

Climate Report

Research on the economics of climate change



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SMART UNCONVENTIONAL MONETARY (SUMO) POLICIES: GIVING IMPETUS TO GREEN INVESTMENT

APPENDIX I – SPECIAL DRAWING RIGHTS

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This is an appendix of CDC Climat Research's 46th Climate Report.

You can find the main report here: <http://bit.ly/SUMOPolicies>.

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SPECIAL DRAWING RIGHTS: INTERNATIONAL RESERVE ASSETS USED TO FINANCE LOW-CARBON DEVELOPMENT IN DEVELOPING COUNTRIES

Special Drawing Rights (SDRs) are unconditional and free international reserve assets that were created by the IMF in 1969, in order to supplement gold and US dollar reserves, which were beginning to become inadequate. The requirement for SDRs has decreased due to the end of the Bretton-Woods System in 1973 and the expansion of international capital markets. Nowadays, the main role of SDRs is to stabilise countries' balances of payment by avoiding the accumulation of excessive surpluses or excessive deficits (IMF 2013).

SDRs are not money, but a virtual claim on the currencies of IMF Member States. Their value is based on a basket of US dollars, euros, yens and pounds Sterling, in proportions that are revalued on regular basis. A country that holds SDRs has two options. It may choose to retain its SDRs, in order to increase its reserves and to borrow on financial markets at a lower cost. The country may also choose to exchange its SDRs against hard currencies. This exchange may take place as part of an agreement that is freely entered into with another member country. The IMF also has the option to request that a member country that has a strong external position purchases SDRs from a country that has a weak external position (IMF 2014a).

SDRs are allocated to IMF member countries in accordance with their quota-share, which reflects their weighting in the global economy. The IMF pays the member countries interest on the SDRs that they hold – their SDR assets –, and receives fees on the SDRs that it has allocated – the SDR allocations. Accordingly, if a country has more SDRs than its initial allocation, it receives net interest from the IMF. Conversely, if a country has fewer SDRs than its initial allocation, it must pay net interest to the IMF. Lastly, if the country does not use the SDRs allocated to it, the amount of the fees paid is equal to that of the interest received.

There have been three general allocations of SDRs since they were created: one allocation of 9.3 billion SDRs (\$14.42 billion³) over the period between 1970 and 1972, one allocation of 12.1 billion SDRs (\$18.76 billion) over the period between 1979 and 1981, and one allocation of 161.2 billion SDRs (\$249.86 billion) in August 2009. The aim of the last allocation was to mitigate the impact of the financial downturn. Furthermore, a special allocation of 21.5 billion SDRs (\$33.33 billion) was performed in August 2009, in order to adjust the disparities affecting countries that joined the IMF after 1981 and had therefore never received any SDRs (IMF 2014a). Reserves held in SDRs currently account for around 2.7% of global reserves⁴.

Around \$150 billion of the \$250 billion allocated in 2009 were distributed to OECD countries, i.e. 60% of the SDRs allocated⁵. The non-conventional aim of this allocation and its magnitude gave rise to the idea that SDRs could be used to finance the commitment that developed countries made in Copenhagen to raise US\$100 billion per year in order to combat climate change on behalf of developing countries (DCs)⁶.

II. USING SDRs TO FINANCE LOW-CARBON DEVELOPMENT: SEVERAL PROPOSALS

The first person to suggest using SDRs to finance low-carbon development was George Soros, the billionaire, in a speech at the Copenhagen Conference in 2009. He was suggesting entrusting the SDRs guaranteed by the IMF's gold reserves to a Green Fund, in order to finance mitigation and adaptation

³ All the currency conversions were performed at the April 2014 rate, i.e. 1 dollar = 1.55 SDR.

⁴ Calculation performed based on IMF data using articles on "Currency Composition of Official Foreign Exchange Reserves" (2014) and "Special Drawing Rights" (2014).

⁵ Calculation performed based on the IMF, "General and Special SDR Allocation", September 2009. UNFCCC Annex 1 countries received around US\$167.3 billion, i.e. 67% of the SDRs allocated.

⁶ See for example (Kroll 2011b).

projects in developing countries. This idea was taken up and expanded over the following months and years, and gave rise to the drawing up of several alternatives (see Appendix A - The European Climate Foundation’s proposal). These alternatives can be classified according to two categories: the alternatives put forward by the European Climate Foundation (2009) and by IMF economists (Bredenkamp and Pattillo 2010), which are based solely on SDRs already in circulation, and those put forward by Action Aid (2010), Matthias Kroll (World Future Council 2009) (Kroll 2011a) and by Gaël Giraud (Giraud forthcoming), which require the issuance of new SDRs. As the general principle of these proposals has already been described in Section 1.2 of this report, we will limit ourselves to setting out a summary table here.

Table 1: SDRs proposals - summary table

	Emission of new SDRs	Nature of the fund's equity	Value of the fund's equity (billion dollars)	Dividends	Funding per year (billion dollars)	Percentage of grants	Budgetary costs linked to the capitalization of the fund (dollars)	Annual budgetary costs of interest paid on the SDRs (dollars)	Other bugetary costs (dollars)
ECF	NO	Dollars	100	YES	7	80%		2,4B/year	
IMF	NO	SDRs	120	YES (\$2,4B/year)	100	60%		2,4B/year	60B/year
Action Aid	YES	Dollars	165	NO	100?	100%	165B (SDRs)	2,4B/year + interests of DC's SDRs	
WFC	YES	Dollars	100	NO	100	100%	100B (SDRs)	2,4B/year	
Giraud	YES	SDRs	120	NO	100	60%	Up to 194,5B (SDRs)	2,4B/year	Guarantee (880B)

In this case, we estimate that the average interest paid by developed countries to the IMF amounts to \$2.4 billion per year, according to the estimates of IMF economists and G. Giraud. This figure should be considered as a minimum amount, since the interest paid to the IMF by developed countries will increase as the number of SDRs entrusted to the fund rises.

Source: authors

Most of these proposals were made before the UNFCCC set up the Green Climate Fund. Accordingly, Action Aid (2010) and Giraud (forthcoming) insist on the fact that the Investment Fund that manages the SDRs must be completely independent from the IMF. In fact, some developing countries criticise the IMF for its policy of concessional loans that are dependent on structural adjustments. The Green Climate Fund could fulfil these criteria in its current incarnation.

III. THE STRONG POINTS OF THE SDR MECHANISM

A. A fair system

This system is in keeping with the UNFCCC’s principle of shared but different responsibilities, since developed countries could make a greater contribution than developing countries. Moreover, allocating the SDRs to a fund according to countries’ IMF quotas would involve richer countries making a greater contribution. However, alternative allocations or unilateral use of SDRs are also possible. For Bredenkamp and Pattillo (2010), the quotas are “the key to burden-sharing”. This system for financing the combat against climate change can therefore be viewed as fair (Spratt and Ashford 2011).

B. Diversifying international reserve assets

As mentioned in the report, new SDR allocations would enable developing countries to diversify their reserve assets, and to be less dependent on the US dollar and US monetary policy.

IV. THE LIMITS OF THIS MECHANISM

A. The issue of the initial role of SDRs, as defined in the IMF's Articles of Agreement

According to the IMF's Articles of Agreement, an allocation of SDRs can only be decided if it corresponds to a "long-term global need to supplement existing reserve assets" (IMF 2014a), which theoretically excludes an allocation aimed at financing low-carbon projects in developing countries.

However, SDRs have already been used to finance concessional loans intended for least developed countries (LDCs). Accordingly, France and the United Kingdom transferred their unused allocations to the IMF in 2009 after converting them into currencies, in order to enable the IMF to grant concessional loans to LDCs. This precedent opened the way for a potential new use of SDRs (Revkin 2009).

Lastly, it is worth noting a recent event. In 2009, the IMF's Executive Board approved the sale of part of its gold reserves. The program ended in late 2010: 403.3 tons of gold were sold for a total amount of 9.5 billion SDRs (\$14.7 billion). Two allocations of SDRs created by the gold sales, amounting to 700 million and 1,750 million (\$1.1 billion and \$2.7 billion) respectively, took place in 2012 and 2013 in accordance with the quota rule. The recipient countries had previously committed to make at least 90% of the SDRs received available to the Poverty Reduction and Growth Trust Fund, in order to ensure its long-term viability. The purpose of this fund is to grant concessional loans to LDCs, and it now has the resources to provide currency financing amounting to some \$1.94 billion per year on average (IMF 2014b). Even if the distribution of SDRs originated from a gold sale in this case, it established the legitimacy of using SDRs for financing development.

B. The agreement of the United States, which has a power of veto on the IMF Board of Directors, is not a given

Issuing SDRs or using the IMF's gold as a guarantee, requires the agreement of 85% of the voting members on the Board of Directors. The mechanism has been determined in such a way that the United States holds over 15% of the votes. Accordingly, it has a power of veto.

However, there is a relatively high likelihood that the United States will object to the issuance of new SDRs for the purpose of financing a Green Fund. In fact, the US SDRs owned by the Exchange Stabilization Fund can only be used under very specific conditions. Lending SDRs to a foreign entity or government for over six months can only be authorized if the president provides Congress with a written statement specifying that "unique or emergency circumstances"⁷ are involved. Even if a vote by Congress is not required *de jure*, it nonetheless seems difficult to avoid *de facto*. In fact, when President Clinton did without Congress's agreement in order to grant swaps and loan guarantees to the Mexicans during the Mexican economic crisis of 1994, Congress required him to report on the status of the loans granted every six months. However, the outcome of such a vote is uncertain. Congress has actually already objected to an allocation of SDRs in the past: the special 2009 allocation had been suggested in 1997, but it was delayed for 12 years by the United States.

C. The risk of objections from developed countries due to a decrease in their reserves

By entrusting their SDRs to a fund one way or another, developed countries will see their reserves decrease, which may have adverse consequences for them, such as making borrowing on international markets harder. Indeed, the rate at which countries borrow on the international markets depends on the trust that lenders place in borrower countries' ability to repay their debt. If the borrower countries have substantial foreign exchange reserves, they inspire more confidence, which enables them to borrow at a lower rate. However, we can mitigate this argument by recalling that the percentage of SDRs in global reserves is currently capped at around 3%. Moreover, there are solutions, such as giving units in the fund

⁷ <http://www.treasury.gov/resource-center/international/ESF/Pages/basis.aspx>

the status of international reserve assets, or selling the IMF's gold in order to repay the lender countries in the event that the fund defaults (European Climate Foundation 2009).

D. Lack of efficiency and transparency

As part of this mechanism, SDRs cannot be directly allocated to the Fund, and must be transferred via national agencies in IMF member countries. However, we could take the view that this feature will have a negative influence on the degree of verifiability of SDR and currency flows (Spratt and Ashford 2011). In addition, if the composition of the Fund's equity capital is based on the SDRs allocated in 2009, the developed countries can only participate on a voluntary basis, which may compromise the size of the Fund. Lastly, countries may choose to contribute to the Fund in currencies rather than in SDRs. The issue that arises at this point is that of choosing between a common strategy and a large number of unilateral strategies.

E. The consequences of selling the IMF's gold

Some proposals imply the sale of part of the IMF gold. The sale of large amounts of gold by the IMF could have an impact on the gold market and the IMF takes the view that it must not disrupt this market and the interests of gold holders or producers (European Climate Foundation 2009). In addition, the sale of all or some of the IMF's gold requires the agreement of 85% of the members of the Board of Directors, which may create a problem, as we have seen above (IMF 2014b). The sale of IMF gold would then be difficult to undertake.

APPENDIX A - THE EUROPEAN CLIMATE FOUNDATION'S PROPOSAL⁸

This proposal (see Figure 1) was drawn up in 2009, shortly after George Soros' speech. It is based on the SDRs issued during the 2009 special allocation, and is based on five stages.

1) Initially, developed countries grant an SDR loan to a specialized fund⁹. The authors are assuming an equity capital contribution of \$100 billion, which could be allocated in tranches of SDRs worth \$50 billion. The fund will be required to sell the SDRs received to countries that want them, in order to obtain currency.

2) A mechanism must be introduced in order to pay the interest on the loan. The European Climate Foundation has made three suggestions:

- Payment of the interest may involve the sale of some of the IMF's gold reserves, once they have been revalued at the market price;
- The interest can be financed by cash from the interest generated by development assistance funds;
- The interest can be financed by the return on the actual specialized fund.

3) A fund with an initial allocation of SDRs amounting to \$100 billion could generate \$7 billion per year, 80% of which would finance adaptation projects (via subsidies or concessional loans), and 20% of which would finance mitigation projects (via debt and investments) in LDCs.

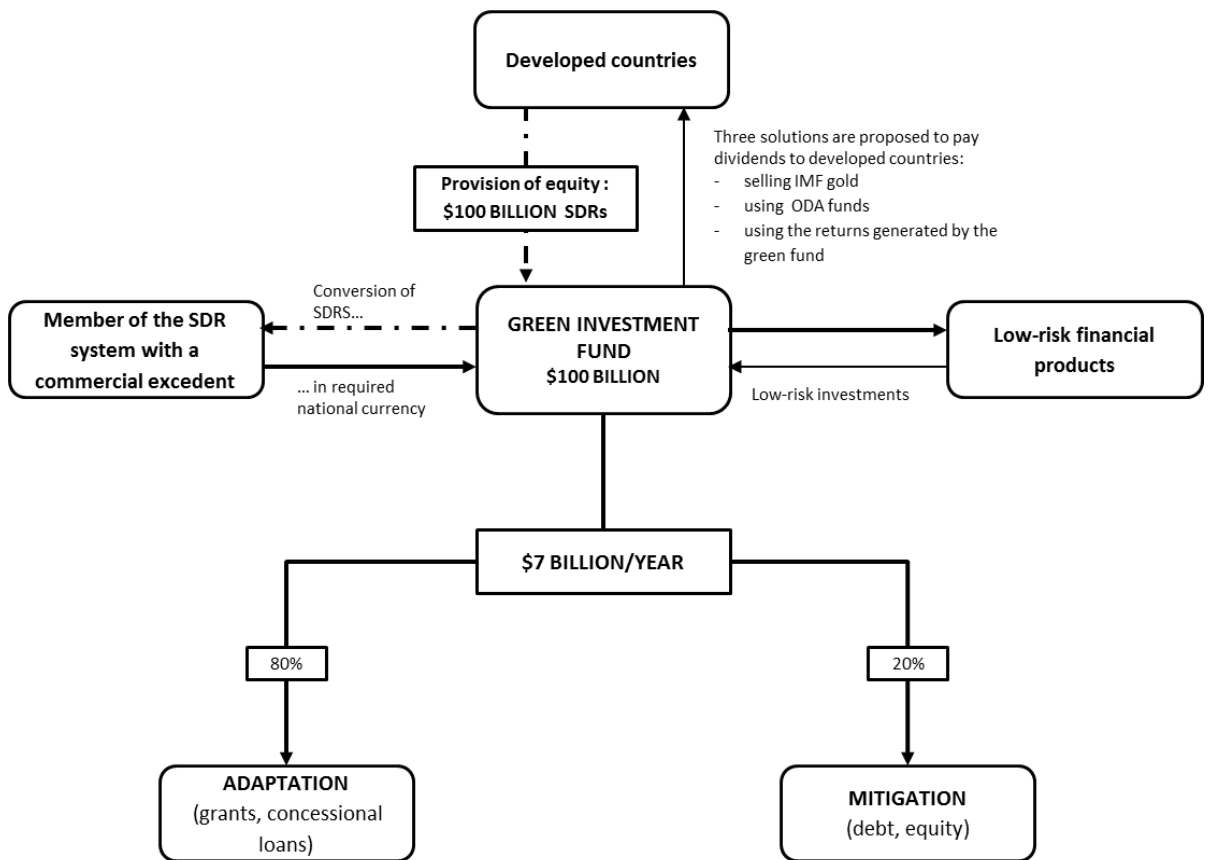
4) The fund must generate a sufficient amount of assets to be able to repay the initial SDR loan. The fund will spend between \$5 to \$7 billion every year in the form of investments, subsidies and concessional loans. Its income will originate from the return on its investments, the interest on the loans that it has granted, and future SDR allocation tranches. According to the authors, the fund will then have surplus

⁸ (European Climate Foundation 2009)

⁹ The green investment fund described in the figures is not necessarily the Green Climate Fund. See footnote **Erreur ! Signet non défini.**

assets at all times, which it will be able to invest in a low-risk manner in order to receive interest. The fund should therefore generate substantial surpluses in the long-term.

Figure 1 : The European Climate Foundation's proposal



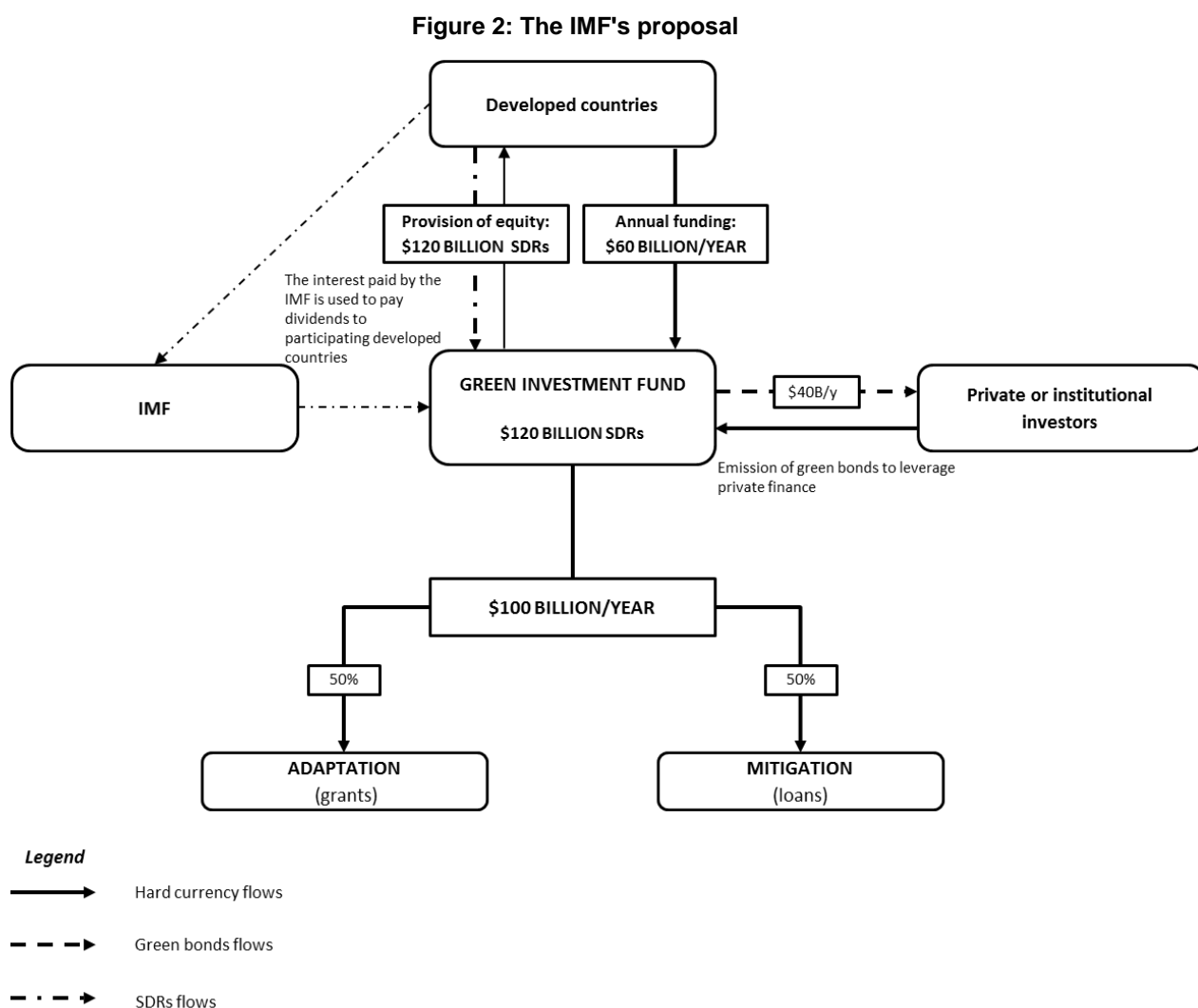
Legend
 ———▶ Hard currency flows
 - - - -▶ SDRs flows

Source: authors, inspired from (European Climate Foundation 2009)

5) "Safety nets" must be provided for lender countries in the event that the fund defaults. The authors envisage three options in this event: either the developed countries erase the debt or the developed countries and the LDCs share the risk proportionately to their share in the fund, or the IMF's gold reserves can be used to redeem the loan as a last resort.

This proposal is the one that requires the least leverage, since it does not involve issuing debt. In contrast, the other alternative set out below enable projects amounting to \$100 billion rather than \$7 billion to be financed every year.

APPENDIX B- THE IMF'S PROPOSAL¹⁰



Source: authors, inspired from Bredenkamp and Pattillo (2010)

The authors of this proposal (see Figure 2) are suggesting setting up a Green Fund in order to channel the financing flows from developed countries to developing countries provided for at the Copenhagen Agreement (2009).

1) The authors are using the figure of \$100 billion per year as a proxy for the size of the fund, while specifying that this choice is only indicative, to the extent that developed countries may also choose to transfer a portion of their financing via other channels. The fund's resources will be used to finance adaptation (via subsidies) and mitigation (via concessional and non-concessional loans) on a 50-50 basis. The authors estimate that \$0.60 will need to be invested in the fund for every \$1 in financing granted. In other words, the resources contributed to the fund will need to amount to \$60 billion per year as from 2020 (including a gradual increase in the amounts between both periods).

2) Developed countries will contribute to the fund from their 2009 SDR allocation, and in accordance with their IMF weighting. They will participate in the fund's capital in exchange for SDRs. This participation could have the status of a reserve asset, which would be more attractive for the contributor countries. However, it must remain sufficiently liquid, and be able to be exchanged against cash if necessary.

3) Once the fund's capital has been established, it could issue highly rated, and therefore relatively inexpensive green bonds that would be sold to institutional investors. In this case, unlike in the other

¹⁰(Bredenkamp and Pattillo 2010)

proposals, the SDRs will therefore be used as capital and will not be converted. To achieve the targets determined in Copenhagen, the fund will need to issue \$1 trillion in bonds over 30 years (i.e. around \$40 billion per year once it has reached a balanced position). According to the authors' calculations, an initial capital injection of \$100 billion should be sufficient to allay the risk of default, to which \$20 billion could be added in order to ensure the liquidity of the equity capital units, and enable the contributor countries to exchange them against cash where applicable. By taking the "grant" portion (50% on average) of the concessional loans into account, the authors reach a final breakdown of 60% grants and 40% loans for the financing. The financing reserved for low-income countries will be that dedicated to adaptation, as well as 40% of that dedicated to mitigation (concessional loans).

4) The authors expect that there will be a gap between the amounts of cash required to finance the transition to a low-carbon economy and the amounts provided by States at the fund's launch stage. They suggest several solutions for resolving this problem:

- The fund could issue additional green bonds. However, this could jeopardize the fund's long-term strength and raise its borrowing costs by increasing its debt-to-equity ratio. In this case, we could envisage that participating governments would guarantee the bonds issued by the fund.
- The fund could use the interest that the IMF might pay on the SDRs that make up its equity capital. Once the fund has reached a balance, this interest would be used to pay dividends to the contributor countries. This means that the countries would initially be required to waive their dividends while paying the IMF interest on their SDRs by using their budgetary resources.
- The international community could reach an agreement in order to dedicate resources generated by other environmental policies (an international aviation or carbon tax, for example) to the fund.

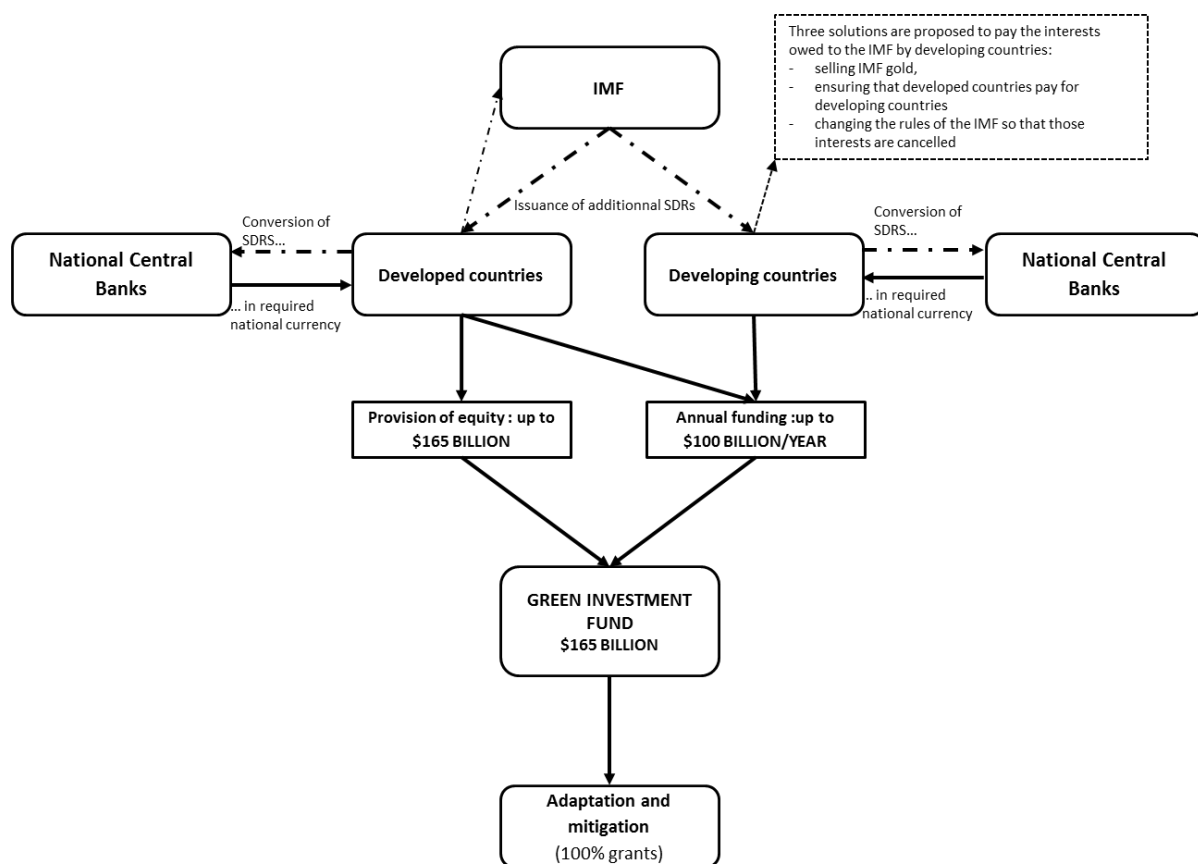
APPENDIX C - ACTION AID'S PROPOSAL¹¹

Action Aid first notes that developed countries rarely need to convert their SDRs into currency as they can raise funds on the markets at low rates that are close to SDR interest rates. In order to combat climate change, Action Aid is therefore suggesting that developed countries' SDRs are converted into currencies, and that new SDRs be issued on a regular basis so that the financing flows are foreseeable. In the case of the initial SDR-based contribution to the fund, developed countries will convert the SDRs that they received at the time of the 2009 allocation into cash, and transfer them to a specific fund headed by the UNFCCC, while the IMF will not play any role in managing this fund. The developed countries will receive no interest for this transfer.

Subsequently, every time new SDRs are allocated, all the IMF member countries will convert their SDRs into currencies and transfer them to the fund. The fund will then use the currencies to finance adaptation projects in LDCs via subsidies (100%). The principle of subsidies is justified by the fact that climate finance must be considered as compensation for the damage caused by developed countries.

¹¹ (Action Aid 2010)

Figure 3: Action Aid's proposal



Source: authors, inspired from Action Aid (2010)

Action Aid then insists on the fact that LDCs should not pay the IMF any interest when they convert their SDRs into currency. The solutions are proposed to cover this interest: selling the IMF's gold, ensuring that developed countries pay for LDCs (according to the principle of polluter pays), or amending the IMF's rules, so that it can cancel the SDRs that have been converted into currency in order to finance mitigation and adaptation processes.

APPENDIX D - PROPOSAL BY THE WORLD FUTURE COUNCIL (MATTHIAS KROLL)¹²

The projects financed by this mechanism are exclusively renewable energy development projects.

Initially, the SDR System member countries will reach an agreement in order to ask the IMF for a new issue of SDRs that will be distributed according to the quota rule. Countries will have committed to giving most of these new SDRs to the climate fund beforehand (10 to 20% may be retained in order to finance the transition to a low-carbon economy at the domestic level).

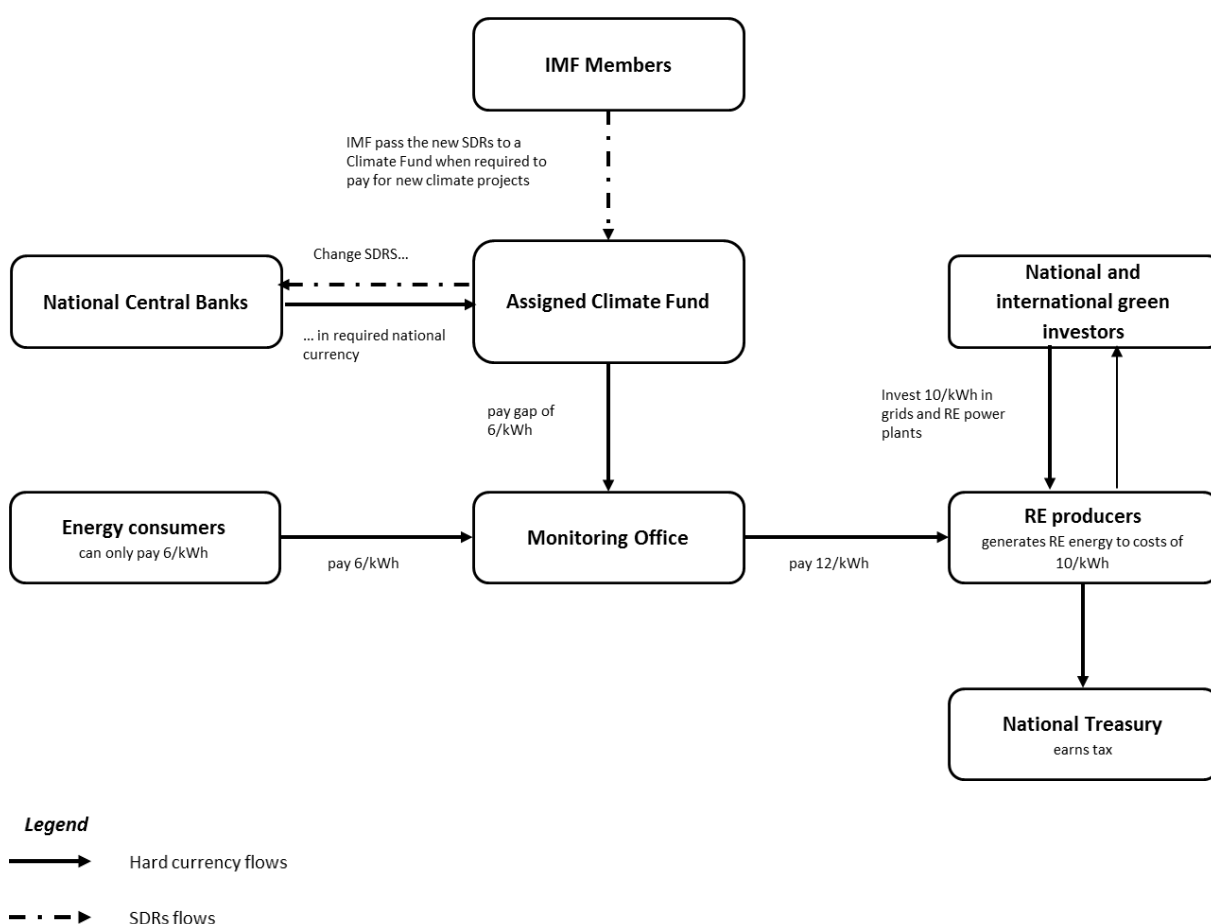
As SDRs are not a means of payment as such, the fund will exchange them against currencies with the central banks involved. At that time, the central banks will actually be increasing their domestic money

¹² See specifically (World Future Council 2009) and (Kroll 2011b).

supply, and expanding their balance sheets. The currencies will be given to the climate fund free of charge, without the fund being required to pay interest or redeem the capital, which differentiates this process from the private bank refinancing mechanism. The funds raised in this way will be used to finance projects relating to the transition to a low-carbon economy in LDCs.

In order to ensure that the cash created actually corresponds to the creation of value, the climate fund will only exchange the SDRs against national currencies once a project has been accepted. The solution that Matthias Kroll is proposing to ensure that the projects financed do indeed create value is to link this financing mechanism with a renewable energy buy-back pricing mechanism. In fact, there will only be a subsidy in this case if energy is actually generated. The fund will pay the difference between the price that households in poor countries can pay for their electricity and the price that would cover the full generation costs (including a margin).

Figure 4: Proposal by the World Future Council



Source: World Future Council (2009)

APPENDIX E - PROPOSAL BY GAËL GIRAUD

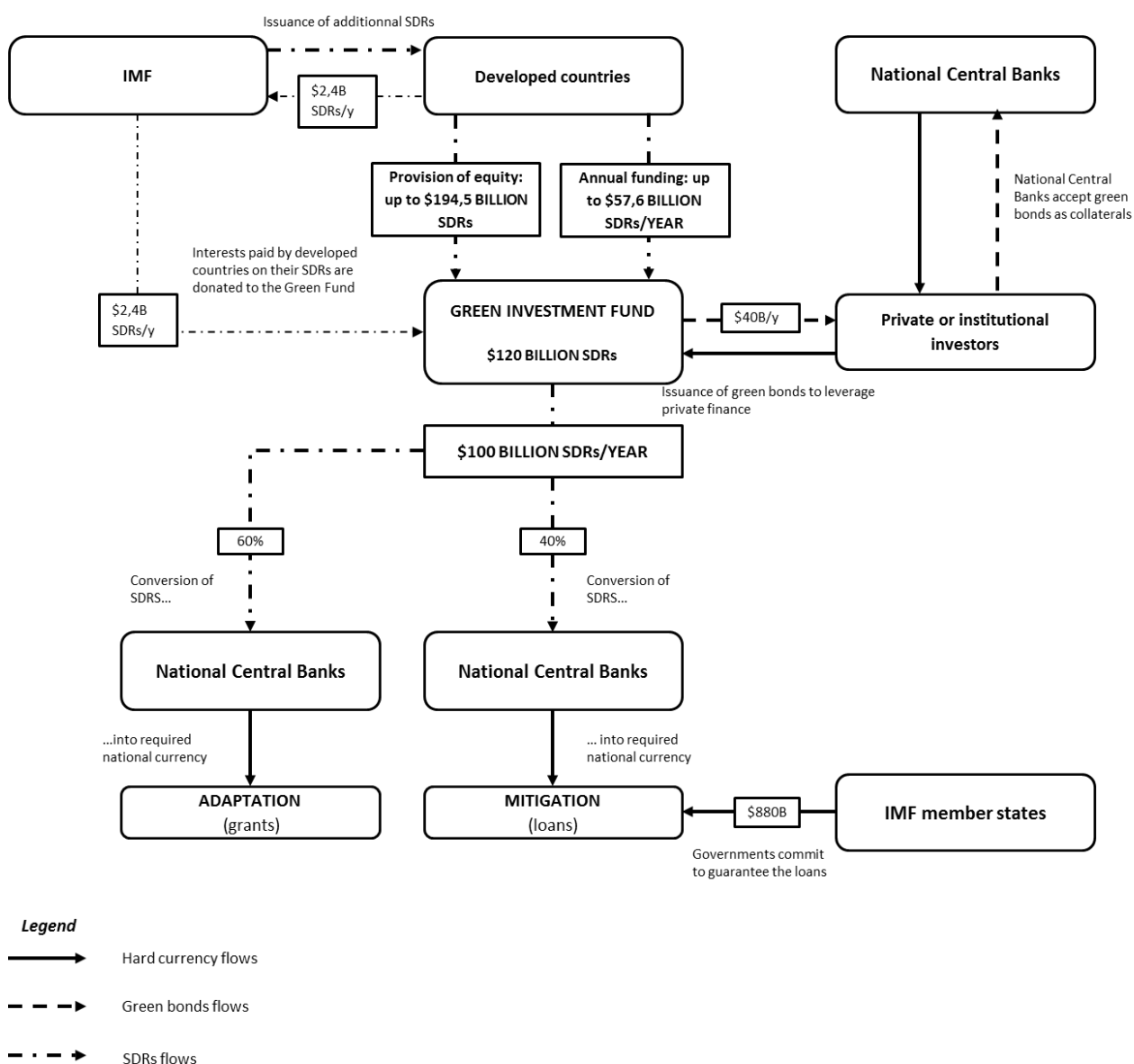
This proposal (see Figure 5) is still under development (Giraud forthcoming). Alterations are therefore likely to be made to it.

Initially, IMF member countries will reach an agreement in order to ask the IMF for a new issue of SDRs that will be “focused” on financing the transition to a low-carbon economy. In other words, the States undertake to transfer the new SDRs received to the Green Fund (created at the Cancun Conference in 2010), over which the IMF has no right of oversight. The States may also use the SDRs received at the time of the special allocation in 2009. Gaël Giraud is suggesting that only the 20 countries that have historically emitted the most GHGs contribute to the equity capital in proportion to their relative emission

contributions within the G21. These countries would not receive any dividends for contributing to the equity capital, which basically comes down to asking them to simply give their SDRs to the fund. The equity capital will amount to US\$100 billion, to which we add US\$20 billion in order to ensure the liquidity of the SDRs (based on the model of the IMF proposal). The equity capital will consist of SDRs (the SDRs are not converted).

60% of the Green Fund imagined by Giraud will finance adaptation projects via subsidies, while 40% of the fund will finance mitigation projects via “loans with environmental conditions”.

Figure 5: Proposal by Gaël Giraud



Source : authors, inspired from Giraud (forthcoming)

The loans will be financed thanks to the issue of green bonds by the fund. These bonds, which will be bought by private investors, can be used as collateral when banks refinance themselves with central banks. They are even intended to become benchmark collateral over time, instead of sovereign debt. The author assumes that the fund will raise \$1 trillion in debt over 10 years.

The fund will grant loans to LDCs in the form of SDRs, which must be converted into currencies with domestic central banks. A total loan budget of around \$1 trillion would enable any losses relating to the risk of default to be offset. The author is suggesting that all the IMF member countries guarantee the loans that are not covered by equity capital (i.e. \$880 billion), in accordance with their IMF quota. This

distribution would enable the risk to be shared between all countries, while ensuring a greater contribution from developed countries. The public guarantee would enable the fund's interest rate on its debt to be lowered, and therefore enable a reduction in the rate of return required from the investments financed by the climate fund's loans.

The subsidies will be financed by making the SDR reserves allocated to developed countries before 2009 available to the fund, which would amount to \$74.4 billion. These reserves will be given to the fund free of charge. In addition, the interest paid on their SDRs by the aforementioned countries will also be repaid to the fund, which amounts to a budget contribution of around \$2.4 billion per year from these countries. Lastly, the remaining subsidies (\$40.57 billion per year in Year 2, and \$57.6 billion for the following years) will be financed by the issuance of additional SDRs by the IMF.

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