectuals and entrepreneurs, with connections at the very top of the Communist Party, had in mind.

Consciousness

Media, bloggers and common citizens began connecting facts. Oil had passed \$ 150 a barrel, pushing gasoline and other prices up, pulling growth down. Seemingly aberrant and local climate events, such as near-tropical rains in Britain while Europe's South-East suffered draughts and scorching heat, began to form a pattern. The web was abuzz. People started collecting, sharing and cross-analyzing data in innovative ways; papers and analyses, some serious, some not, circulated and made their way into traditional media; climate specialists opened up some of their models for public use and even, improvement. One provocative website, SUVtheplanet.org, asked its visitors to expose anyone's, from their neighbour's to celebrities', irresponsible environmental behaviours, forcing many individuals and some corporations to issue public apologies and commitment to better practices.

Barak Obama was quick to feel the shift in public feeling. He brought AL Gore onboard his campaign trail, switched his pitch from Iraq to environment – and won the November 2008 U.S. presidential election.

As soon as he took office, Obama boosted the second round of Kyoto discussions, actively driving them to a conclusion at the end of 2009. Europe and all other G8 countries committed to halving their CO2 emissions by 2050, and to meeting again 5 years down the road in order to consider more ambitious goals. For the first time, most emerging economies and developing countries (China being the exception) also agreed to CO2 emission reductions, under the condition that developed countries would provide financial help, technology transfer and more importantly, open up their markets – which they mostly did. The Doha trade negotiation cycle was reopened and made swift progress, despite strong protests in the West. Within one year, 183 countries had signed the Kyoto II protocol.

In political circles, "Green" had become a passport to election. Everybody came up with their new idea: SUVs were banned from several cities and states, private swimming pools

were heavily taxed, garbage recycling was made mandatory, climatization became subject to strict rules. Public R&D funding was reoriented towards sustainability, with a focus on quick and visible results: Renewable energy, energy efficiency, resource-efficient and nutrient genetically modified plants and animals, ecosystem modelling, next-generation nuclear energy, etc.

Corporations followed suit. All large corporations published environmental commitments and many were serious about fulfilling them. Smaller corporations and developing country firms, though, had more difficulties and often complained this move was another way of putting pressure on subcontractors or of closing the door to smaller competitors.

Of course, not everybody liked that new environmental bias. Free market advocates warned that this surge in regulatory activity would stifle growth and might produce consequences worse than the problems they were supposed to solve. Oil producers, who had until then been investing heavily in new extraction methods, planning on continued growth of demand, started worrying. Their lobbying efforts against ecotaxes were made difficult by the general feeling that they were at least (and in some cases, politically) morally responsible for the state of the planet – and indeed, California passed an ecotax in 2012, followed by the EU in 2013.

So when a series of deadly bombs went off almost simultaneously in capitals that were all part of the spearheading group of "enlightened" countries (as they called themselves), including London on the eve of the 2012 Olympics closure, killing more than 4,000 people... well, there were serious doubts as to where the decision and the means of execution came from. London's Olympics were to be the first "carbon-neutral" major sports event; Rome, the second targeted city, was a leading proponent of the European ecotax; San Francisco was the third and Delhi the fourth, a few months after the Indian government had announced its plans to lead a second "Green revolution" in the third world, this time mixing agricultural productivity and environmental sustainability – and with a strong focus on agrofuels.

Paradigm Shifts

While the usual immediate consequences of such attacks unfolded – stock market crashes, sharp reduction in air travel, security measures than soon became permanent, economic ripple effects... – a most unexpected thing happened: Governments did not budge and renewed their commitments to greener growth.

Travel restrictions were converted into an opportunity to "Move less, do more", as UN ambassador Bono put it. In spite of intense lobbying by airlines and the aerospace industry, air travel was severely taxed and caps were imposed on air traffic towards several major destinations. As a substitute, governments and foundations encouraged research on "lifelike" remote communications and installed life-size teleconferencing rooms in developed and developing country metropolis alike, encouraging people to teleact rather than move as much as possible. Results were initially mixed, but with the right financial incentives and penalties in place, as well as the progress in rich sensory interfaces, telework, telepresence and other forms of remote communications slowly picked up. Virtual universes that had spun off in different parts of the world started connecting through a "Metaverse", to become one of the most powerful means of organizing remote interactions and public forums with a real sense of common presence.

Managed by a deeply reorganized World Bank and funded through a special contribution by developed countries, the "Oil Severance Project" was launched. Its goal was to design and co-finance large-scale projects with the potential to make countries or industries less dependent on fossil energy: very large wind farms or solar panel fields, experimental sea-bottom turbines, ultra-fast train networks. The "New Paradigms in Resource Production and Use" research programme was another major international initiative, looking for out-of-the-box ideas for industrial processes and transportations that would use less energy and resources and produce less emissions and permanent waste. One of the programme's rules was that results should be public and open-source.

After some tough discussions, and not a few resignations, among its economists, the IMF and the World Bank even adopted the Human Development Index as a key indicator, and started linking all financing activities to total cost calculations, including environmental and social externalities.

A "Climate Solidarity Fund" was also created in 2013, and came to immediate use when cyclones of unprecedented strength, following an unusually wet rainy season, hit Bangladesh, killing or displacing millions and ruining most of the country's infrastructure. Coordinated by the UN's Fast Response Corps created along with the Fund, public and NGO relief actions worked miracles, although some areas would remain inhabitable for decades.

Organization

Such a turnaround in human affairs required some organizing.

The UN was only too happy to provide its basis, although governments also insisted on creating two separate, hopefully leaner and meaner, international agencies: ClimaPlan, dealing with climate change, NoWaste, dealing with CO2 emissions, pollution and waste, and PowerShift, dealing with renewable energy and energy efficiency. These agencies were given real supranational powers to enforce decisions, and fund large-scale projects. "Oil Severance" was succeeded by two programmes, "Factor 4" – taking into account the Kyoto III discussions, which were looking at a 75% reduction in emissions over 2007 levels by 2060 – and "Emergency Readiness" – designed to forecast, detect and manage extreme climate-related catastrophes and their aftermath. But perhaps the most innovative (and controversial) decision was to give these agencies some supervisory power over national, local or corporate environmental regulations and programmes.

The counterpart to these powers was extreme accountability. All the agencies' internal information, all their emails, were open to public scrutiny, each of their activities had its own discussion plaza on the Metaverse, to which thousands of lobbies, groups and private citizens contributed at least occasionally.

The third Doha cycle on international trade finally produced an agreement in 2022, 21 years after its launch. The agreement included the abandon of most Least Advanced Countries' debts, the dismantlement of agricultural subsidies in developed countries (including the EU's Common Agricultural Policy), the opening of northern market to products from the South. Perhaps its most innovative provision was a clear encouragement to "offshoring" of service-related activities, seen as a way to help developing countries the resource-hungry industrial development phase – and possibly,

to relieve migratory pressures, so that developed countries could more easily set up immigration quotas based on their needs and common training & co-development programmes.

R&D was mostly coordinated internationally according to globally defined priorities: genetically modified organisms that displayed desirable characteristics (resistance, frugality) or properties (e.g., CO2 absorption), preventive and proactive medicine, resource efficiency, smart processes and logistics, smart transport systems, rich remote communications, complex system modelling... Most of this research was entirely public and open-source. However, a side effect of globally centralized funding was a lack of diversity and of openness to small projects or out-of-the-box thinking. This became worse when, after the fast deployment of insufficiently tested plants had wiped out the agriculture of a whole Indian state, Ethics and Evaluation Committees were created everywhere and given veto power on research projects as well as on testing and industry transfer.

To facilitate and equalize international discussions, Esperanto was relaunched and became the UN's official language... for some time, after which it became clear that "International English" would not be displaced anytime soon, especially since electronic translators had become so efficient.

While the system seemed to organize itself well enough at global and regional levels, the issue remained to make it work at an individual level. National governments were either too remote, or too discredited, or both. In spite of strong opposition by governments, another level of governance soon emerged, which came to be called "guilds". A "guild" could be a commune, a neighbourhood, a parish, a corporation, an association, an organized ethnic minority or even an extended family – meaning that an individual could belong to several guilds. It would have a charter, an organization, leadership, rules for membership, mechanisms for making and enforcing decisions, and relationships to other guilds – to be considered a guild, you had to be recognized by a number of other guilds. Depending on a number of criteria, guilds could be devolved some regulatory power or some tax money. Through them, the virtuous mechanisms decided at global and national levels were adapted to local realities and enforced.

In many countries, individuals and corporations (at least the mid- to large-size ones) were also given "Carbon Footprint Accounts" that tracked their energy consumption, their direct and indirect carbon emissions, their recycling behaviours, etc., with financial incentives or penalties attached. While individual accounts were of course protected, those of corporations and of public bodies were publicly accessible. A consumer could even scan a product in a shop with her mobile in order to check its producer's current Footprint status. Guilds were often in charge of emitting and controlling the accounts, consolidating data and enforcing financial mechanisms. The devolved budget they received was itself indexed on their collective performance.

Overregulation

Spectacular results were achieved, although the system could sometimes take things a little too far. Overall, CO2 emissions in 2025 were already 20% below their 2007 levels in Europe, and 15% in the U.S. The economy kept growing – although slower than before 2008 –, but energy sources were moving away from fossil fuels slightly faster than expected.

That same year, Mexico city – formerly one of the world's most polluted capitals – finalized a 10-year internationally financed pilot project and became the world's first carbon-neutral metropolis with a new high-density centre connected via fast public transport to smaller, dense suburban nodes, made up of energy-positive buildings and surrounded by protected green areas. In the rest of the country, 75% of the land became nature parks. While the American Teleworkers in Mexico Guild hailed the move, peasants resisted it by violent means, with almost public backing from the FreeLife Guild.

By that time, most armies were federated into multinational forces of different specialties. Their main concern was the small number of "rogue states", usually oil producing autocracies who became havens for mafias and terrorist groups. The 2027 invasion of Azerbaijan by UN forces provided clear data on these unholy alliances. However, terrorist attacks had by then become a fact of life and, due to reasonably effective controls on technologies for weapons of mass destruction, the damage they produced was unable to destabilize the world. A much smaller multinational force was also called upon to contain the Mexican peasant revolt, but this intervention created a certain uneasiness among international public opinion.

In fact, the most destabilizing factor had become the world's almost excessive stability.

As an example, the emphasis on healthy living, responsible behaviour and preventive care focused a lot of researchers on mind enhancements, on increasing life expectancies and on detecting all possible anomalies in embryos. In 2030, reaching 120 was no longer considered as exceptional, nor as bad luck. In fact, it was harder to be young. The financial burden of paying for retirement had become lighter after old-age activity became generalized. But the world was designed by old people (who, through embryo selection and other gene manipulations, even designed part of their own young) for old people, and these individuals, being rightly proud of their achievements, were unready to hand the reins to possibly less reasonable generations.

Projection

Youth unrest expressed itself in more and more visible ways. One of the most symbolic moments happened during the 20th EConcert at the Stade de France in August 2030, when the videofeed of Bob Geldof's concert was hacked with images of cigarettes and whisky glasses (both substances having been classified as drugs in most places), of couch potato avatars watching avatars watching an elderly Geldof and other "I'm bored!" messages.

With that in mind, Toronto, Seoul and Curitiba (Brazil), soon followed by other cities, reorganized in order to reconcile common rules with differentiated lifestyles. Cities would manage a common infrastructure grid and planning agency and devolve neighbourhood matters – under closely supervised rules and indicators – to local guilds. Young people (or those who consider themselves as such) would have their own space, ageless "transhumans" or New Buddhists could live by their own standards, etc. The cities made sure that some common rules were set and followed, provided interfaces and common spaces as well as 3D virtual forums, while guilds ensured individual compliance to common and specific rules.

Africa also felt the need to make itself heard. The continent had benefited from the changes, but hardly as much as other countries. The world powers' priority was clearly on reducing energy consumption and CO2 emissions and Africa, at its current state of development, was no big player – hence no big problem and no big priority – in that regard. By the end on the 2020s, African countries started to threaten to leave the UN and abstract themselves from common rules, if they were not to benefit from them as much as Asia or South America had done. The issue of economic development remained partially unsolved.