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Big Green Bucket ultimately targets \$25bn in annual refinancing of clean energy and climate-related lending by development banking institutions

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Big Green Bucket: towards a large-scale refinance facility for clean energy debt

1. EXECUTIVE SUMMARY

Publicly-owned entities such as development banks, multilateral financial institutions and export credit agencies are originating over \$100bn of clean energy-related loans per year – and have lent more than \$400bn cumulatively since 2007. This paper describes a potential large-scale facility – dubbed "Big Green Bucket" (BGB) – aimed at enabling up to \$25bn per annum of clean energy and climate-related loans to be refinanced with private money via the bond markets, freeing up development finance institutions' balance sheets and making possible new climate-related lending.

2. BACKGROUND

At COP15 in Copenhagen in 2009, the developed world committed to providing at least \$100bn to the developing world per annum to fund climate solutions by 2020. While much of this was expected to flow via the Green Climate Fund, this will by no means be able to handle \$100bn per year. Therefore complementary mechanisms and funding routes are required, particularly ones that attract private finance, which is expected to account for 75% of the total.

Historically, the World Bank and regional development banks constituted the largest balance sheets for lending in in the developing world. Local financial markets were far less developed, and securitisation had barely begun. Even 20 years ago, there was little or no pressure to use public funds to "leverage in" private money.

Now, however, capital formation has resulted in the creation of banks around the world with considerably larger balance sheets than those of the IFIs. The unique value of the international financial institutions no longer lies in their balance sheets, but in their networks and presence on the ground in developing countries, not shared by even the largest private sector banks, as well as in their inherent contribution to risk management.

Another change is that development banks are under increasing pressure to demonstrate that they are successfully crowding in private finance. Up to now, approaches to leveraging public funds have revolved around bringing in private funds at the point of originating new investment, via a range of approaches, including the following:

- Anchor investments. Early commitments to projects, which help developers to complete funding rounds, bringing in private investors.
- *Guarantees, first-loss provisions and junior debt.* Development finance institutions have used a range of techniques to assume a disproportionate share of debt in risky projects, allowing private investors to come in where they might otherwise have shied away.
- Risk mitigation and insurance. A growing range of tools have been designed to take on risks unacceptable to private investors, generally relating to sovereign risk, in some cases to policy and foreign exchange risk. New approaches are being tried vis-à-vis

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counterparty risk and technology-specific risks such as those related to geothermal dry wells.

- Programmatic lending (framework loans). Development banks have achieved further leverage by setting up programmatic lending initiatives, whereby their funds are channelled through local banking partners, which contribute additional private liquidity.
- Fund-level leverage. Public funds can be committed as anchor "limited partner" investments to help managers raise funds targeting clean energy and climate-related investments. More recently, there are examples of development banks attracting private investors into their own pooled funds (such as the IFC's Catalyst Fund) or funds-of-funds (such as the European Investment Bank's GEEREF).
- Capacity-building grants. Many development institutions make grants to help with the education of local investors and the early development of projects, which may later attract private finance.
- Green bonds. These are the big growth story of the past 24 months, whereby money raised is ring-fenced for one of a variety of sustainability-related uses. Up to now, however, green bonds have only been used to raise money to finance new lending, rather than to refinance existing assets.

BGB can be seen as complementing these approaches to leverage by creating a conduit for large-scale refinancing of clean energy and climate-related loans with private money.

It is worth noting that this is in no way about development banks pulling back from funding development-type projects: the opposite. It acknowledges that since many development loans in fact turn out to be profitable, instead of waiting for repayment to free up capital to make more loans, development banks should be able to cycle their funds more rapidly to achieve greater impact.

Not all development banks are under equal balance sheet pressure. Where they are not, the solution to accelerating loan activity is a different one: resolving what it would take to deploy more capital more quickly – perhaps by accelerating capacity building in order to develop a richer project pipeline.

In most cases, however, moving from a purely invest-and-hold model to more of an invest-andrefinance model would allow development banks to achieve enhanced impact from their balance sheets without requiring any new equity capital to be raised.

3. GENERAL PRINCIPLES

The general principles governing BGB's operation could be as follows:

- BGB will be structured as a series of tranches, each of which will pool a number of climaterelated and clean energy loans, securitising them in such a way that they are largely removed from the balance sheets of the originating entities.
- BGB tranches will be debt-funded via public bond markets, bringing in money from new sources not currently engaged in climate-related investment. Although in the initial years BGB might only free up single-digit billions of dollars, ultimately there is no reason why BGB may not grow to as much as \$25bn per year, given the scale of relevant lending.
- Each BGB tranche will combine loans from a range of originating entities. BGB tranches may cover different technologies, geographic areas and asset types, or may be more focused. Ultimately the types of portfolios in BGB should respond to demand from the targeted institutional investors and sovereign wealth funds.

- BGB tranches will offer a range of different maturities to match investor needs: less than five years, five to 10 years, 10 to 15 years, and so on. BGB bonds are expected to match closely the maturity of their underlying loan portfolios in order to avoid term risk. Interest and principal repayment on the underlying loans will be remitted to bond investors as is done with other mortgage and loan-backed securities.
- To be eligible for BGB, loans must meet strict criteria relating to climate- or clean-energy-relevance, perhaps using green bond or climate bond definitions. BGB bonds are expected to to be classified as climate or green bonds. Only the lowest risk loans will be accepted: those which have been performing according to their original business plans for at least two years, and from countries with an acceptable level of sovereign risk. Cash flows would be verified by major firms of auditors not previously involved with underlying loan recipients.
- Private entities that have invested *pari passu* with public institutions in qualifying assets will be encouraged to sell their loans to BGB, as long as they provide identical first-loss guarantees. Private entities should be able to purchase insurance against these guarantees, enabling them to fully exit their loans and recycle capital into new projects. This should help reduce their cost of capital, especially in a post-Basel III environment, and spur the creation of a secondary market for clean energy debt.
- Sale of non-concessionary loans to BGB will result in a profit for the originating entity. Loans at interest rates below BGB's financing cost cannot be sold profitably and can only be accepted if a donor is willing to make up the difference (as well as paying BGB's operating costs).
- To avoid the risk of moral hazard, the originating entity will write a first-loss guarantee to BGB in the amount of some proportion (perhaps between 25% and 50%) of the value of the transferred loans. This guarantee will remain on the balance sheet of the originating entity, though most likely at less than the guaranteed value-at-risk proportion of the loan.
- Each tranche of BGB is designed to achieve an investment-grade credit rating. Feedback from the eventual bond purchasers will dictate the exact credit rating BGB needs to target. Given the low-risk, diversified nature of its underlying portfolio, investment grade may be achieved automatically. It may, however, require donor nations to provide some form of credit wrap, either via a new direct mechanism or via a new World Bank facility, in which case it might make sense for BGB to be considered by the Global Climate Finance Innovation Lab.
- A condition of using BGB is that the originating entity commits to undertake new climaterelated lending over and above current business plan. This will be audited and reported on.
 Failure to comply with this rule within a specified period will prevent that institution from participating in further BGB refinancings.
- Over time, the existence of BGB will encourage originating institutions to write their climaterelated lending in such a way as to facilitate the transfer of performing loans into a future BGB tranche.

One open question is whether BGB should only accept North-South loans. While this seems like a superficially attractive option, since it provides the optics of new private money stepping in to fund a pool of North-South investment, in practice it would dramatically reduce the scale and hence impact of BGB.

Whereas all lending by development banks and export credit agencies for a broad range of clean energy, transmission and distribution-related uses since 2007 amounts to \$430bn, the North-South proportion is only around \$37 billion of that total, or 8.7%. It therefore makes much more

sense for any climate-related lending to be eligible for BGB, but with a restriction that originating institutions recycle the money into North-South lending.

4. GETTING BGB LOANS OFF THE BALANCE SHEET

BGB will only succeed if it can free up the balance sheet of the originating institution to undertake more lending. In practice, this means that risk must be transferred from the originating institution to BGB.

Such transfer creates the risk of moral hazard, as the very presence of the originating institution in many cases provides a strong incentive to ensure the continuing financial viability of the underlying investment. Staff members at the originating institution have detailed knowledge of the loan and its business case; borrowers and other stakeholders are generally careful not to expropriate assets from institutions from which they may want to raise further funds in future. Were the debt ever transferred in its entirety to an anonymous group of private investors, the risk of default would rise.

Borrowers too, in many cases, see development banks as valuable stakeholders, providing political reassurance to sponsors and other creditors. A complete exit from a loan by the originating institution is therefore likely to be resisted by the borrower.

To manage these issues, the originating institution should always continue to bear performance risk on a substantial proportion of the loan – between 25% and 50%. This could be achieved in a number of ways:

- a. Loan documentation is modified such that BGB takes on 50% to 75% of the loan, leaving the balance with the originating institution on a pari-passu basis.
- b. The entire loan is taken on by BGB, with the originating institution writing a first-loss guarantee to BGB covering the first 25% to 50%. This is likely to require less rewriting of existing legal documentation as the loan is not split. Depending how the first-loss provision is treated on the balance sheet of the originating institution, this should free up more than the loan value itself.
- c. The loan stays with the originating institution, but a "participation contract" is written which passes all economic interest in 50% to 75% of it to BGB.
- d. The entire loan is taken on by BGB, and the originating institution contributes to a pooled first-loss provision. While this might be lower cost, it bears an increased risk of moral hazard as individual originating institutions are no longer directly incentivised to ensure continued performance of their loans.

Of these three approaches, b) or c) are likely to require the least rewriting of documentation and renegotiation of the loan. In addition, it may make sense for originating institutions to underwrite a portfolio-level first-loss facility on some proportion of the book, in order for BGB to secure the appropriate credit rating.

5. PRIVATE LENDERS' ACCESS TO BGB

The impact of BGB can be extended by allowing private institutions access alongside public finance institutions.

Any private institution that has co-invested *pari passu* with, or senior to, an originating institution would also be allowed to pass its loan on to BGB, subject to writing a first loss provision to ensure it too remains engaged in risk management. Private entities may or may not be subject to the same conditions as the originating institution regarding re-lending, as this would be much harder to police.

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Private lending that is junior to a loan by an originating institution would not qualify for inclusion in Big Green Bucket. Private loans without public finance institutions as co-investors, or for which the originating institution is not moving its loan into BGB, would not qualify.

6. FOREIGN EXCHANGE RISK

One of the most difficult risks to manage is foreign exchange (forex) risk. In order to attract a high level of demand from institutional investors, it is expected that BGB tranches would be financed in dollars or euros. In some cases it may be possible to tap into other major currencies such as sterling or yen. However, many of the underlying loans will be in other currencies.

In order to earn an investment-grade credit rating, this forex risk will need to be actively managed. There are three potential approaches to this:

- Self-hedging. By creating a sufficiently diversified pool of debt, including a large volume of debt denominated in the bond issuing currency, it may be possible to reduce forex risk to an acceptable level.
- *Hedging.* It may be possible to hedge currency risk at an acceptable cost, either via commercial banks or in partnership with TCX Fund, which was set up to help development banks and others manage longer-term forex risk.
- Originator hedging. Many originating institutions already fund themselves at least in part via borrowing in the major currencies. Thus, if they are providing local currency lending they currently bear forex risk. It would be technically feasible to separate out forex risk and require a specific guarantee from originating institutions, removing only commercial and country risk from their balance sheets, though this might be resisted.
- Donor nation risk mitigation. If the routes described above have been exhausted, it might
 be necessary for donor nations to write some level of forex risk insurance on each BGB
 tranche in order to achieve an acceptable debt rating. The cost of this is likely to be
 some small fraction of the size of the tranche.

7. WHO MANAGES BGB?

BGB tranches will be structured and managed by BGB Corporation. BGB Corporation will be a private company, set up and owned by a consortium of commercial banks, development banks and management. BGB will earn revenue based on successful flotation and performance of BGB tranches. An analogy might be TCX currency exchange fund.

8. NEXT STEPS

For BGB to move forward in time to be announced in September 2014, the following three steps would need to be undertaken on an accelerated time-frame.

8.1. Set up a working group

There are a number of groups working on ideas which strongly parallel those in this note, including the Climate Bond Initiative, World Bank, Bank of America Merrill Lynch, Sustainable Energy for All, Climate Finance Innovation Lab, Finance for Resilience and others.

To move BGB forward as quickly as possible, a working group should be formed with the participation of these players. This working group could ultimately develop into the advisory board of BGB Corporation.

8.2. Analysis required

The most critical next step would be to answer a number of outstanding questions about the supply and demand for clean energy and climate-related loans.

- What is the structure of outstanding loans on development finance institutions' balance sheets, in terms of
 - Technology
 - Geography
 - Term
 - Interest rate
 - Currency
 - Performance
 - Legal structures
 - Guarantees, covenants, etc.
- What is the level and nature of demand from private institutional investors, asset managers and sovereign wealth funds for BGB-type bonds along the following dimensions:
 - Term
 - Rating
 - Yield
 - Currency

8.3. Stakeholder Consultation

Once the above analysis is completed, the next step would be to consult the main stakeholders whose involvement would be critical to the launch of BGB:

- Development finance institutions: Is there demand for a mechanism such as BGB to free up balance sheets to extend more loans to climate-related projects?
- Ministries of finance: Are ministries of finance comfortable with the extension of DFI lending in this way?
- Ratings agencies: What would be required in order for BGB tranches to achieve investment grade?
- *Institutional investors:* Would BGB bonds be treated no worse than other bonds of comparable ratings? Would they require any supplementary guarantees or underwriting? Would they confer any marketing benefits?
- Commercial bank fixed income teams: Would BGB bonds be attractive inventory for the sales desks of fixed income teams to sell?

8.4. Business Planning

The fourth preparatory task would be to create a business plan for BGB Corporation:

- What would the corporate governance for BGB Corporation need to look like?
- What would the revenue model for BGB Corporation be? What costs would it bear?
- What would be the ideal ownership structure for BGB Corporation?
- How quickly could BGB Corporation be set up and the first BGB tranche be created?

Appendix A: Historical lending patterns

Over the past decade, the importance of development finance and export credit in financing clean energy has grown very significantly. In 2012, these institutions were investing over \$110bn in a broad set of clean energy sectors, including renewable energy, energy efficiency, large hydro, transmission and distribution and framework loans.





Note: "Broad" clean energy includes renewable energy, efficiency, large hydro, transmission and distribution and framework loans.

Source: Bloomberg New Energy Finance; development institution publications. Note: development institutions include multilateral development banks, national development banks and export credit agencies. Figures include only end use lending, not programmatic commitments, disbursements to local agencies, banks or governments.

Appendix B: Securitisation

Securitisation refers to the process whereby a loan or bundle of loans is sold on by an originating institution to another investor, in such a way as to free up the balance sheet of the originating institution to make more loans.

Almost any type of asset can be securitised (as we discovered during the financial crisis). However, securitisation works best when backed by assets with predictable cash flows such as high-quality mortgages, leases, credit card receivables or other relatively standardised loans. Banks have used securitisation to pass on loan portfolios to long-term debt holders such as pension funds, life insurance companies, sovereign wealth funds and asset managers, enabling them to recycle their lending allocations. This has been particularly useful to regional banks and those with smaller balance sheets.

Where any individual originating institution has insufficient inventory to undertake a securitisation on its own, a pool or "conduit entity" can be created, allowing loans from multiple institutions to be aggregated so as to make them attractive to investors. Such pools need to be sufficiently large that risk is diversified and costs (legal, compliance, rating) are covered, in order to attract enough new investors to create a liquid market.

Securitisation got a bad name in the wake of the 2008 financial crisis – and for good reason: it was used indiscriminately, backed by unsuitable assets, sold by banks with no interest in the quality of the instruments they were creating, rated by agencies and overseen by regulators who failed to understand the risks. Securitisation reached a peak of just under \$3 trillion per year in 2006, before collapsing to around \$300bn by 2010.

Since 2010 issuance of asset-backed securities (ABSs) has bounced back, reaching over \$700bn in 2013, including non-residential mortgage securitisations of over \$100bn. The European Central Bank and the Bank of England have both expressed the view that correctly-regulated securitisation offers a useful tool for banks to improve asset ratios without reducing lending volume and constraining economic recovery¹.

In the case of clean energy and climate-related assets, bank lending is the primary source of business and project finance. Leverage is generally in the range of 50% to 80%, and 90% of the debt takes the form of bank lending. The energy efficiency and renewable energy sectors are characterised by a predominance of smaller projects, with lending spread over a wide variety of banks. Particularly in the wake of the financial crisis, lending will remain constrained by the balance sheets of originating institutions – public and private – unless a way is found to jump-start securitisation in these markets. There are very few, if any, banks with adequate renewable energy or energy efficiency loan books to create securitisations on their own.

A variety of aggregation models are expected to play a particularly important role in the financing of clean energy assets. For instance, the past 24 months has seen a proliferation of "yieldcos", quoted vehicles which each hold the equity of a number of clean energy assets. These make clean energy investments available to investors who might not otherwise hold them for liquidity reasons. However, yieldcos remain small in relation to the very significant flows of finance that are required by the sector.

The more significant prize would be to employ the techniques of securitisation to resell clean energy debt, rather than equity. BGB is designed to release the large volume of debt currently trapped on the balance sheet of development banks and export credit agencies, freeing them up to make new loans.

¹ Back from the dead: the return of securitisation. Economist 11-17 January 2014

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