

# **The environmental emergency and entry into the digital age: the twofold challenge for societies and central banks**

*Michel Aglietta*

Professor Emeritus Université Paris

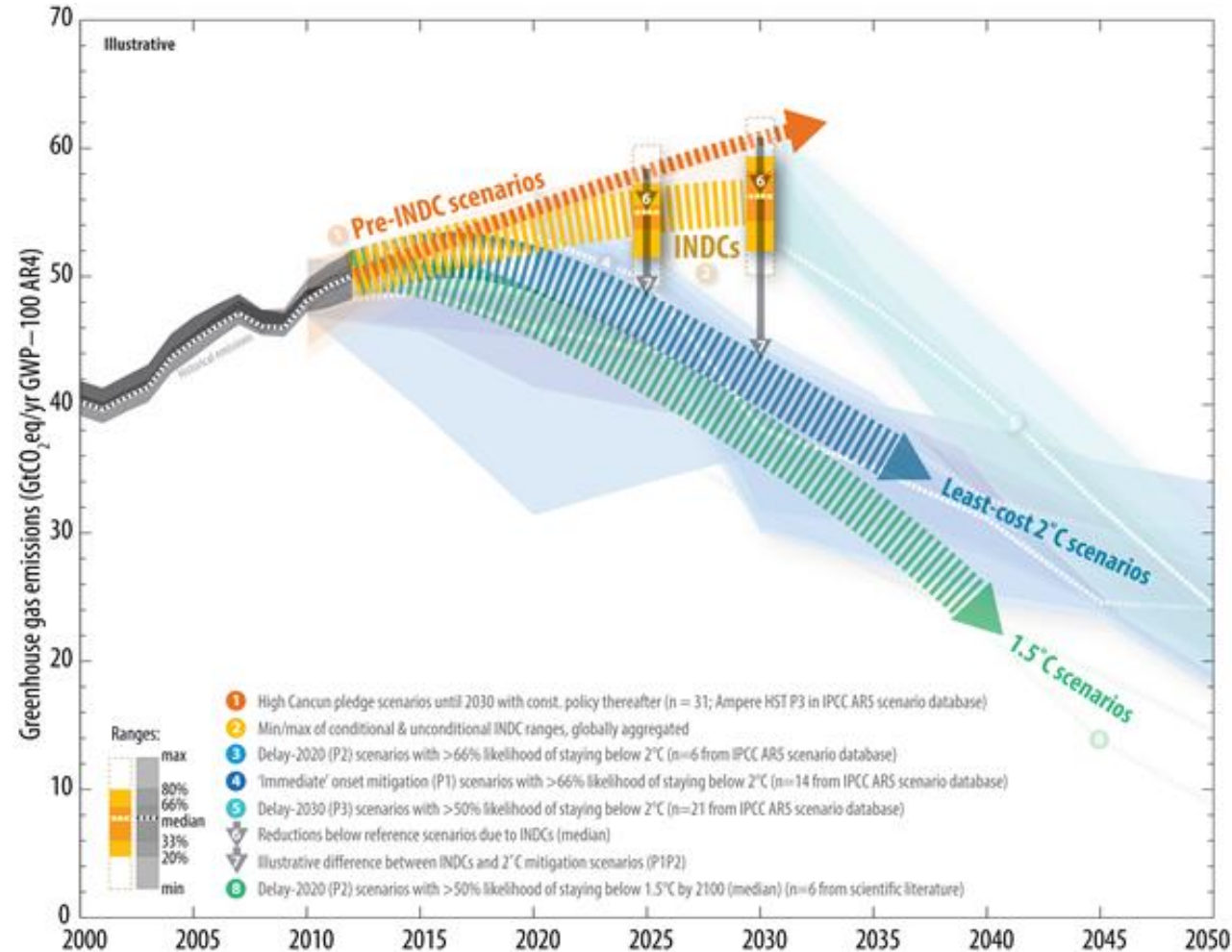
Scientific advisor to CEPPI

**The climate emergency is a categorical imperative**

# The problem of the Paris Agreement (COP21)

## *Reconciling economic development and climate stabilization: the challenge of the 2020s*

The stated intentions of governments are not enough



## Distinguishing carefully the carbon footprint of production and consumption, in order to commit to ecological sustainability

- *The American way of life* is incompatible with ecological sustainability:  
CO2 emissions per capita (2018)

Tonnes of CO2 <u>eq</u> per capita	For consumption	For production
United States	22.5	16
Europe	13.1	7
China	6	7.5

- The divergence of emissions in production and consumption is characteristic of global value chains, allowing Western powers to contain locally produced emissions without jeopardizing their consumption patterns.
- China finds itself in the opposite situation where international trade leads it to produce more emissions than it consumes.
- Europe and China are committed to a transformation of their growth regime to take into account the ecological emergency in line with the Sustainable Development Goals; this requires a transformation of international relations to respect global limits.

## Changing lifestyles is essential. It involves committing to “sobriety” in energy use

- “Sobriety” is a collective notion for the recognition and restoration of the Commons. It stands in opposition to the utilitarian individualism of *homo economicus*.
- Sobriety is therefore an approach to prioritizing needs, using 4 levers:
  - Structural sobriety**: Organizing space and activities to promote moderation.
  - Dimensional sobriety**: Dimensioning/adjusting facilities, plant & equipment to their conditions of use.
  - Sobriety of use**: Make the best use of equipment to reduce planned obsolescence.
  - Convivial sobriety**: Mutualize as much as possible ways of consuming.
- Sobriety is therefore a collective attitude in the transformation of lifestyles that is compatible with respect for our planet’s limits.
- Support for collective collaboration for citizen action linking production actors and consumers to transform lifestyles constitute *the circular economy*.

# The urgency of a political ecology and the use of public power

## The objectives of a twofold valorisation of carbon under the aegis of public authorities:

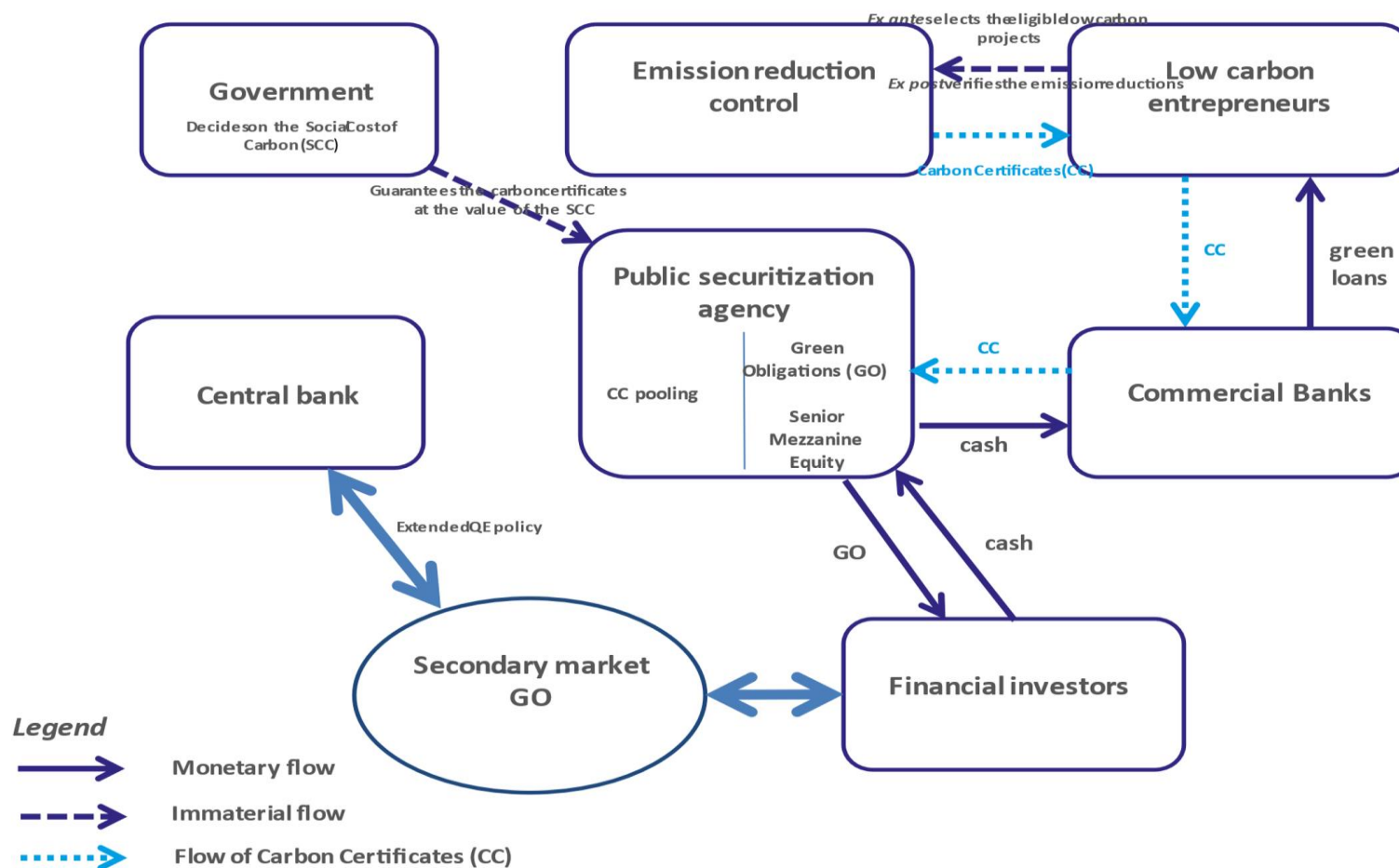
- Encourage consumers to change their lifestyles through a market price for carbon-based products which must ↑ regularly to reach carbon neutrality.
- Encourage companies to invest in low-carbon investments that change the production structure through *an avoided carbon value* (an instrumental price or *shadow price*).

# Creation of a carbon asset as a new pivot of financial markets

- As a notional price, *the social value of avoided carbon* can be differentiated from one country or from one set of countries to another, with the aim in particular of bringing about the emergence of a common European policy on climate issues.
- *The social value of avoided carbon* (the notional price of one ton of CO<sub>2</sub> avoided) makes it possible to calculate the social value of *carbon assets* corresponding to investment projects, certified by independent agencies of expertise, so Carbon → Carbon Asset = (notional price of carbon) (certified volume of carbon cut in a project) → *creation of carbon assets*.
- Two financial mechanisms are possible to reduce the risk of funding:
  - *The carbon asset is included in the monetary system's legal reserve*, to the extent that certificates validated as loans are accepted as collateral for refinancing with the central bank.
  - *Carbon assets are grouped together to be securitised and transformed into a new type of "green bonds" whose senior tranches can be sold to institutional investors to LT ≈ Eurobonds* benefiting from the best ratings, granted by a public financial intermediary.

# The urgency of a political ecology and the use of public power

## Integrated planning of the low-carbon policy for Europe



**The development of digital currencies and the transformation of  
the IMS toward a multilateral cooperation system**

# The payments revolution and its impact on the financial sector

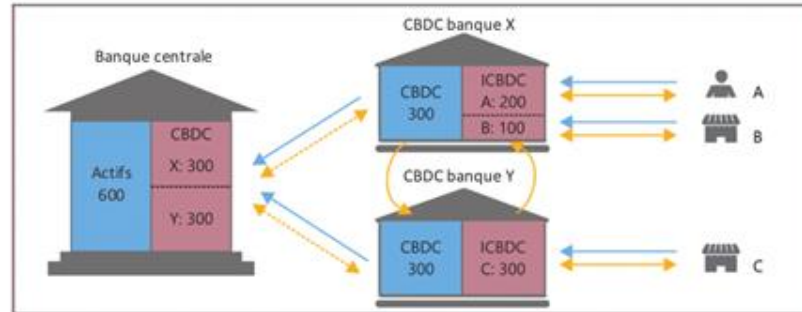
- Digital technologies are changing the way economic agents coordinate with each other and disrupt globalization. New financial centres of gravity are emerging around private platforms (fintech, social media, e-commerce). These initiatives undermine the traditional form of money.
- The fundamental criterion that defines the currency is the final nature of the payment, recognized by the whole society. *Payment creates makes a fundamental social bond.* So the question is: Can cryptocurrencies be the next generation of currencies?
- The payment recording technology is blockchain which is a distributed payment register. *Bitcoin* is the most famous example. But it is a speculative asset, not a currency, because it does not respect the characteristic No1 of monetary sovereignty, which is being *the official and constitutionalized unit of account*.
- *Stable coins* claim to be attached to baskets of official units of account, but their extreme volatility has been demonstrated since the pandemic crisis and the war in Ukraine. Decentralized finance based on digital private currencies lacks the ultimate liquidity provided by the central bank digital currency (CBDC).

# Characteristics of central bank digital currency (CBDC)

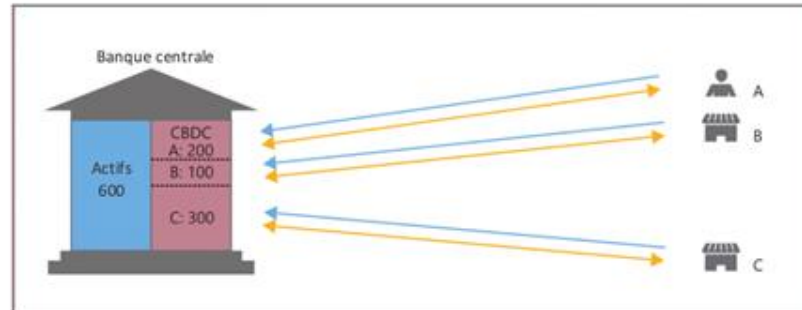
- According to the BIS, central bank digital currencies refer to digital currencies issued and regulated by wholesale and retail monetary authorities.
- Any central bank digital currency respects the fundamental characteristics of money as a public good: the unit of account as an expression of monetary sovereignty, the universally available means of payment and a stable and protected system of value storage (*ultimate liquidity*). The central bank digital currency therefore presupposes the three principles of public order that must be respected: *financial integrity, financial stability and the effectiveness of monetary policy*.
- CBDCs based on digital identification have the potential to improve cross-border payments by limiting disorderly currency substitutions, provided that international cooperation is established through compatibility of protocols incorporated in digital codes.
- There are different possible architectures and technical designs of the CBDC that guarantee security while offering the benefit of instant settlement.

# Different possible architectures of a CBDC

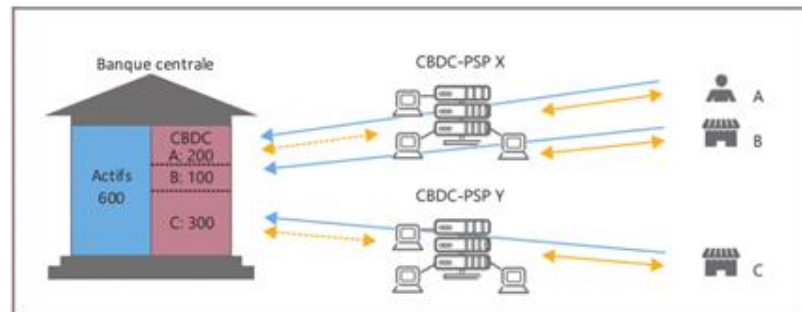
CBDC indirecte



CBDC directe



CBDC hybride



# **An institutional framework for a multilateral monetary system**

# The key currency in the face of the major contradiction of the 21st century: a fragmented international political space in the face of a common environmental threat

- A composite indicator of economic power

<i>Functions</i>	<i>Private sector</i>	<i>Public sector</i>
(i) Unit of account	<ul style="list-style-type: none"> <li>- Main billing currency</li> <li>- The numeraire in world markets (raw materials and derivatives, etc.)</li> </ul>	Anchor currency for fixing exchange rates
(ii) Means of exchange	<ul style="list-style-type: none"> <li>- Settlement of commercial and financial transactions</li> <li>- The intermediary on the foreign exchange market</li> </ul>	Currency for foreign exchange interventions
(iii) A store of value	<ul style="list-style-type: none"> <li>- Investment currency of non-residents</li> <li>- Banking markets, bonds, etc.</li> </ul>	Official foreign exchange reserves

In %	1973	2010	2020
United States	18	14	14
Germany	7	-	-
Japon	7	6	5
Chine	-	12	15

- US supremacy is disputed
- The rise of China
- No European country has significant global power; hence the importance of European integration.

# What is a multilateral monetary system?

- A doctrine of international relations that lays down the ethical principle of equality of Nations, regardless of their size and the resources at their disposal, in the face of the common climate threat and the destruction of ecosystems.
- For there to be an international regime, there must be international institutions with accepted authority and autonomous from States. It is these institutions that give an international regime its consistency.
- These are cooperation regimes *institutionalized* through the mediation of the inter-state agreements they generate and the turning points they entail in the formulation and conduct of national economic policies.
- International institutions, although they have no authority over States, provide common references to which States find it advantageous to comply. This reduces uncertainty about the behavior of others and allows mutual adaptation of practices.

# **Develop linearities for multilateral monetary cooperation through the promotion of SDRs**

- The SDR is a reserve asset issued ex nihilo, which is therefore not the counterpart to a country's debt. This is the most rational way to provide an alternative reserve asset to the dollar without activating destabilizing currency competition.
- Because it is an international standard that is aligned with the relative weights of the currencies that make it up, the SDR is relatively immune from exchange fluctuations that oppose the dollar to the other currencies of the basket → its use as UC allows for a lesser need for exchange hedging.
- The multi-currency system would become consistent through a fully international reserve and settlement asset. All member countries could unconditionally use a drawing facility up to a limit based, on an objective country risk assessment, including environmental and social dimensions.

# **Assistance to developing countries and promotion of the IMF as an international lender of last resort**

- Developing countries in Sub-Saharan Africa, Latin America and the Caribbean have been disproportionately affected by the intensification of physical risks due to climate change and the pandemic that has led to the dislocation of global commodity production chains.
- Unused SDRs from advanced countries would be deposited in a dedicated fund by collective decision of the G20, to buy bonds issued by multilateral development banks that would finance priority investments in the developing countries. These “Trust Funds” could also bring capital to the Green Fund. Correspondingly, the IMF would become the lender of last resort in international crises.
- All these reforms would likely take a number of years. Their realization would pave the way to a decisive stage in the transformation of the IMS: The promotion of an SDR market in private finance. Central banks’ SDR reserves could be used as market assets. The IMS would be fully SDR-based, paving the way for the creation of a digital SDR and the disappearance of the quota system.