GREEN BANK NETWORK

GBN Bulletin- October 2018



Greetings!

The Green Bank world is flush with exciting new announcements, transactions and upcoming events.

On 29 November 2018, the Green Bank Network is hosting the <u>sixth annual Green Bank Congress</u> in Shanghai China, in partnership with the Clean Energy Finance Corporation, the Green Investment Group, and Tsinghua University Centre for Development and Finance. Read more about the <u>event</u> and register <u>here</u>.

In a first-of-its-kind transaction, the Green Climate Fund approved funding for a new Southern Africa Climate Finance Facility, formed by the DBSA. The CFF will be a



path-breaking application of the Green Bank model, adapted for emerging market conditions. The funding was the culmination of an exciting partnership between DBSA, ClimateWorks, Convergence and the Coalition for Green Capital. Read more below, and sign up for the webinar here.

GBN members have closed many new transactions in new sectors including agriculture, wind, solar, biogas, energy efficiency and more. Read about the latest transactions below. Additionally the GBN secretariat has just released a new <u>Transaction Database</u> that is searchable and sortable, and covers Green Bank transactions around the globe.

The GBN has released several new Transaction Takeaways, and new Green Bank white papers are out, covering Green Bank best practices. A new white paper on Clean Energy for All Framework for Catalytic Finance for Underserved Clean Energy Markets in India was released by NRDC and CEEW.

Happy reading,

GBN Team (CGC and NRDC)





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Recent GBN Member Transactions

New Transaction Database now live

The best way to understand how Green Banks engage the private sector and move markets is to explore their individual transactions, which are described in detail across an array of websites and other resources. Now, exploring them all in one place is possible through a new tool released by the GBN. Using the GBN Member Transaction Database, you can now learn more about Green Banks and search transactions by geography, target market, technology, and even the risk mitigation strategies used in the transaction.



The database links to further transaction details on each Green Bank's website as well as to Transaction Takeaways, another set of GBN resources that dives deep into notable deals. Many more resources related to Green Banks can be found in the <u>GBN Knowledge Center</u>.

Clean Energy Finance Corporation

CEFC continues its role as a leading investor in Australia's renewable energy sector and has further extended its reach into emissions reduction activities in infrastructure, agriculture, property, transport and waste. In July, CEFC released its FY18 Investment Update, highlighting CEFC continued leadership in clean energy finance in Australia. In the 12 months to June 2018, the CEFC directly committed to 39 projects, up from 36 direct investments in FY17. Total new CEFC commitments in FY18 were A\$2.3 billion, up from A\$2.1 billion in the previous year. CEFC's commitments in FY18 included A\$1.1 billion in renewable energy, A\$939 million in energy efficiency, A\$100 million in transport and A\$127 million in waste-related projects.



In five years of investing, <u>CEFC commitments have now contributed to</u> <u>clean energy projects Australia-wide, with a total project value of A\$19</u>

<u>billion</u>, having directly invested in more than 110 individual transactions and delivered finance for more than 5,500 smaller-scale clean energy projects.

The CEFC Annual Report for 2017-18 is due to be tabled in the Australian Parliament on 31 October 2018. A special website version will be available shortly after tabling.

On October 17, 2018 the CEFC hosted an event with parliamentary stakeholders in Canberra, reflecting its continued role in encouraging understanding of the potential for clean energy investment in the Australian context. Chair Steven Skala AO, CEO Ian Learmonth and Australian Energy Minister The Hon Angus Taylor all spoke at the event, which was attended by multiple members of the parliament, from all parties.

On October 24 2018, the CEFC convened Australia's first Electric Vehicle Test Drive Day in Melbourne. Working in partnership with the Victorian State Government, the Australian Fleet Managers Association,

innovative start up ChargeFox and the Royal Automobile Club of Victoria, the event was designed to encourage fleet managers to include electric vehicles in their fleets. More than 60 fleet managers test drove 19 electric vehicles and trucks on the day – which represented the largest collection of EVs in one place in the Australian market to date.

On 18 October, 2018 the CEFC announced that it is committing up to A\$90 million towards Australia's first large-scale energy from waste (EfW) project – a state-of-the-art plant at Kwinana in Western Australia capable of producing 36MW of electricity, enough to power up to 50,000 homes. When built, the A\$700 million project will be able to process around 400,000 tonnes of household 'red bin' and commercial and industrial residual waste per year. The Kwinana plant has been co-developed by Macquarie Capital and Phoenix Energy Australia, with co-investment by the Dutch Infrastructure Fund (DIF). By processing household waste from local councils, it will produce cost-competitive baseload renewable energy and contribute to grid stability in WA's South West Interconnected System (SWIS). The plant will use technology that already has a strong track record in Europe and meets strict environmental requirements. It is expected to reduce CO2-e emissions by 400,000 tonnes per year, the equivalent to taking 85,000 cars off the road. This landmark project is the CEFC's largest investment in Western Australia to date.

On 19 October 2018 it was announced that Australia's leading peer-to-peer lender, RateSetter, has <u>signed</u> a A\$100 million funding deal with the CEFC to deliver the benefits of the South Australian Government's <u>Home Battery Scheme</u> – one of the world's most ambitious Government-funded home battery schemes – to South Australian householders and investors.

Under the new arrangement, the CEFC has committed up to A\$100 million to finance loans where the upfront costs of the home battery system installations are not met by the South Australia government subsidies. The CEFC finance will be delivered through RateSetter's new South Australia-specific renewable energy lending market. At the same time RateSetter will enable South Australian retail investors – as well as institutional investors such as banks, credit unions and superannuation funds – to also invest in the program through the new lending market.

This funding agreement between RateSetter and the CEFC will operate in conjunction with an agreement between RateSetter and the Government of South Australia, in which RateSetter will be the exclusive administrator of the Government's A\$100 million Home Battery Scheme.

On 3 October 2018 Australia's Visy Industries and the CEFC <u>announced new plans to significantly increase</u> <u>waste recycling and processing capabilities</u>, in part to offset the impact of changes in the international recycling market. Visy plans to invest A\$30 million of CEFC finance across a range of energy efficient, renewable and low emissions technologies over the next four years. The finance is part of a pipeline of potential projects to increase Visy's manufacturing capacity to recycle waste materials by 10 per cent, as well as improve the overall energy efficiency and renewable energy use of its large-scale manufacturing operations. These initiatives will reduce waste volumes going to landfill and make a material reduction to Australia's waste-related emissions.

The CEFC is stepping up its investments in waste-related projects, as part of its mission to reduce Australia's overall emissions. Recent investments have included an innovative organic waste facility in Melbourne to produce compost by processing the equivalent of 12,000 truckloads of kerbside green waste each year. A separate investment in Sydney is producing a solid fuel by processing 250,000 tonnes of non-recyclable commercial and industrial waste a year.

On 13 September 2018, CEFC and the Property Council of Australia <u>released a new guide for Australian property owners – from residential to large-scale commercial – covering how they can cut their energy costs and reduce their emissions.</u> The comprehensive guide, "<u>Distributed energy in the property sector – today's opportunities</u>," analyses the nine most common distributed energy options for houses, apartments, commercial, retail and industrial property. It looks at a broad range of proven technologies – from solar PV and batteries to heat pumps, off-site renewables and demand management systems – and indicates which are best suited for different property types. Importantly, it also looks at the business case for investment,

giving owners and managers helpful insights into the likely benefits and payback periods.

On 8 September 2018, the Marshall Government revealed the details of its <u>Home Battery Scheme</u>, <u>delivering on its commitment to provide more affordable, reliable, secure energy for all South Australians</u>. The CEFC signed a Memorandum of Understanding (MOU) with the Minister for Energy and Mining, Dan van Holst Pellekaan, to deliver a A\$100m CEFC funding package to support the Scheme.

On 30 August 2018, the CEFC, the Energy Efficiency Council and the Australian Industry Group launched Australian Manufacturing: Gas Efficiency Guide — a comprehensive resource identifying practical and proven strategies to deliver energy and cost savings across manufacturing operations. Australian manufacturers are being encouraged to take immediate steps to manage their energy consumption in the face of escalating energy costs and record gas prices. The guide examines the energy needs of a wide range of manufacturers, from food and beverage production to metals fabrication, printing and furniture manufacturing. It finds significant opportunities to cut energy use, such as a meat processing plant which saved A\$45,000 per month by cutting gas use by 21 per cent, after upgrades to its boiler and steam facilities. A building products manufacturer saved A\$42,000 per year by installing a new control system on its boiler.

On 2 August 2018 the CEFC <u>announced financing supporting a state-of-the-art composting facility</u> to be built by leading international waste management company Sacyr Group. The new mechanical and biological treatment plant will treat organic waste produced by eight Melbourne councils, substantially reducing landfill and emissions. The CEFC is committing up to A\$38 million to the A\$65 million South Eastern Organics Processing Facility, which will process household garden and food waste from council kerbside green waste collections. The proposed facility will be the most advanced of its type in Victoria and will produce approximately 50,000 tonnes of high grade compost each year. It will mean food and green waste produced by residents in the rapidly growing Dandenong region in Melbourne's south-east will not end up as landfill, where it would produce harmful greenhouse gas emissions such as methane. Instead the waste will produce compost for local parks and gardens.

On 31 July, 2018 the CEFC announced a A\$50 million cornerstone investment as part of a first close in Mirvac's new Australian Build-to-Rent Club (ABTRC), Mirvac's first institutional build-to-rent investment platform in Australia. Through this Australian-first investment fund, leading residential developer Mirvac is extending the benefits of clean energy and energy efficiency to families and residents in new build-to-rent homes. Mirvac has identified its new 258-apartment building, Indigo, at its Pavilions project in Sydney's Olympic Park, as the ABTRC seed asset. The CEFC investment will further enhance the project design across the one, two and three-bedroom apartments, using clean energy and energy efficiency technologies with the potential to cut carbon emissions by as much as 40 per cent.

On 31 July 2018 it was announced that, as part of CEFC's <u>Sustainable Cities Investment Program</u>, a new resource recovery facility at Wetherill Park in western Sydney is now <u>transforming commercial and industrial waste into an alternative renewable fuel source</u>. The plant, co-owned by waste sector leaders Cleanaway and ResourceCo, was officially opened in July by Minister for the Environment and Energy, the Hon Josh Frydenberg.

On 27 July 2018, the CEFC announced financing for the Numurkah Solar Farm, supporting a path-breaking example of how solar energy can deliver a <u>cost-effective solution for Victoria's energy-intensive manufacturers</u>. The CEFC commitment of A\$56 million in debt finance will help accelerate development of the A\$198 million solar farm. Transaction lead Monique Miller said the CEFC expected to see further demand for solar as energy intensive manufacturers seek corporate power purchase agreements to offset their energy costs. "In steel making, energy can account for between 20 to 40 per cent of input costs. It makes good economic sense to find a renewable energy resource that can reduce those outlays," Ms Miller said.

On 26 July 2018, the CEFC and leading alternative asset manager Morrison & Co announced plans to spearhead clean energy standards across Australian social and economic infrastructure assets, as part of

a specialist A\$1 billion 'green' infrastructure fund. The specialist Morrison & Co Growth Infrastructure Fund will acquire and develop a diverse range of essential assets, from hospitals to data centres, retirement and aged care accommodation to student housing and renewable energy. The CEFC is investing A\$150 million in the fund, which will acquire and manage a range of assets where there is potential for significant improvements in their energy efficiency profile. Over time the fund will look to progressively introduce science-based targets to build a zero emissions portfolio. It will also draw on relevant Australian-based sustainability standards to set best-practice sustainability goals, including those of the Infrastructure Sustainability Council of Australia, the National Australian Built Environment Rating System and the Nationwide House Energy Rating Scheme.

On 12 July 2018, CEFC announced its largest investment in Tasmania, with a A\$59 million commitment to the Granville Harbour Wind Farm. The project will deliver a one third increase in Tasmania's wind capacity. The 112MW Granville Harbour Wind Farm is located on a 1,200 hectare cattle farm on Tasmania's west coast. Construction is under way and, once operational, the A\$280 million development is expected to generate enough electricity to power more than 46,000 homes. CEFC CEO lan Learmonth said: "Tasmania has a great track record in renewable energy through its investment in hydro resources. We're excited to be involved in a project that will further diversify the Tasmania's clean energy to include more wind, while helping Tasmania achieve its target of 100 per cent renewable energy by 2022."

On 6 July, 2018 CEFC congratulated WorkSafe Victoria on the opening of its new Geelong headquarters, a building setting new standards in commercial office sustainability. The CEFC provided diversified property group, Quintessential Equity with <u>A\$68 million in debt finance to "stretch" the energy efficiency design of the landmark development</u> at 1 Malop Street in the Geelong city centre. The property has been designed and constructed to achieve a 5.5 NABERS energy rating (excluding Green Power).

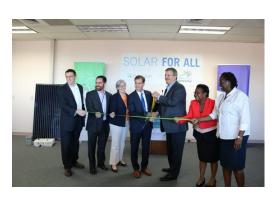
On 3 July 2018, CEFC completed its first smart meter technology financing, further extending the benefits of distributed clean energy to Australian households and businesses. The CEFC committed A\$35 million of debt finance towards the expansion of intelliHUB - a joint venture between Pacific Equity Partners and global smart meter leader Landis+Gyr that is acquiring Acumen, Origin Energy's A\$267 million smart meter business unit. The new intelliHUB joint venture will be a leading Australian provider of smart meter solutions, servicing Australian energy retailers and consumers.

See all latest transactions and media releases on CEFC website.

Connecticut Green Bank

The Connecticut Green Bank continues its commitment to growing clean energy investment, with a focus on solar, energy efficiency, hydro and other technologies.

On 18 October 18 2018, Connecticut State Colleges & Universities (CSCU) partnered with GE and Connecticut Green Bank to Unveil Solar Energy Systems at Manchester Community College. CSCU unveiled the first two of their new solar energy systems during a ribbon-cutting event at Manchester Community College attended



by Governor Malloy, representatives from GE, CT Green Bank and CSCU President Mark Ojakian. The solar energy initiative will cover 8.5% of all CSCU annual electricity usage with an estimated \$15M in savings. For context, 1 year of electricity for all participating CSCU campuses is the equivalent of powering 1,202 homes for the same amount of time.

Construction began last fall shortly after CSCU announced the public-private partnership. The solar energy systems at Manchester CC will provide 45% of the college's total electricity use saving an estimated \$220,000 per year. Manchester CC is the first and largest solar energy site in the CSCU system, others

include Asnuntuck CC, Central CT State University, Housatonic CC, Middlesex CC, Quinebaug Valley CC, Southern CT State University, Tunxis CC, Western CT State University.

"The Connecticut Green Bank is excited to join Manchester Community College, Connecticut State College and Universities, and our private capital partners to unveil this green energy system," states Bryan Garcia, President and CEO of the Connecticut Green Bank. "This installation will reduce the burden of energy costs on our colleges and universities to ensure that our state's limited resources are being put to better use educating the future leaders of Connecticut."

On 5 October 2018, Hartford Mayor Luke Bronin and Department of Energy and Environmental Protection Commissioner Rob Klee <u>welcomed PosiGen to Hartford at a ribbon cutting for their new office</u>. In addition to new, well-paying jobs for the Capitol Region, PosiGen brings the Solar for All initiative, a nationally recognized program, financed through a public-private partnership between PosiGen and the Connecticut Green Bank, to area homeowners. The program offers a no money down, no credit requirement solar lease with energy efficiency upgrades to lower the energy burden on participating households.

On 18 September 2018, CT Green Bank announced that a coalition of electric vehicle (EV) stakeholders developed an innovative pathway to use the carbon credit markets to improve EV charging infrastructure revenues and thus help support continued EV sales growth. The new method, pioneered by the Electric Vehicle Charging Carbon Coalition (EVCCC), provides a blueprint to certify the reduction in greenhouse gas (GHG) emissions that result when EVs are powered by electric vehicle charging stations compared with conventional vehicles and fossil fuels. These reductions translate into carbon credits that can be sold to help improve current EV infrastructure revenues and make future investments more attractive.

The EVCCC founding members include the Carbon Neutral Cities Alliance (CNCA), Connecticut Green Bank, Electrify America, EVgo, Exelon, and Siemens. Leading the project is the Climate Neutral Business Network (CNBN) which developed the methodology with the EVCCC and the voluntary carbon market's leading third-party certifier, the Verified Carbon Standard (VCS) program, managed by Verra.

In Connecticut, the Green Bank is evaluating a plan to create a revenue stream for owners of EV infrastructure; owners should register their equipment now.

On August 3, 2018, the CT Green Bank <u>spun out a non-profit 501(c)(3) called Inclusive Prosperity Capital (IPC)</u>. This act was spurred by the State legislature's October 2017 sweep of nearly 50 percent of CT Green Bank's annual operating budget into the state's general fund to resolve budget deficits. The nonprofit allows CT Green Bank to maintain its commitment to the underserved: IPC will operate CT Green Bank programs for low- and middle-income homeowners, multifamily properties, small businesses, schools, and nonprofits, while attracting private investment from sources outside of Connecticut.

On 11 July 2018, CT Green Bank <u>announced that Granite Property Holdings, LLC, installed a 26.5-kW solar photovoltaic (PV) system</u> on their roof in North Haven, CT using Commercial Property Assessed Clean Energy (C-PACE) financing. The system will help lower the energy burden on the tenant businesses, with projected energy savings over the life of the system expected to surpass \$230,000. The 81 panels were installed by Harvest Power Solar, headquartered in Bay Shore, NY, and the property owners worked with Lori Scala, a solar consultant, to qualify and select the contractor.

On 15 June 2018 CT Green Bank <u>announced a pilot program that will make Commercial Property</u>. Assessed Clean Energy (C-PACE) financing available for new construction in Connecticut. The C-PACE New Construction Pilot will provide property developers and owners with long-term, affordable and non-recourse financing to help them design and construct new buildings that achieve a higher level of energy performance and reduced operating costs.

C-PACE New Construction can fill gaps in the capital stack needed for a new construction project, lower the overall cost of financing, or both. New commercial and industrial buildings designed and built to exceed what is required by Connecticut building and energy codes will be eligible to receive C-PACE financing for

a portion of their overall eligible construction cost. C-PACE New Construction can be applied for a wide range of property types, including major redevelopment of existing and historic sites.

When applying for C-PACE financing in the C-PACE New Construction Pilot, applicants will use whole building energy modeling to demonstrate that their project's energy performance will exceed a code-compliant baseline. An eligible finance amount will be determined based on the performance beyond the baseline up to a maximum 20 percent of the total eligible construction cost.

Financing through the C-PACE New Construction Pilot will be able to include costs directly related to the building's design and construction, for example: engineering and design expenses; energy modeling expenses; building core and shell; energy consuming equipment and energy saving measures (HVAC, lighting, elevators, controls, windows, green or cool roofs, meters, etc.) and clean energy generation.

On 7 June 2018 CT Green Bank announced that Powerhouse Partners, LLC, closed on C-PACE financing for the installation of a 131 kW solar PV system at their business, Malibu Fitness, located in Farmington, CT. The system will help lower the energy burden on the business, with projected energy savings over the life of the system expected to surpass \$800,000. 64 Solar of Scarsdale, NY, installed the system, which is expected to produce 157,432 kWh in its first year. "Between lighting, equipment, and other electronic needs, fitness centers like Malibu Fitness can face a sizeable energy burden," said Mackey Dykes, Vice President Commercial and Industrial Programs. "Finding a way to reduce these costs can unlock cash flows, and help them focus on their core business. With C-PACE financing, Malibu Fitness will realize immediate savings and make a positive impact on the environment."

Green Finance Organisation (Japan)

The Green Finance Organisation (Japan) (GFO) continues its commitment to growing local clean energy investment and revitalizing local communities, with investments covering renewables including wind, biomass and other technologies.

Over the last six months, GFO has committed to invest in five projects, bring the total number of commitments to



date to 32. Twenty-four renewable energy power stations from those projects are operational. Total funds committed as of that date were about USD 100 million and those commitments have mobilized about ten times that amount in total project value.

In June, GFO sold its preferred stock in a wind power project near Mt. Fuji where GFO had previously invested 590 million yen (USD 5.4 million). This was GFO's second sale of preferred stock.

The Ministry of the Environment in Japan has been working with GFO to promote issuances of green bonds in Japan and has published the Green Bond Guidelines in March 2017. As part of that effort, GFO will use a budget of about USD 6 million to subsidize the issuance costs of green bonds.

On 12 October, 2018, Takejiro Sueyoshi, CEO of the GFO spoke at the Japan Climate Action Summit. Mr. Sueyoshi made several announcements regarding the new <u>Japan Climate Initiative (JCI)</u>, of which Mr. Sueyoshi is a leading advocate. JCI is a new network of Non-State Actors in Japan committed to climate action. The secretariat of the JCI is made up of Carbon Disclosure Project, World Wildlife Federation and Renewable Energy Institute. JCI already has more than 105 organizations participating, including the Central Federation of Societies of Commerce and Industry (CFSCI), which is a national network of more than 800,000 small and medium-sized enterprises across Japan.

NY Green Bank continues its commitment to growing clean energy investment, evidenced through its announcement that as of 30 June 2018, NYGB has an Active Pipeline of potential investments proceeding to close is \$542.2 million and total commitments of \$522.3 million. NYGB investments support clean energy projects across New York State with a total project cost of between \$1.46 and \$1.70 billion in aggregate. In Q2 2018, NYGB executed six transactions, adding over \$64.0 million to the investment portfolio, now totaling \$522.3 million in commitments made.

In April 2018, NYGB closed a bridge loan with Delaware River Solar, supporting the deployment of Community Solar Projects in New York. NYGB and DRS closed a bridge loan for up to \$7.0 million to finance up to 90.0% of



New York's Green Bank: An Innovative Approach to Mobilizing Private Capital

interconnection payments to NYS utilities, which will be used to progress up to 70.0 MW of Community DG solar projects. Delaware River Solar is a solar development company based out of Callicoon, NYS, that finances, builds, and operates community distributed generation projects.

In July 2018, NYGB and DRS closed a second transaction that will provide \$55.0 million in term financing of the capital costs associated with the deployment of up to 70.0 MW of CDG projects in NYS. NYGB is committing a combined \$62.0 million to DRS through the term loan and bridge loan facilities. These commitments are collectively expected to: provide residential subscribers access to reliable, clean, low-cost energy and reduce up to 43,360 metric tons of greenhouse gas emissions annually. These transactions will help to demonstrate the viability of the community solar model, drawing new investors and financial institutions into the marketplace, and ultimately lowering the cost of capital. This, in turn, is expected to benefit consumers in the form of broader access to lower-cost clean energy generation.

In June 2018 NYGB entered into a transaction with BQ Energy. BQ is a Wappingers Falls, New York-based renewable energy project developer specializing in landfill and brownfield site redevelopment. NYGB's \$4.9 million construction loan enables BQ to complete the 4.1 MW ground-mounted solar farm (to be constructed on a remediated former ExxonMobil refinery site in Olean, NY. The Project is the fourth of several similar developments in BQ's pipeline that NYGB anticipates financing as part of a larger portfolio. BQ expects the majority of projects in the portfolio to be located on landfill and brownfield sites in Western NY, Central NY, Hudson Valley, and Long Island with the power generated providing clean power to municipalities, universities, schools, and hospitals and utilities.

In June 2018, NYGB committed \$19.0 million to participate in Vivint Solar's \$150.0 million corporate revolving credit facility ("Construction Loan Facility" or "CLF") alongside seven other lenders. The CLF will be used by Vivint Solar to fund customer acquisition and construction of systems. Once installed, these systems will be refinanced through other debt facilities and tax equity commitments arranged by Vivint Solar. NYGB's participation in the CLF broadens the availability of construction financing for residential distributed energy projects across NYS. This \$19.0 million transaction is the third transaction NYGB has entered into with Vivint Solar. The first two being a \$20.0 million post-construction aggregation facility and a \$37.5 million term loan to refinance operating PV systems in NYS.

Vivint Solar sought NYGB's participation in the CLF, aggregation facility, and term loan facility in order to further develop its project pipeline and finance operating assets in its national portfolio. With both construction and longer-term financing in place, Vivint Solar is positioned to meet the demand from homeowners and expand its ability to finance the installation of solar projects throughout NYS. These complementary transactions will result in the aggregation of bundled pools of residential solar systems that will ultimately be refinanced through one or more longer-term take-out financings. One type of take-out financing is a securitization, or the sale of underlying cash flows resulting from residential leases or power purchase agreements to third-party investors. Solar developers can raise large amounts of capital through a securitization, allowing for further development of the emerging residential solar asset class. On June 11,

2018, Vivint Solar completed its first securitization, raising \$466.0 million through the sale of the cash flows of a portfolio of residential solar systems. The greater size of this securitization (when compared to the size of Vivint Solar's debt facilities) will likely augment investor interest in solar assets, resulting in more attractive debt pricing. This, in turn, could benefit New Yorkers by allowing Vivint Solar to provide customers lower priced contracts to purchase power.

In June 2018, NYGB committed \$18.0 million to participate in a term loan for NRG Renew to finance community distributed generation solar projects. As a participant with other private sector banks in the term loan, NYGB's capital will finance up to five new Community DG solar projects in New York State. The transaction is expected to support the deployment of up to 15 MW of solar PV in New York State, providing ratepayers with a greater variety of energy choices and, ultimately, lower-cost clean energy opportunities.

In May 2018, NYGB increased its term loan facility with Motivate International Inc., focused on expanding its urban bike sharing program in New York City. Due to favorable transaction performance within this new asset class, NYGB increased its previous term loan facility by \$6.0 million to a total of \$49.3 million. NYC Bike Share is the exclusive operator of the NYC bike share system Citi Bike, which is comprised of over 12,000 bikes and 750 stations and is the largest bike share system in North America.

On 20 April 2018, NYGB expanded its overall loan commitment with SunRun. NYGB and the lender group consented to expand the Post-Construction Aggregation Facilities up to \$595.0 million to further support Sunrun's continued growth. NYGB's share of this increase is \$10.0 million, bringing NYGB's overall commitment to the Post-Construction Aggregation Facilities to \$35.0 million. The transaction was part of a broader \$340.0 million arranged by Investec Bank PLC that provides Sunrun with a larger financing to expand its business in NYS and elsewhere. The \$340.0 million Post-Construction Aggregation Facilities (which include the NYGB Loan Products) represent one of the largest aggregation financings for a residential solar developer at the time of closing.

For a full list and descriptions, of NY Green Bank's transactions, click here.

Green Investment Group

The Green Investment Group (GIG), a specialist in green infrastructure investment, project development and portfolio management owned by Macquarie Group Limited (Macquarie), has announced new transactions, continuing its global leadership in green investment and dedication to supporting the growth of the global green economy.

On 4 October, GIG <u>published its first Progress Report following the privatisation of the UK Green</u> Investment Bank Ltd. The Report provides an overview of GIG activity since its creation in August 2017.

Highlights from GIG's first year of operations include:

- Over £1.6 billion of capital invested or arranged for projects which meet GIG's green mission;
- 10 new green transactions including: waste-to-energy in the UK, onshore wind in Sweden, solar in India, offshore wind in the UK and onshore wind in the United States;
- GIG's reach expanded from the UK to Europe and into Asia and North America, this includes the creation of new development platforms to support further investment in solar;
- · GIG's investment activity extended into development stage investing;
- Arrangement of one of the world's longest and one of the world's largest wind-backed corporate power purchase agreements in two separate transactions, and
- · Launch of a suite of new advisory services to support the growth of the global green economy.

Read the full report here.

On 14 August 2018, The Green Investment Group launched into Asia, announcing an acquisition and the creation of a major new solar and battery storage development platform from Conergy Asia and Middle East, with almost 90 staff joining GIG. This new team of commercial and technical experts have experience installing 2 GW of solar projects and bring a significant portfolio of pipeline projects. The portfolio includes solar development assets in the Asia Pacific region, commercial, technical and energy storage capabilities and an asset monitoring facility.

On 19 Jul 2018 GIG announced financial close on €270m of total funding for a 235 MW onshore wind farm in central Sweden. The



project was developed by GIG and SCA Energy AB (SCA) and will comprise 56 Siemens Gamesa 4.2 MW turbines. Partnering with SCA, GIG has commercialised, structured and financed the project through development to financial close. This includes the origination and structuring of what is believed to be one of the longest corporate wind energy PPA's globally, with a 29-year fixed-volume agreement with Norsk Hydro – one of the largest aluminum companies in the world. Scandinavia is a priority market for GIG and the transaction extends the growing relationship with Norsk Hydro following the GIG backed 650 MW Markbygden Ett onshore wind farm last year.

GIG will own 100 per cent of the equity in the project. Macquarie Capital (Europe) Limited acted as financial adviser to the sponsor on the project, raising c.€160m of senior debt from Crédit Agricole Corporate and Investment Bank (Crédit Agricole CIB) and KfW IPEX-Bank GmbH (KfW). Denmark's Export Credit Agency (EKF) is providing export credit cover. Siemens Gamesa will provide operations and maintenance services to the project through a 25-year agreement. NEAS Energy (part of Centrica plc) will provide balancing and hedging services for the project.

On 28 June 2018, GIG launched into North America, announcing a joint venture with solar company. Candela to create Candela Renewables, and the financial close of 200 MW wind farm Canadian Breaks. In June, the Green Investment Group signed a partnership agreement with Candela Renewables, creating a new business that will undertake much of GIG's solar development in the United States. Led by a market-leading team, Candela has created over the last decade a pipeline of 4.1 GW of solar projects in operation, under construction or in final development.

GIG will fund the business itself and the initial 1 GW pipeline of solar photovoltaic projects, owning the assets as they move through the development process. The partnership will focus on utility-scale investments, with a nationwide remit.

Additionally, GIG announced it had successfully developed, commercialized and reached financial close of Canadian Breaks, a 200 MW onshore wind farm in Texas. The asset, featuring an installation of Siemens Gamesa wind turbines, is located in Texas in Oldham and Deaf Smith Counties and connects into the Electric Reliability Council of Texas (ERCOT) electric grid.

Canadian Breaks was fully developed by Macquarie Capital, who provided 100% of the sponsor equity. Macquarie Capital also acted as financial advisor and led the structuring of an energy hedge, tax equity and debt financing. Rabobank, National Australia Bank and Siemens Financial Services provided debt financing.

Green Bank Developments

GCF approves funding for local Green Bank to serve Southern Africa

On 19 October 2018, the Green Climate Fund (GCF) <u>announced that it will provide \$55.6 million to the Development Bank of Southern Africa's (DBSA) Climate Finance Facility (CFF)</u>, making it the first time the Fund has backed the establishment of a Green Bank. This decision is even more significant as the CFF is the first Green Bank in Africa and will potentially be the first Green Bank in a developing country. With support from Convergence Finance and ClimateWorks Foundation, the <u>Coalition for Green Capital worked with the DBSA and South Africa-based partners Green Cape</u> to help design the CFF, secure capitalization, and craft the GCF funding application.



To learn more about DBSA's Climate Flnance Facility, sign up for the webinar on 13 November 2018.

Register here

DC Green Bank signed into law

On 2 July 2018, Mayor Muriel Bowser of Washington D.C. signed legislation to create a new DC Green Bank, following City Council passing the bill unanimously. The new Green Bank is officially called the Green Finance Authority, and will work within Washington DC to increase private sector investment in green infrastructure projects. The DC Green Finance Authority is now in a position to reduce carbon emissions while simultaneously creating jobs and economic activity throughout DC. The Coalition



for Green Capital, with partners at the District Department of Energy and Environment, <u>wrote the initial</u> <u>report</u> that spurred the creation of the Green Finance Authority Establishment Act.

New Zealand 'Green Investment Fund' moving forward

As part of 2018 Budget 2018 the Government of New Zealand announced its intention to establish a Green Investment Fund. The fund will receive a \$100 million capital injection from Government, but is expected to become self-sustaining over time. The Green Investment Fund is part of the Government's commitment to address climate change and support New Zealand's transition towards a net-zero-emissions economy by 2050. During the establishment phase, the New Zealand Treasury has explored a range of options regarding the Fund's form, function and mandate – including looking at international models. This phase has also been informed through a combination of inputs from a cross-government agency working group, an external reference panel, support from external consultants, and engagement with peer funds globally. Final options will be considered by Cabinet in November, with the funds' formal establishment planned to begin in late 2018.

Green Bank Events

2018 Green Bank Congress

On 29 November 2018, the Green Bank Network is hosting the sixth annual Green Bank Congress in Shanghai, China in partnership with the Clean Energy Finance Corporation, the Green Investment Group, and Tsinghua University Centre for Development and Finance. The annual Green Bank Congress brings together green finance practitioners, green banks, commercial bankers, development banks, private sector infrastructure companies, international climate organizations,



government officials and others from around the world to discuss ways to increase deployment of low carbon, climate-resilient infrastructure through greater private investment. See the event agenda here.

Register here

This year's Green Bank Congress will be held adjacent to <u>Bloomberg NEF's Future of Energy Summit</u> in Shanghai. Since its inception in 2008, the Future of Energy Summit has featured a unique convergence of the old and the new – traditional players and advanced-energy leaders, and continues to create an environment for making new connections, and serves as a forum to discuss the critical energy issues of today and the next decade.

Bloomberg NEF



OECD Forum on Green Finance and Investment

On 13-14 November 2018, the OECD will host its annual Forum on Green Finance and Investment. This event brings together leading actors from the green finance and investment community to promote effective engagement, collaboration and action on green finance and investment. This includes institutional investors, asset managers, ministries of finance and central banks, financial



regulators, commercial and investment banks, international climate funds, multilateral development banks, green investment banks, corporations, civil society, the philanthropic sector and more.

Speakers will include Andrea Colnes, International Director, Coalition for Green Capital, Ilmi Granoff, Director, Sustainable Finance Program at ClimateWorks Foundation, Rob Youngman, Team Leader Green Finance and Investment, OECD Environment Directorate and Amal-Lee Amin, Chief of Climate Change, Inter-American Development Bank.

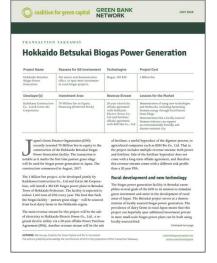
Reports and Whitepapers

GBN Transaction Takeaway: GFO's Investments in Biogas in Hokkaido

CGC has written a new GBN <u>Transaction Takeaway on Japan's Green Finance Organisation (GFO) investment in biogas power generation in Hokkaido</u>. The 70 Million Yen equity investment is notable as it marks the first time pasture grass silage will be used for biogas power generation in Japan. The 1 project was developed jointly by Kadokawa Construction Co., Ltd and Corns AG Corporation and included a 382 kW biogas power plant in Betsukai

Town of Hokkaido Prefecture. The facility is expected to reduce 1,643 tons of CO2 every year. The feed that fuels the biogas facility – pasture grass silage – will be sourced from local dairy farms in the Hokkaido region.

To learn more about similar transactions, and GFO's transactions more broadly, see the GBN Transaction database here.



GBN Transaction Takeaway: CT Green Bank's Solar for All project

NRDC has written a new GBN <u>Transaction Takeaway on Connecticut Green Bank's Solar for All project</u>. CT Green Bank believe it is important to make rooftop solar and energy efficiency (EE) accessible to low- to moderate income (LMI) homeowners, not only because it is a traditionally underserved market that has been excluded from participating in the overall growth of distributed clean energy measures, but in particular because LMI homeowners can disproportionately benefit from utility cost reductions, due to their relatively high energy burdens (household energy costs relative to annual income). As the result of a request-for-proposal process initiated by CT Green Bank in December 2014 to address market barriers related to LMI household uptake of clean energy

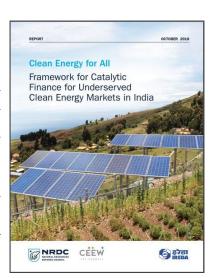


installations, PosiGen, a Louisiana-based solar company, has been offering a rooftop solar PV lease product with an option for the installation of EE measures since 2015 with Green Bank support.

To learn more about the Solar for all transaction, and CT Green Bank's transactions more broadly, see the website here.

Clean Energy for All Framework for Catalytic Finance for Underserved Clean Energy Markets in India

NRDC and CEEW have released a new white paper: Clean Energy for All Framework for Catalytic Finance for Underserved Clean Energy Markets in India. Around the world, catalytic financing is emerging as a solution in the clean energy sector. A characteristic of catalytic finance is that each public or donor unit of investment should be dedicated to mobilizing multiples in private investment. This way, public finance activates—or catalyzes—greater commercial investments to the "underserved" segments of the clean energy markets in India. This report presents a framework for implementing catalytic finance solutions through green windows or a green fund as developed through stakeholder discussions in India.



Beyond Financing: A Guide to Green Bank Design in the Southeast

The Nicholas Institute at Duke University has published a new report Beyond Financing: A Guide to Green Bank Design in the Southeast. As of September 2018, most American green banks were located in the Northeast and West. However, their structure and design can be replicated to meet the needs of any state or city in the Southeast. This primer outlines the design elements of a green bank and explores how a green bank might leverage limited public funds in the Southeast and create a robust market for clean energy investment. It concludes that green banks have proved to be catalytic in the Northeast and West and could be what is needed to jump-start investment in the Southeast. With a properly designed green bank, Southeast states may be able to better take advantage of clean energy investment to accomplish their policy goals, stimulate economic development, and support energy equity.



Fulfilling America's Pledge: How States, Cities, and Businesses Are Leading the United States to a Low-Carbon Future

The America's Pledge initiative and a core team of climate finance experts released the report Fulfilling America's Pledge: How States, Cities, and Businesses Are Leading the United States to a Low-Carbon Future. The report covers subnational efforts in the United States, including cities, states, businesses and other real economy actors who have embraced this future and are helping drive better outcomes for their own citizens and business operations. The report includes a case study on "NY Green Bank: An Innovative Approach to Mobilizing Private Capital" and highlighted New York Governor Andrew Cuomo's announcement that NYGB would seek to raise an



additional \$1 billion in capital from third-party investors, as well as expand its activities nationally. The report also highlighted the work with the Coalition for the Green Climate and the US Climate Alliance around Green Bank expansion in the US.

The Green Bank Model – Accelerating Local Clean Energy Investment

The Montgomery County Green Bank released two white papers on Green Banks, covering The Green Bank Model – Accelerating Local Clean Energy Investment, and Getting Your Green Bank off the Ground: Products, Funding and Operational Approaches. The white papers capture the proceedings of a day-long workshop hosted by the Montgomery County Green Bank. The workshop brought together Green Bank practitioners from across the country including CT Green Bank, Michigan Saves, DC Green Bank, Climate Access Fund and the Coalition for Green Capital. It provided an opportunity to share best practices about the green bank model and a forum for questions about how to stand up and operate a Green Bank.



See all white papers covering the Green Bank model on the GBN website's Knowledge Center.

Green Bank Webinars

Rise of Green Banks: Examples from South Africa and Australia Demonstrate the Role Green Banks Play in Catalyzing Private Sector Investment

On 13 November 2018 at 10am GMT, the GBN will host a webinar exploring Green Bank best practices from new and existing institutions. The webinar will feature the new



South Africa Green Bank initiative, including speakers from the Development Bank of Southern Africa, and spekers from the Clean Energy Finance Corporation (Australia) and the Coalition for Green Capital. The webinar will be hosted in partnership with ICLEI and Asia LEDS-GP.

Register here

Recent webinar: Green Banks in the Southeast United States

On 17 October, the Nicholas Institute at Duke University hosted a webinar on Green Bank Design in the Southeast. The webinar Green banks covered how Green Bank use funds to reduce the risk for private investment to support energy efficiency and clean energy, with a particular focus on local governments and corporations across the Southeast. The webinar featured Jill Bunting, Coalition for Green Capital, Jennifer Weiss, Nicholas Institute, Todd



Parker, Michigan Saves and Duanne Andrade, Solar and Energy Loan Fund. View the slides here.

Recent webinar: Green Banking Strategies for Local Governments

On 1 October 2018, US EPA hosted a webinar on Clean Energy Finance: Green Bank Strategies for Local Governments. The webinar covered exciting advancements in green banking in the United States and how these strategies can help local governments pursue their environmental, energy, and economic priorities. Speakers provide an overview of green banks, the services and benefits they offer, other types of green



banking opportunities, and important considerations for local governments interested in engaging in green finance. The webinar featured Jeff Schub, Coalition for Green Capital, Bryan Garcia, Connecticut Green Bank and Tom Deyo, Montgomery County Green Bank in Maryland, the first U.S. green bank administered by a local government. Listen to the recording here.

GREEN BANK NETWORK

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