

# The Global Carbon Reward

**The Global Carbon Reward is a policy that acts as preventative insurance against unwanted climate change. Projects that abate or sequester carbon may earn the reward as a source of foreign income for their local economy. The value of the Global Carbon Reward is managed with internationally coordinated monetary policy, and the aim is to ensure that the reward is sufficient to manage the climate risk. No person, firm, or government is required to fund the policy, because the costs are covered by currency trading and a thin inflation levy that is spread globally under the auspices of a peak authority.**

## (Part 1) Policy Introduction

The Global Carbon Reward is a new international climate policy. It is a policy to offer a debt-free incentive for voluntary carbon mitigation in all geographic locations. The policy is distinctly different to a subsidy for two reasons: (1) the reward is only paid for carbon mitigation actions that are successful and verifiable, and (2) the reward is paid with a stateless parallel currency that is digitally created<sup>1</sup>.

The parallel currency is called Complementary Currencies for Climate Change (4C). 4C is managed by central banks (see Box 1). 4C is a stateless parallel currency that is convertible with other currencies. 4C does not require 'legal tender' status because it is not used to trade goods and services. When market actors are rewarded with newly issued 4C, the supply of 4C increases in proportion to the mass of carbon that is mitigated, and the carbon is recorded in a global carbon stock-take. The unit of account of 4C is '100 kg CO<sub>2</sub>-e mitigated'.

The parallel currency, called 4C, is financed with official monetary policy and currency trading; and a major advantage of this approach is that it does not require government funding through taxation or debt creation. No citizen, firm, or government will directly pay to support the Global Carbon Reward, because the cost is dispersed as a thin inflation levy and by attracting private demand for 4C in currency markets. Noteworthy is that international currency trading is valued at USD \$3 trillion per day on average<sup>2</sup>, and currency markets are the deepest and most liquid financial markets in the world. The policy is designed to utilize this pool of wealth.

The carbon that is rewarded with 4C is immediately 'retired' and is not available to trade as carbon offsets. The carbon stock-take will be owned and controlled by a peak authority that represents the world's central banks. This may seem strange at first, but the plan is to prevent the carbon from being traded even though 4C is traded as a financial asset. This policy of offering 4C rewards will reduce the number of 'green' projects that sell their mitigation services for carbon-offset credits; and this will make carbon-offsets scarcer and it will drive-up the price of carbon in other markets.

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<sup>1</sup> Technically, this is called a 'seigniorage' payment.

<sup>2</sup> Currency trading does not contribute to Gross World Product (GWP).

Chen, van der Beek, and Cloud (2017) explain how the 4C exchange rate is managed by a peak authority, called a Carbon Exchange Standard (CES) (see Box 3). The CES instructs central banks to trade 4C with hard currencies, and this is to ensure that the 4C exchange rate tracks the Risk Cost of Carbon (RCC) over a rolling 100-year planning horizon. The CES targets uniform monetary inflation in relation to currency trading, and it provides forward guidance to markets by advertising future 4C exchange rates and future 4C yields. 4C yields influence market demand for 4C. New mandates are required for central banks to support the 4C exchange rate, and these mandates represent the reciprocity that is needed for international cooperation on climate change.

4C is not required for trading commodities or services, and it does not compete with hard currencies in domestic or international markets. 4C acts as a financial security with a predictable yield based on its managed exchange rate. Chen (2018) describes how 4C may be designed and implemented as a Central Bank Digital Currency (CBDC). Chen van der Beek, and Cloud (2019) justify the policy based on the Holistic Market Hypothesis (HMH).

## **(Part 2) Policy Feasibility**

Here some policy feasibility issues are addressed. Please consult the reference list or contact us for more information.

**(Q.1) Why is a reward different to a subsidy?** The Global Carbon Reward is not a subsidy because the reward is issued by expanding the supply of a debt-free parallel currency and by pegging the exchange rate of the currency (refer Box 1). A subsidy, on the other hand, is issued as a national currency or tax deduction. Subsidies are recorded in fiscal budgets, whereas the reward is not registered in fiscal budgets because it is financed through monetary policy and currency trading.

**(Q.2) What is the social principle that supports a reward?** The social principle is termed Collective and Systemic Risk Insurability (CASRI), and it implies that all citizens should be offered preventative climate insurance at no direct cost. The cost of CASRI is dispersed across the world economy with expansive monetary policy and currency trading.

**(Q.3) What are the rules that can prevent freeriding?** The Global Carbon Reward includes statistical rules for estimating baseline emissions and the mass of carbon that is abated or sequestered. Specific reward rules will be established for each mitigation technology. The rules will be transparent and will be developed under the auspices of a peak authority. Carbon offsets are not issued under this policy, and so ‘100% additionality’ is not required and additionality is treated as a variable. An administrative

system will implement rules, weightings for co-benefits, data mining, smart contracts, counterfeiting laws, public oversight, and policing (refer Chen, 2018).

**(Q.4) Why is a carbon reward politically feasible?** Political advantages of the Global Carbon Reward are that (a) it does not introduce direct taxes, (b) the costs do not appear in national budgets, and (c) the funding model may circumvent disagreements over cost sharing. The Global Carbon Reward is consistent with Common But Differentiated Responsibilities (CBDR) and Respective Capabilities (RC) under the UNFCCC. Market actors are invited to mitigate carbon emissions for earning the reward as a source of foreign income. From an economic perspective the policy places carbon mitigation industries on a par with export industries, such as international tourism. The reward injects new liquidity directly into the low-carbon sectors of the economy, thereby attracting private investment and creating jobs. The policy does not depend on loans, debt finance, or bond issuance; and the number of financial intermediaries is reduced to the bare minimum because there are no public funds to be managed. All financial transactions are transparent and accountable.

## (Part 3) Key Terms

### Box 1. Complementary Currencies for Climate Change (4C)

Complementary Currencies for Climate Change (4C) are parallel currencies with a unit of account of '100 kg CO<sub>2</sub>-e mitigated' with service conditions. 4C is a stateless parallel currency that is not used for general trade. The 4C exchange rate is the reward price for carbon mitigation services, and is designed to achieve a climate mitigation objective. 4C is a debt-free financial 'security' that is traded for other currencies in open markets. The 4C has a floor price (exchange rate) that is set to the Risk Cost of Carbon (RCC) (see Box 2). The yield on 4C is managed by pegging the 4C floor price to the RCC.

### Box 2. Risk Cost of Carbon (RCC)

The Risk Cost of Carbon (RCC) is the marginal cost of abating and sequestering carbon to achieve a safe climate. A safe climate is defined by normative risk management objectives within a rolling 100-year planning horizon. The RCC has units of 1000 kg CO<sub>2</sub>e mitigated, and it relates to (a) a global mean surface temperature change,  $\Delta T$  (°C), 100 years into the future; and (b) an associated risk tolerance, R (%), which is the acceptable chance of failing to mitigate to  $\Delta T$ . The RCC takes into account administrative costs, long-term monitoring for carbon leakage, and market imperfections.

### Box 3. Carbon Exchange Standard (CES)

A Carbon Exchange Standard (CES) is an international monetary standard under which national currencies are convertible with 4C (refer Box 1). The exchange rate of 4C is managed by the CES to track the RCC (refer Box 2). The CES supplies 4C to market actors who have abated or sequestered carbon—thereby expanding the 4C monetary base. The CES advertises the future 4C exchange rate, and it also charges awardees a commission to fund the the administration and policing of the system, and to cover the costs of measurement, reporting, and verification (MRV).

The CES coordinates central banks to defend the 4C floor price with currency trading. The CES is similar to a gold exchange standard, but the underlying assets—the carbon mitigation services—are not tradable. The CES has the goal of managing the climate risk (refer Box 2) by ensuring that enough finance is available to achieve a safe climate over a rolling 100-year planning horizon. The CES provides forward guidance to market actors in relation to the 4C yield, and this is to generate demand for 4C as required.

From an economic perspective, the CES may be conceptualized as managing a ‘currency war’ against dangerous global warming—by inviting the world’s nations and central banks to join forces to fight a ‘common enemy’. The CES relieves governments of the burden of having to finance carbon drawdown with debt, austerity, or higher taxes.

The CES is humanity’s insurance policy. It signifies an end to the dirty economic growth that began after World War II as a result of abundant fossil fuels and debt-based money. The CES leverages social and ecological co-benefits. From an environmental perspective, the CES may be conceptualized as a human-ecosystem symbiosis—as people everywhere are offered finance to stabilize the climate and regenerate ecosystems.

### Box 4. Metaphor for the Risk Cost of Carbon (RCC)

In this metaphor for the Risk Cost Carbon (RCC) (refer Box 2). Imagine that the world economy is a single corporation in partnership with a second company that represents the Earth’s environment. From the perspective of the world economy the systemic risk of catastrophic climate change is hidden in the balance sheet of the partner company. The risk of catastrophic climate change is a potential major debt, and it is a cost that should appear as an insurance fee for hedging the climate risk.

The marginal cost of insuring against climate catastrophe is the RCC. The RCC should be registered on the balance sheet of the world economy by offering a Global Carbon Reward equal to the RCC. The policy involves currency trading and other details, and the aim is to create a global reward price to internalize the RCC into markets.

A real-world example of a failure to address an off-balance-sheet risk is Enron Corporation. Enron went bankrupt in 2001 in an auditing scandal that involved Enron’s partner companies—called ‘special purpose entities’. The collapse of Enron was unexpected because Enron hid debts and risks on the balance sheets of its partner companies. The RCC is not being hidden intentionally, such as in the case of the Enron scandal, however the RCC is overlooked due to an over-reliance on Arthur Pigou’s (1920) theory for market externalities.

## (Part 4) Key References

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