

Leveraging Private-Sector Investment into the Low-Carbon Economy

How Covered Bond markets can be adapted for Renewable Energy Finance and how this could Catalyse Innovation in Low-Carbon Capital Markets

Unlocking bank lending in an era of capital constraint and limited public budgets

By Frank Damerow, Sean Kidney and Stuart Clenaghan¹

Introduction

There is now a broad consensus among governments, corporations, and the public alike that urgent action is required to cut greenhouse gas emissions. However, mobilising sufficient finance to transform the world's economy onto a low-carbon footing is far from straight forward, especially given the financial crisis, which has forced banks to cut lending. The bond market could supplement loans, and one sector – covered bonds – should be explored as a means to support bank lending within the low-carbon economy, in particular to areas targeted by public policy such as renewable energy.

Covered bond markets have proven to be a reliable source of term-dated funds for banks to on-lend in specific sectors targeted by policy makers, such as housing, which have perceived economic multiplier effects. Legislation governing the issue of covered bonds has now been introduced in almost forty countries, therein recognising the contribution the market can make in aligning private-sector investment with public policy objectives.

Covered bonds are highly regulated, and enjoy superior credit ratings and lower funding costs compared with unsecured debt issued by banks. This is achieved through a dual recourse structure where bond investors have a claim over dedicated 'cover pool' of assets, as well as a general claim against the issuer itself. Covered bond legislation defines strict conditions that the issuer must comply with to ensure that the quality of the cover pool collateral is maintained.

In order to enable covered bonds to be adapted for low-carbon finance it will be necessary to create a consensus on what type of assets will be eligible, how these will be managed, and what definitions apply to low-carbon assets. The objective should be to establish a legislative framework, which both fulfils a low-carbon public policy purpose and enables reliable term funding to be accessed by banks.

This Discussion Paper outlines how covered bond markets could be adapted for renewable energy finance and how covered bonds could provide a stepping-stone towards broadening debt capital markets for low-carbon finance.

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Executive Summary

1. At a time when the need for global investment in renewable energy is rising, capital-constrained banks are lending less and charging higher interest margins, creating a bottleneck for senior debt funding. Bank lending is expected to be constrained further under Basel III. **See p4.**
2. Banks have considerable project loan expertise and provide the majority of debt to project finance, including renewable energy. In order to maintain lending, banks need to find a way of refinancing existing loan portfolios. **See p4.**
3. According to the International Energy Authority (IEA), an additional \$1 trillion global annual investment is required to reduce emissions of greenhouse gases to a safe level - yet there are few fixed income products that the private sector can invest in outside of banks' balance sheets. The decision by Germany to phase out nuclear power by 2022 will necessitate an estimated further €200 billion of investment in clean energy. **See p4.**
4. Whilst public sector support for clean energy financing has been strong, especially through the provision of Feed-in Tariffs (FiTs), it is unlikely that most governments will extend their support above existing levels. Ways must be found to leverage existing public sector support, and through this facilitate increased lending by banks so that renewable energy projects remain economically viable. **See p4.**
5. The world's largest pool of capital - the \$95 trillion bond market - has largely been untapped for renewable energy finance. Bond issuance could supplement bank lending, but it will take time for the market to grow as institutional investors generally take a conservative approach to new asset classes and need time to develop expertise. **See p5.**
6. Covered bonds - called Pfandbriefe in Germany - could provide a stepping-stone in the development of a fully-fledged renewable energy bond market. **See p6.**
7. The Pfandbrief market saw substantial growth in the 1990s, when the German government supported its expansion as a means to support the massive post-reunification investment in infrastructure in East Germany - a priority not dissimilar to the current need to invest in renewable energy. **See p4.**
8. The development of the covered bond market outside Germany is supported by legislation in many countries. Policy makers see covered bonds as a means to support bank lending for housing and public sector infrastructure, which both have perceived economic multiplier effects. **See p8.**
9. In most countries existing legislation would need to be adapted to enable banks to issue covered bonds supported by renewable energy assets. **See p9.**
10. The advantages that Renewable Energy Covered Bonds (RECBs) offer are two-fold. First, banks will be able to access cheaper and longer-dated funds to on-lend to designated renewable energy projects. And second, bond investors would be able to gain exposure to renewable energy assets with minimal adaptation of existing portfolio guidelines because of the high level of security offered by covered bonds. **See p6.**
11. The enhanced credit quality of covered bonds is achieved through a dual recourse structure. Covered bonds are first and foremost obligations of the issuing bank. However, in the event of a default, bondholders have a preferential claim over the assets and associated cash flows in the cover pool, as well as an unsecured claim on the issuer. The issuer is obliged by law to over-collateralise the cover pool and replace any impaired or matured assets. Covered bonds are issued under a specific legal framework or on a contractual basis under general law. In either instance, covered bonds are designed to give maximum protection to investors. **See p6.**
12. A particular feature of covered bonds is that in most jurisdictions the cover pool is transparent, so bond analysts would have the opportunity to gain experience of how renewable assets perform without taking a direct exposure to the underlying credits. **See p5.**

Benefits for investors

1. Renewable Energy Covered Bonds (RECBs) would extend the range of investment grade financial instruments available to investors.
2. Public sector guaranteed RECBs would enable buy-side analysts to gain experience of the financial performance of renewable energy assets without direct exposure to underlying credit risks.

13. What is required to unlock the potential of covered bond finance is specific legislative support to incorporate renewable energy assets within existing legislation, whilst ensuring high standards of security for investors. The world's biggest covered bond market – Germany's Pfandbrief sector – has already shown how the legal framework can be adapted to facilitate the finance of shipping and aircraft assets. **See p9.**
14. Whilst legislation is being developed, an RECB market could be kick-started with the use of formal guarantees by agencies such as the European Investment Bank. Rather than providing guarantees direct to projects (which is current practice) agencies could back Feed-in Tariffs making such assets eligible for covered bonds finance, thereby improving the efficiency of public sector support for renewable energy and bringing new investors into the market. **See p10.**

How governments can kick-start RECBs

Short-term: provide public sector guarantees to support RECBs. This could be done through agencies such as the European Investment Bank.

Long-term: extend existing covered bond legislation to encompass renewable energy assets.

About the Climate Bonds Initiative



The Climate Bonds Initiative is an international investor-focused, not-for-profit organization, promoting large-scale investment in the low-carbon economy.

Climate Bonds are asset-backed or ring-fenced bonds issued to raise finance for climate change solutions. Climate change solutions cover industry sectors from clean energy and electricity grids to rail, electric vehicle, bioenergy, forests and water and agricultural adaptation.

The Climate Bonds Initiative promotes investment in projects and assets necessary for a rapid transition to a low-carbon economy. Work streams include:

- > Developing proposals for regulatory, policy and governance frameworks that will encourage investment.
- > The International Climate Bonds Standards and Certification Scheme. This provides assurance for investors that their funds are being used to help deliver a low-carbon economy. It allows investors and governments to easily prioritise climate bonds with confidence that the funds are being used to deliver a low carbon economy. Certification is available for project bonds, corporate bonds (asset-linked), portfolio bonds, asset-backed securities and sovereign bonds. The Standard is an environmental standard. It does not substitute for financial or other due-diligence.
- > Development of project models to provide risk-adjusted returns in assets such as renewable energy, energy efficiency, forestry, and other climate sectors.

For more information see www.climatebonds.net

1. Background: the challenge of financing the low-carbon economy in an era of capital-constrained banks

In 2010 the G8 agreed to work to limit global temperature increases to a maximum of 2 degrees centigrade, on the basis that beyond that point the risk of “runaway” climate change became too great.

Left unchecked, climate change will leave few areas of the global economy untouched. Urgent action is needed both to reduce emissions from fossil fuels and to build the infrastructure required for adaptation to climate change. The challenge is how to mobilise sufficient capital to transition the global economy onto a low-carbon footing before a climate tipping-point is reached.²

Achieving the scale of investment required to effect a global low-carbon economic transition will be no easy task, especially given the urgency required. The difficulty in mobilising investment is exacerbated in the current financial crisis, which has stunted equity markets and strained public budgets. Government finance for low-carbon is unlikely to increase given tightened fiscal conditions and other competing priorities for public spending.

Bank lending is being squeezed just as renewable energy lending needs to grow.

The financial crisis has of course also impacted the world’s banks, many of which have been forced to cut back lending as a result of severe losses which have eroded capital bases. Regulators have responded to the global financial crisis by seeking to impose tighter rules on banks. Indeed, the incoming Basel III rules are likely to mean further reductions in lending.

The amount of investment required to reduce greenhouse gas emissions to a safe level is substantial. The International Energy Authority (IEA) estimates that, worldwide, an additional \$1 trillion of investment in renewable energy and low-carbon transport and buildings is required *each year* above business as usual³. According to the UN Environment Programme, if the sustainable management of natural resources such as forests, fisheries, agriculture and water is included, an average additional annual investment of \$1.3 trillion is required out to 2050.

Compare this with existing levels of investment in renewable energy: according to Bloomberg New Energy Finance, spending on clean energy reached \$260 billion in 2011. Much of this was financed through the balance sheets of power companies, supported by syndicated bank loans and investment from agencies such as KfW and EIB. Although investment levels are impressive – and vast wind-energy parks and banks of photovoltaic panels bear testimony to this – they still fall far short of what is required if the world is to make a serious impact on the levels of carbon emissions from fossil fuel usage.

Adapting covered bonds for renewable energy would attract new investors to the sector, and at the same time help unlock bank lending for renewable energy.

Investment in energy projects – clean energy is no exception – requires commitment of long-term capital. Offsetting the risks inherent in long-term investments, investors are generally rewarded by cash flows that are stable and inflation-linked, with relatively modest variable costs. This cash flow profile means that debt is usually a viable component of energy project finance.

Within the clean energy sector considerable investment is required in upgrading electrical grids and retrofitting buildings, as well as in renewable energy technologies such as wind and solar.

Banks have been active participants in the energy project finance for decades, and many have considerable experience in lending to some of the longer established renewable technologies, like on-shore wind energy. Newer technologies, such as concentrated solar power or carbon capture and storage, carry much higher project uncertainty, are less well suited to commercial debt finance and may require financial support from governments or multi-lateral institutions.

The interlinking role of banks, which provide debt finance, and governments, which subsidise the adoption of new technologies, has been critical to the growth of the renewable energy industry. Without the

² Stern Review on the Economics of Climate Change http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm

³ World Energy Outlook 2011, published by the International Energy Agency. <http://www.iea.org/weo/>

provision of debt finance, or the support of governments and multi-lateral institutions, wind or photovoltaic energy technologies would have remained niche sectors, and might never have attained the economies of scale that they now have.

The unfortunate coincidence of a deep financial crisis with the urgent need to invest in tackling climate change has highlighted the need for financial innovation. Banks and energy companies need to find new sources of capital. Governments must find ways of stimulating additional private sector investment flows into the low-carbon economy.

2. Tapping bond markets

The Climate Bond Initiative has been supporting the development of bond finance for specific application towards the creation of a global low-carbon economy.

The \$95 trillion global bond market is the world's largest pool of capital, and bonds would seem well suited to renewable energy and energy efficiency projects, given projects' steady and inflation-linked income streams. Indeed pension funds in developed economies seek long-dated assets to match their liabilities, which stem from their obligations to an aging population.

The problem is that many low-carbon technologies do not have the long-term financial track records that bond investors need. Furthermore, most portfolio managers lack the expertise and experience in energy finance that currently resides in banks, and, for many, low-carbon finance is uncharted territory.

For the bond market to open up as a supplementary source of capital for low-carbon economic transformation, bond investors first need to gain more experience of how established renewable energy assets, such as wind energy, perform. If a fully functioning corporate bond market for low-carbon finance is to emerge, ways must be found to bridge the gap that exists currently between existing AAA-rated, supranational guaranteed 'climate' bonds and the highly specialised ABS (asset-backed securities) sector.

This could be achieved by adapting covered bonds for renewable energy finance. Covered bonds already have a wide investor audience as they provide a high level of security and typically attract strong credit ratings. This is achieved through a dual recourse structure, which in many countries is governed under a specific legal framework, and through additional safety features such as bankruptcy-remoteness. Bondholders have a preferential claim over the assets and associated cash flows in a dedicated 'cover pool', as well as an unsecured claim on the issuer to recover any shortfall.

A unique feature of covered bonds is that the cover pool of assets is visible and open to scrutiny by analysts. Disclosure standards are increasingly defined in law, and issuers frequently provide additional information over and above the minimum requirements in order to maintain good relationships with bondholders.

Once specific reporting standards have been established, investors could gain experience in how renewable energy assets perform without having to take a direct credit exposure. To support a better understanding of renewable energy assets amongst bond investors, it would be beneficial if banks continued to publish performance data on non-performing loans, even after they have been removed from the cover pool. Banks would benefit from issuing 'Renewable Energy Covered Bonds' (referred to here as 'RECBs') as it would give them access to a wider pool of term-dated funds with which they could increase their lending activities.

Within the covered bond sector, the German Pfandbrief market has demonstrated how covered bond legislation can be adapted in response to banks' requirements to source long-term funding to support lending to industry sectors such as ship and aircraft finance. Given the recent decision by the German government to phase out nuclear power by 2022, the German banking market is, in particular, facing even greater demands to come up with financing solutions for clean energy than presented by the climate change agenda alone.

3. Covered Bonds are used to facilitate lending in areas targeted by public policy

The origin of the covered bond market dates back to eighteenth century Prussia where the first covered bonds – Pfandbriefe – were issued in 1769. These bonds were used to raise loans for landowners after the ravages of the Seven Years’ War. Debentures were secured against estates as well as being guaranteed by the landowners themselves. This form of borrowing was adopted by early German mortgage banks, and enshrined through the Mortgage Bank Act (HBG) of 1899. Pfandbriefe were extensively utilised in financing post-war reconstruction in Germany, and in funding infrastructure investments post-reunification. The HBG still forms the legislative backbone for Germany’s huge Pfandbrief market, although the market now operates under the Pfandbrief Act of 2005.

These characteristics differentiate covered bonds from pure asset-backed finance where bond holders are reliant on the performance of a specific project within a special purpose vehicle.

In essence, covered bond legislation forms part of an enabling financial infrastructure which facilitates lending in areas targeted by government policy, such as home loans, by creating liquid assets with a lower cost of funding. In this sense covered bonds fulfil an analogous function to the US agencies Freddie Mac and Fannie Mae or Residential Mortgage Backed Securities (RMBS). However, whereas bond investors bear the underlying asset risk in RMBS (there is no dual recourse), and whereas the US government implicitly bears the risk of securities issued by agencies, the ultimate risk in covered bonds is borne by the issuing bank as it provides a back-up guarantee under the dual recourse structure. It is this factor that maintains a high degree of discipline in originating the loans that comprise the cover pool.

Covered bond financing has now been adopted in many countries, including most of the EU, Canada, Australia, New Zealand and the US. Typical maturities range from 2 to 10 years. More than EUR 2.5 trillion (equivalent) was outstanding world-wide at end-2010. The market is supported by an international investor base that includes banks, central banks, mutual funds, pension funds, and insurance companies. In Germany the Pfandbrief market is also supported by retail investors.

Broadly defined, covered bonds fall into two categories:

1. Bonds supported by explicit legislation and regulations governing the security; and
2. Bonds issued in the absence of explicit covered bond legislation but instead reliant upon general laws (such as contract law).

In both instances a cover pool of financial assets provides backing so that covered bond holders have a superior quality asset compared with unsecured creditors of the same issuing entity. These characteristics differentiate covered bonds from pure asset-backed finance where bond holders are reliant on the performance of a defined pool of assets which is owned by a special purpose vehicle.

Covered bonds can achieve higher credit ratings than the underlying bank issuer. Rating agencies examine the specific collateral in the registered cover pool, and the quality of these assets is a key factor in rating decisions.

The attractive features of covered bonds generally mean that investors are prepared to accept relatively low yields compared to other investments.

The advantage for banks in issuing covered bonds is that because the investor base is broad, they can access large pools of money easily and at better rates than unsecured borrowing. This enables them to make loans for eligible assets at a lower cost. Covered bonds have become an important funding option for banks in recent years as interbank lending and access to unsecured bond issuance has declined.

Countries with potential for RECBs

Germany	✓
Australia	✓
Austria	✓
Denmark	✓
Finland	✓
France	✓
Greece	✓
Ireland	✓
Italy	✓
Luxembourg	✓
Netherlands	✓
New Zealand	✓
Norway	✓
Portugal	✓
Spain	✓
Sweden	✓
Switzerland	✓
UK	✓

Covered bonds are constituents of many major bond indices against which many institutional investors are benchmarked, including those produced by iTraxx and iBoxx⁴

Despite the relative safety of covered bonds, the sector has not been immune to the stresses caused by the financial crises of the past few years. Where investors have perceived risks as being highest, so covered bond ratings and prices have been most volatile. Some of the biggest price movements were experienced in bonds issued by Spanish, Portuguese and US issuers. These reflected concerns over the quality of the collateral pool as well as the underlying credit worthiness of the banks issuing the covered bonds, and to some degree, the political support of the product in the respective economies.

The extent to which covered bonds have been used to fund the liabilities of some banks has not escaped the attention of regulators or bank analysts. As the use of secured borrowing increases so a greater portion of a bank's balance sheet is encumbered. This increases the risks borne by holders of unsecured debt, including depositors, and raises the cost of borrowing. As a result, some countries have introduced restrictions limiting total issuance of covered bonds (e.g. Canada limits to 4% of a bank's assets). In other countries (such as Italy, Netherlands and Germany) total issuance thresholds are tied to bank's equity. In Germany under current legislation, outstanding Pfandbriefe must not exceed 30x equity.

In spite of all the recent financial turmoil, covered bonds are still seen by investors (and regulators) as among the safest investments. When banks have found conditions difficult for the issuance of unsecured debt, the covered bond market has provided them with access to funding.

The unique attributes of covered bonds and the key role they play in providing liquidity is recognised by the continued support given to the sector by regulators together with the European Central Bank (ECB), which supports the market through its covered bond purchasing programme and long-term refinancing operations.

⁴ The Climate Bond Initiative is working on creating low carbon indices

4. German Pfandbriefe - at the heart of the covered bond market

The German Pfandbrief sector accounts for around one quarter of the global covered bond market with circa €615 billion outstanding at June 2011.⁵ Historically, Pfandbriefe have been used to finance low-risk assets such as public sector liabilities and residential and commercial first-lien mortgages.

The market saw substantial growth in the 1990s, when the German government supported its expansion as a means to direct massive post-reunification investment in infrastructure in East Germany. Much of this investment was made by regional and local authorities, whose increased deficits were funded with loans from mortgage banks and Landesbanks which, in turn, issued public sector Pfandbriefe. The increased demands on the mainly domestic investor base led to the launch of a series of large, liquid 'jumbo' Pfandbrief issues from the mid-1990s, which were designed to catalyse international investor interest.

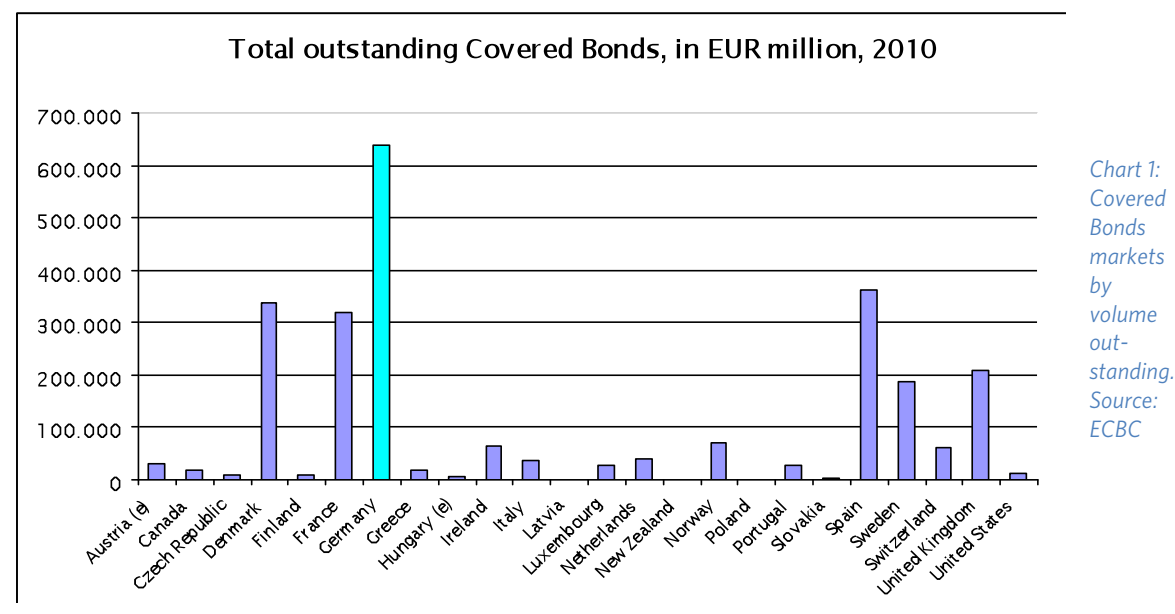
It is notable that the need to invest in infrastructure in East Germany was not dissimilar to the current need to invest in renewable energy.

The Pfandbrief market is regulated under the 2005 Pfandbrief Act, and this defines the stringent requirements that a bank needs to meet in order to be licensed to issue Pfandbriefe, as well as the core concepts applied in structuring Pfandbriefe. These concepts include: mortgage lending value; defined over-collateralisation ratios; bankruptcy remoteness of the cover pool; and detailed post-bankruptcy regulations. All Pfandbriefe have a dedicated and dynamic cover pool of assets recorded in the cover register (Deckungsstock) under the supervision of an independent trustee operating within the regulatory framework. Because of these features Pfandbrief issuers typically enjoy funding levels at a relatively small premium to interest rate swaps.

The German Pfandbrief market has proven to be adaptable and innovative and has enabled issuers to on-lend to qualifying projects at attractive rates. Pfandbrief legislation has been adapted for shipping assets (where the pool of covered assets offers recourse to vessels) and, in 2009, legislation was introduced to facilitate the financing of aircraft (Flugzeug). Ship and aircraft Pfandbriefe still occupy niche sectors, with ships accounting for only 3.7% of Pfandbrief issuance in 2010 and with no aircraft Pfandbrief issued to date. This low level of activity reflects a lack of originators in the market during the financial crisis of the past few years and the unexpectedly slow development and application of origination standards.

The principles applied in developing legislation for new asset classes, including reporting and performance criteria, demonstrate the flexibility of the Pfandbrief structure, which could be further adapted to facilitate renewable energy financing.

German Pfandbriefe comprise the largest sector of the covered bond market



⁵ Source: VDP

[http://www.pfandbrief.org/cms/_internet.nsf/0/76C44409237E714DC12579F30049388E/\\$FILE/2003_2011_Pfandbriefe_Overview.pdf?OpenElement](http://www.pfandbrief.org/cms/_internet.nsf/0/76C44409237E714DC12579F30049388E/$FILE/2003_2011_Pfandbriefe_Overview.pdf?OpenElement)

5. Legislation for RECBs could be easily adopted

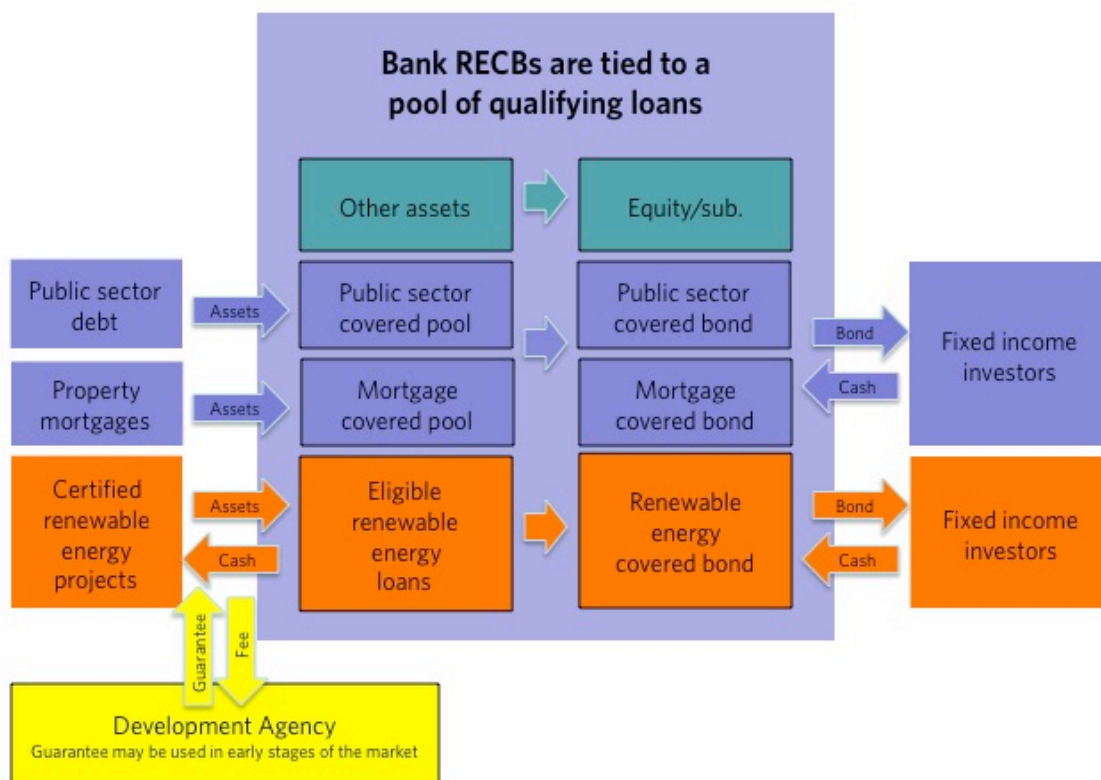
Existing covered bond legislation could be adapted to accommodate new asset classes experience gained in Germany in adapting Pfandbrief legislation could be applied in creating a framework for financing renewable energy assets. A prime consideration, of course, would be to enact legislation that maintains high standards of asset protection for investors.

In the process of creating ship and aircraft legislation all stakeholders had to be comfortable that the underlying asset base was well understood and that the process of creating a 'mortgagable asset' could be replicated in a commoditised fashion. The introduction of Flugzeug Pfandbriefe was predicated on significant achievements in agreeing international law and the enforceability of assets to enable the financing of aircraft fleets worldwide.

Capital can be unlocked with legislation to allow renewable energy loans to be added to existing covered bond regulations.

Specific renewable energy covered bond legislation would require many factors to be taken into account. These would include: agreeing which institutions could issue covered bonds; identification of regulatory authorities; definitions of qualifying assets; agreement on loan-to-value ratios; cover pool management standards; requirements for enforceability; and how international law could be incorporated, if financing cross-border.

Balance sheet mechanics : renewable energy loans are dealt with as a separate pool



6. RECBs could be created under existing frameworks

Banks could issue RECBs under existing legislation, so long as assets in the cover pool are wrapped or guaranteed by supranational or government entities. Such arrangements could substantially increase the capacity of banks to lend to the sector, whilst at the same time paving the way for the development of specific legislation.

Supranational and government entities in many countries already support renewable energy with guarantees including, for example, export grants in Denmark and loan guarantees in Germany. Directing support to RECBs would broaden institutional investment and diversify capital sources.

One way in which public sector guarantees could be utilised could be to back existing Feed-in Tariffs (FiTs). FiTs are typically borne by consumers who pay higher average prices for electricity. A public guarantee would underpin such arrangements, providing credit support and, most importantly, transforming such cash flows into cover pool eligible assets. If FiT assets were eligible for covered bond finance, banks would be able to tap into attractive long-term finance, thereby enhancing their overall capacity to finance renewable energy loans.

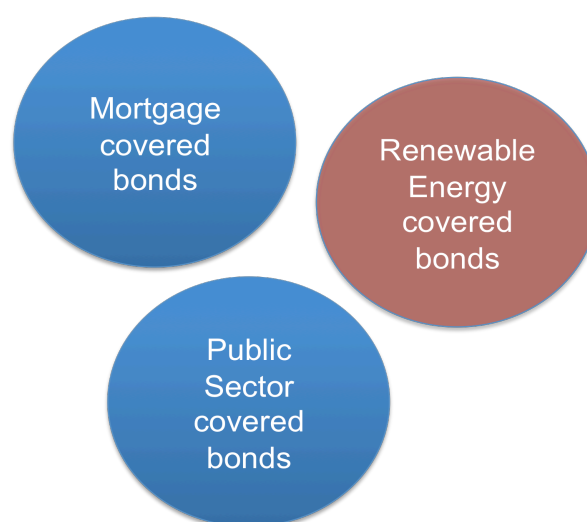
Such arrangements would enable the public sector to support renewable energy without making direct investments, leveraging their impact with relatively low risk.⁶ Guaranteeing FiTs could enable banks to increase lending both to large projects and to small projects through pooling of assets.

RECBs should appeal to many investors as they broadly fall within existing portfolio guidelines.

Over time it should be expected that bond investors will gain experience in understanding how renewable assets perform. Indeed, there is already a considerable volume of research published on covered bonds and their associated cover pools, and specialist analysts are employed by major banks and fund managers.

Covered bonds offer a way for governments and supranational agencies to utilise guarantees to attract greater private sector investment into the renewable energy economy. Through this mechanism, public sector investment can be leveraged to more effect than through support of single selected projects alone. As the bond market's understanding of renewable energy increases over time, so public sector guarantees could be phased out.

Existing covered bond legislation could be utilised to accommodate loans for renewable energy. These RECBs would be made up of ring-fenced assets with public sector guarantees.



⁶ Indeed, public sector agencies could provide guarantees either through a senior / junior loan structure, or through the consideration of performance multiples based on cash flows from FiTs. This would provide strong public sector support at a minimum risk, whilst generating a small premium for public sector services.

7. Three steps to develop a Renewable Energy Bond Market

A first step towards the development of a broad renewable energy bond market would be to build on existing covered bond legislation to target the financing of a renewable energy technology, such as wind energy, utilising government or agency guarantees within a covered bond structure. The wind sector is suitable for this purpose as it has a relatively long history. A covered bond is an ideal instrument to extend the reach of low-carbon finance as a broad spectrum of investors can already participate in this sector.



A three-step process to a fully functioning renewable energy capital market

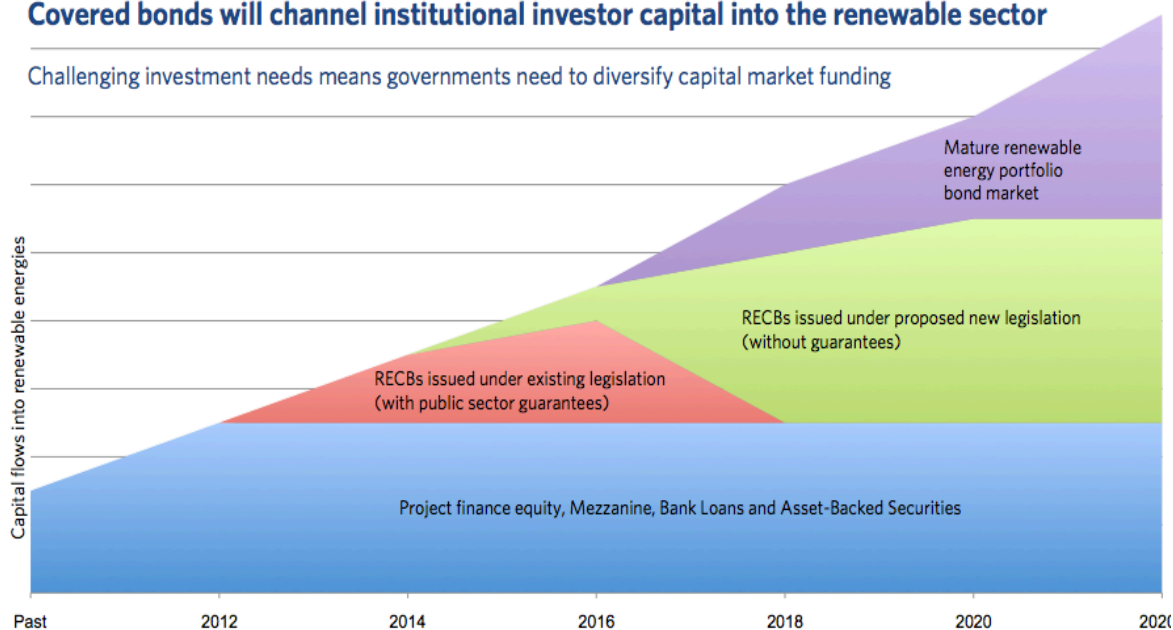
A second step would be to enact specific legislation for RECBs in one or more jurisdictions. Before this can be done, banks and regulators (as well as investors) would need to gain much greater insight into the renewable energy standards and valuation concepts, which would underpin any legislative framework.

A final step in the evolution of low-carbon markets would be the issue of corporate bonds by renewable energy companies. For this sector to gain traction investors will need to feel confident that they understand the financial dynamics of the industry. This will take time to achieve, but could build upon the successful introduction of low-carbon financing through the covered bond sector.

One important factor that will contribute to the integrity of renewable energy bond markets is compliance of bond issuers with recognised climate mitigation standards, such as those being developed by the Climate Bonds Initiative. This process ensures the environmental integrity of the underlying cover pool of assets. Without such screening, RECBs could be open to the reputational risks that might arise if unwarranted claims are made.

Covered bonds will channel institutional investor capital into the renewable sector

Challenging investment needs means governments need to diversify capital market funding



8. Regulatory benefits of Covered Bonds

Incoming Basel III rules are likely to further constrain banks' lending activities as a result of more strict capital ratios. This will impact the ability of banks to directly finance renewable energy and other low-carbon projects through loans. However, Basel III could directly benefit the covered bond market if current proposals put forward by the German Ministry of Finance are adopted. These would categorise covered bonds as high-quality assets under liquidity coverage ratios, which could make them attractive for banks to hold.

Covered bonds will also benefit from special treatment under the EC's Capital Requirements Directive IV, and be exempt from mandatory debt restructuring under 'bail-in' proposals.

In a similar way, insurance funds should find that covered bonds are attractive assets under proposed new Solvency II rules.

Covered bonds enjoy other regulatory or governing privileges. They are repo-eligible at the European Central Bank (and some other central banks) alongside government bonds. In May 2009 the ECB bought up to €60 billion of covered bonds as part of its open market operations.

Covered bonds also have special privileges under UCITS752.4, as investors who are governed by UCITS have broader investment limits for covered bonds due to their recognised safety relative to other bond instruments.

⁷ The Undertakings for Collective Investment in Transferable Securities, Directive 2001/107/EC and 2001/108/EC (or "UCITS") are a set of European Union Directives that aim to allow collective investment schemes to operate freely throughout the EU on the basis of a single authorisation from one member state.

9. Conclusion

Almost certainly, the transition towards a global low-carbon economy will continue to gather momentum in the years ahead as relevant new technologies are adopted. However, the momentum towards this could be slowed as result of on-going financial strains. In particular, banks are likely to experience more difficulties in lending as a result of tougher regulatory capital requirements.

Whilst tighter credit conditions could certainly restrict the growth of the low-carbon sector, these same conditions present a significant stimulus for innovation in the bond markets. The global bond market has the capacity to deliver huge amounts of capital, so long as bond issuers can produce products that are attractive to the investment community.

Supranational agencies, including the World Bank and the European Investment Bank, have been very supportive in fostering a nascent market for 'green' or 'climate' bonds. The challenge now is to leverage the scale at which low-carbon bond finance can be delivered, so that a broader segment of the investment community can participate and a wider range of projects can be financed.

This Discussion Paper has identified the covered bond market as being adaptable to meet this challenge under existing legislation.

Covered bonds are ideally suited, given their broad acceptability to investors around the world, as well as their low perceived risk characteristics, reflected in comparably low funding costs.

Covered bonds don't solve capital issues for banks faced with changes to liquidity requirements under Basel III, but they encourage banks to focus on the renewable energy industry and would bring new investors.

What is now required to develop this important financing tool is the active engagement of market participants and legislators to produce a framework for the issuance of RECBs targeted at renewable energy finance. It will be important to define asset types, standardise collateral, and enforce the credit discipline that has underpinned the covered bond market to date.

As an interim step, supranational and government agencies should identify criteria under which they could wrap or guarantee renewable energy projects, which would form a covered asset pool for the issuance of RECBs.

The German market would be ideally suited to launch a renewable energy covered bond asset class as it is the most broadly accepted product in the covered bond universe. However, other jurisdictions could equally be adapted to enable banks to provide low-cost and highly standardised funding solutions for renewable energy.

Once RECBs are in the market, analysts will be able to track the financial performance of the underlying covered pool of low-carbon assets. With a better understanding of their performance, bankers and fund managers will find ways to innovate and extend the capacity of traded bond markets to rise to the challenge of funding the transition to a low-carbon economy.

ENDS

Public sector support for RECBs would be more effective than directly guaranteeing renewable energy projects such as offshore wind farms

RECBs structured with cover pools of public sector guaranteed assets could provide a way to bring new investors to the renewable energy market, thereby diversifying and deepening the pool of available capital.

A public guarantee would transform FiT cash flows into cover pool eligible assets, which would enable banks to be able to tap into attractive long term finance, thereby enhancing their overall capacity to finance renewable energy loans.

This type of structure additionally offers a way for government or supranational agencies to utilise public guarantees so as to attract greater private sector investment into the low-carbon economy. In this way, public sector investment can be leveraged to more effect than through support of single selected projects alone.