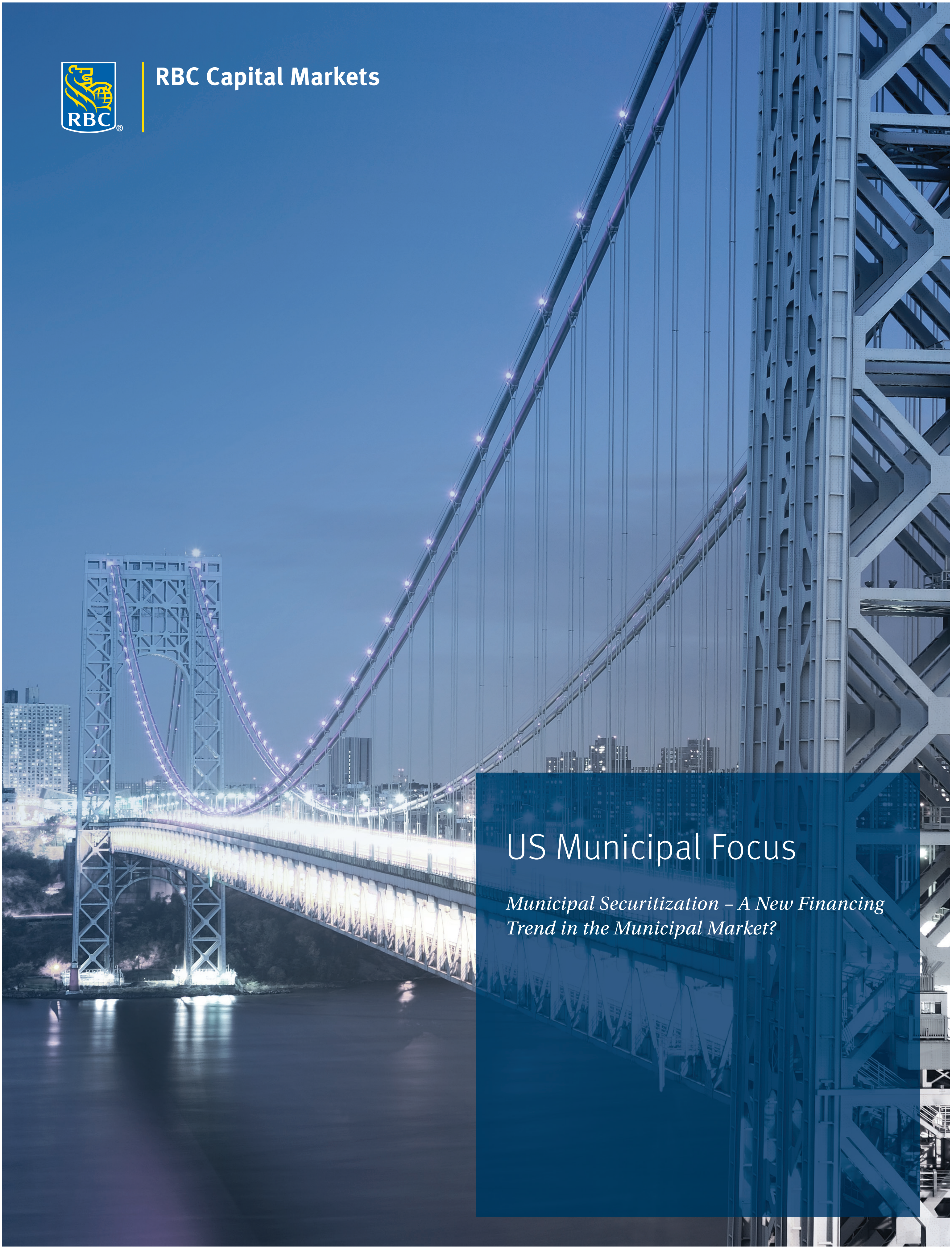


RBC Capital Markets

US Municipal Focus

Municipal Securitization – A New Financing Trend in the Municipal Market?

RBC Capital Markets

RBC Capital Markets, LLC
Chris Mauro, CFA
Head of US Municipals Strategy
(212) 618-7729
chris.mauro@rbccm.com

November 6, 2014

US Municipal Focus

Municipal Securitization – A New Financing Trend in the Municipal Market?

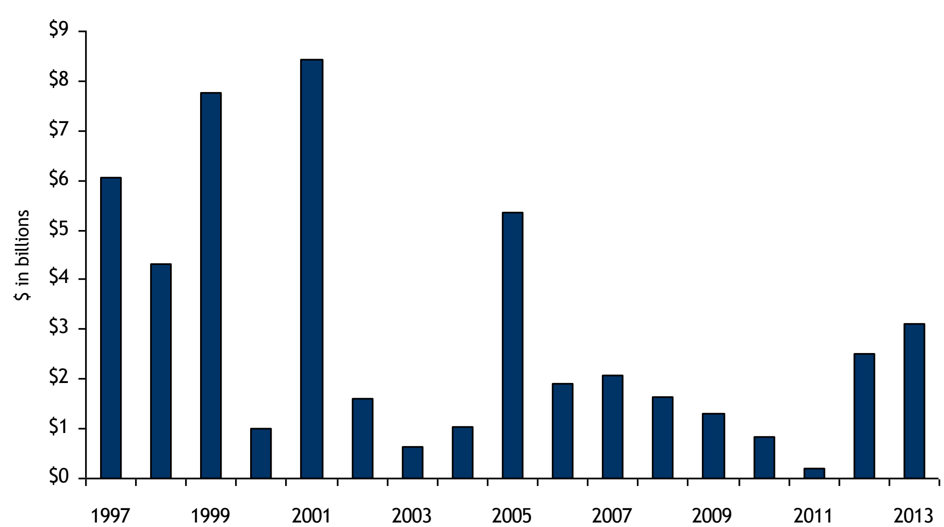
All values in U.S. dollars unless otherwise noted.

In December 2013, the Utility Debt Securitization Authority, a newly formed issuer in New York State, issued just over $2 billion in AAA (structured finance, sf) rated bonds to refinance a portion of the debt of the Long Island Power Authority (LIPA). The bonds employed a securitization, or “rate reduction bond” structure, a financing model that has been in existence since the onset of electric utility deregulation in the early 1990s. These securitization bonds were originally issued to benefit investor owned utilities (IOUs) burdened by stranded costs. However, the LIPA transaction represented the first time that this rate reduction bond structure has been used to benefit a municipal utility. Similarly, in October 2013, Governor Brown of California signed Assembly Bill 850 (AB 850), which authorizes the issuance of rate reduction bonds to finance specified water quality projects. Finally, the State of Hawaii is currently using this financing technique to fund renewable energy initiatives in that state.

Is this the beginning of new trend in municipal finance, or will these bonds be issued only for isolated and limited purposes? We believe that securitization will never completely displace traditional utility revenue bond financing, but think that this technique has applicability for issuers, particularly higher rated ones, with large capital programs driven unfunded mandates, such as those associated with consent decrees with the US Environmental Protection Agency. In the same way, lower rated issuers who are looking to obtain a more favorable cost of capital may also be inclined to utilize this technique. Finally, we believe that municipal securitization may be a suitable financing model for the growing slate of “green bond” programs.

Exhibit 1: Securitization bonds have a long history, particularly in the taxable bond market. Several states authorized the issuance of stranded cost securitization bonds beginning in the late 1990s, as electric utility deregulation rendered high cost nuclear generating facilities uneconomic. In recent years, these bonds have financed the post-hurricane recovery costs of utilities in the Southeast and pollution control systems for coal-fired generating facilities in West Virginia.

Rate Reduction Securitization Financing Since 1997



Sources: State of Hawaii

For Required Conflicts Disclosures, please see page 6.

A Short History of Utility Securitization Finance

The utility securitization bond structure was born out of the electric utility deregulation movement in the late 1990s. In its 1996 electric utility deregulation order, known as Order 888, the Federal Energy Regulatory Commission (FERC) mandated non-discriminatory open access of interstate transmission facilities but allowed for the recovery of "legitimate, prudent and verifiable stranded costs" that would arise because of its deregulation order. These costs were principally associated with the legacy costs of nuclear generating facilities constructed prior to the release of the Order, as these plants would become uneconomic in a fully deregulated operating environment.

California was the first state to authorize the issuance of post-FERC 888 stranded costs bonds. In December 1997, three series of stranded costs bonds, totaling over $6 billion, were issued for the benefit of the state's investor owned utilities: PG&E, Southern California Edison, and San Diego Gas & Electric. The California transactions were duplicated in short order by Illinois and Pennsylvania, which authorized the issuance of stranded cost bonds for their IOUs of $4.3 billion (1997) and $7.0 billion (1998) respectively. In all, approximately $50 billion in utility stranded cost securitization bonds were issued from 1997 to 2013 according to Moody's Investors Service. While the vast majority of the bonds were issued to finance the cost recovery of uneconomic stranded assets, some of the securitization bonds issued in the last decade have funded other capital needs. For example, special purpose financing entities in Louisiana, Texas, Florida, and other states have issued storm recovery securitization bonds. The proceeds from these issues financed the restoration of utility systems that had sustained significant damage from the hurricanes that hit the Gulf Coast in the mid-to-late 2000s. Additionally, a limited number of states have used securitization financing to fund demand side management initiatives and other environmentally beneficial programs, the most notable of which were several series of pollution control bonds issued by a West Virginia financing entity in 2007 and 2009.

The State of Hawaii, in a recent transaction, used securitization financing to promote the expansion of solar power and other renewable energy technologies in that state. In June of 2013, the Governor signed legislation authorizing the creation of the state's Green Energy Market Securitization Program. During the week of November 3, 2014, the state issued $150 million in Green Infrastructure Bonds, the proceeds of which will be used to make low cost loans to residents and businesses to finance the installation of solar photovoltaic and other clean energy systems. The bonds will be repaid from a Green Infrastructure Fee to be included on customer electric utility bills. Loan recipients will repay the loans via the energy savings on their utility bills.

Securitization finally made its debut in the municipal bond market with the December 2013 LIPA transaction. In the summer of 2013, New York State enacted the "LIPA Reform Act" which authorized the use of the stranded cost recovery financing techniques to restructure the debt of the Long Island Power Authority. The restructuring was designed to provide rate relief to enable the utility's new operator, Public Service Enterprise Group, to make the investments in the system necessary to improve its post-Hurricane Sandy resiliency. The resulting transaction consisted of $481 million in taxable bonds and $1.54 billion in tax-exempt bonds, making it the first tax-exempt issuance of IOU-style stranded cost recovery bonds. As we indicated earlier, recently enacted legislation in California will facilitate the issuance of municipal securitization bonds in that state. To that end, the Los Angeles Department of Water and Power has announced plans to issue securitization bonds sometime in 2015.

Essential Elements of Utility Securitization Bonds

All utility securitization bonds are structured around three essential financing elements: the financing act, financing order and special purpose financing entity.

- State Legislation: First, the state must pass enabling legislation authorizing the securitization financing to recover certain identified costs. The legislation establishes a property right to collect a future stream of surcharges that will be use to retire the securitization bonds, authorizes the transfer of this property right to a bankruptcy remote special purpose entity by way of a true sale transaction, and contains a non-impairment pledge by the state.

- Financing Order: Pursuant to the legislation, an irrevocable financing order is issued that authorizes the imposition of a non-by-passable surcharge to customer bills. This surcharge, which appears as a separate line item on customer bills, will remain in effect until the securitization bonds are retired. Finally, the legislation establishes a true-up mechanism by which the securitization charge is periodically adjusted to assure the full payment of the securitization bonds.

- Special Purpose Entity: The special purpose entity issuing the securitization bonds is unable to declare bankruptcy and its ability to collect the securitization surcharge is not contingent on the credit quality of the underlying utility.

If the proper legal framework is constructed and the securitization bond is structured correctly, the bonds will be awarded a AAA (sf) rating from the bond rating agencies. In almost all cases, this will result in lower financing costs than those associated with non-securitization utility financing. Securitizations are structured with debt service coverage only slightly greater than one times. Additionally, a securitization financing is not governed by traditional revenue bond covenants. For example, the debt service reserve requirement in a securitization transaction is significantly smaller than that of a typical revenue bond financing. While the financial advantages to a utility securitization transaction are obvious, we think there are legal, financial and political hurdles that make these transactions somewhat challenging, as we will discuss in a latter section.

Municipal Securitization – A Familiar Concept

While the December LIPA transaction and the proposed California securitization represent the first uses of the rate reduction bond financing structure for the benefit of municipal utilities, we would argue that the concept of securitization is not a foreign one for municipal bond investors. The most visible securitizations in the municipal market to date have been the tobacco settlement bonds issued subsequent to the signing of the 1998 Master Settlement Agreement. However, we would argue that many municipal securities bear the hallmarks of securitization. We note that the basic municipal revenue bond is, in some sense, a securitization in that the bonds are secured by a future discrete stream of revenues. We acknowledge, of course, that there are elements of the revenue bond construct that are inconsistent with a true securitization, but the fundamental concept of issuing bonds secured by a pledged revenue stream is, in the first instance, analogous to a rate reduction or cost recovery securitization. In our view, the various municipal revenue bond structures create a continuum of municipal securitization with the basic municipal revenue bond at one end of the spectrum, full rate reduction bond securitizations at the opposite end, and dedicated tax bonds and highly structured revenue bonds in the middle.

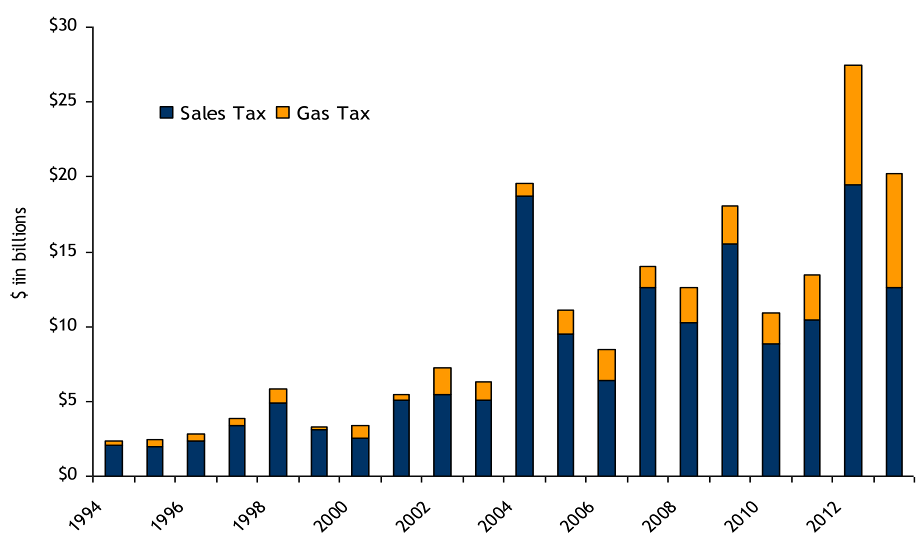
In our view, the municipal “special tax” or “dedicated tax” revenue bond is a close cousin to the rate reduction bond. The municipal market has a long history with this structure, dating back to the late 1970s when the New York Municipal Assistance Corporation issued sales tax secured bonds in the wake of the New York City fiscal crisis. Subsequently, a series of municipal issuers sold dedicated tax bonds to provide for fiscal and budgetary stability, including Louisiana in 1988, Massachusetts in 1990 and Puerto Rico in 2007. Beyond these fiscal recovery financings, the municipal bond market has supported a diverse array of special tax bonds secured by dedicated sales taxes, gas taxes, personal income taxes, mortgage recording taxes, liquor taxes, tourist taxes, documentary stamp taxes, motor vehicle moving violation fines, etc. The list of dedicated revenues to be pledged is seemingly endless and is limited only by the ability of policy makers to creatively carve out and securitize a new tax, fee or charge.

The points of intersection between special tax municipal bonds and rate reduction bonds are numerous. Special tax bonds are typically issued by a special purpose entity. They are secured by a specific dedicated revenue stream and the security structure often incorporates a lock box or cash trap mechanism to assure the payment of the periodic debt service fund deposits. Additionally, many of the dedicated taxes carry a non-impairment pledge of the state. Most importantly, the special tax bond, like the securitization bond, is typically insulated from any fiscal or budgetary problems of the underlying beneficial entity. In that way, a tightly structured special tax bond is typically able to break the “sovereign ceiling” and obtain a bond rating higher than that of the underlying entity.

There are some distinct differences between special tax bonds and securitization bonds, however. The most notable difference is that the dedicated tax or fee is generally fixed. Therefore, special tax bonds don’t benefit from one of the key provisions of the rate reduction bond – the true-up mechanism. Additionally, some special tax bonds are subject to appropriation and therefore not entirely separate from the underlying credit. Similarly, many special tax bonds have an open loop structure in which the excess revenues, after payment of debt service, are released to the underlying entity. This differs from the typical closed loop structure of a rate reduction bond. Because of these differences, we view special tax bonds as a form of “securitization light”.

Exhibit 2: The municipal market is very familiar with the basic concepts of securitization since many of them exist in municipal “special tax” or “dedicated tax” bond structures. However, while the rate reduction bond structure dates from the late 1990s, the municipal market can trace the origins of the special tax bond back to the late 1970s.

Twenty-Year History of Sales and Gas Tax Bond Issuance



Source: Securities Data Corporation

Finally, there are a limited number of municipal issues, which we consider "highly structured revenue credits", that fall somewhere between the typical "securitization light" special tax bond and a full securitization. In these cases, the revenue collection and debt service payment mechanisms are fully disaggregated from the operations of the underlying credit. A strong lock-box mechanism assures that the debt service obligations are satisfied before the revenues flow to the underlying entity. There are a number of variations of this structure, but the key consideration is that they contain a true gross revenue pledge that directs the first available dollars of revenue to the payment of debt service. While these credits do not satisfy all of the elements of securitization criteria, they exhibit structures that, in our view, come very close to full securitization.

The Benefits and Challenges of Securitization Financing

Securitization financing techniques, if strategically applied, can potentially reduce the capital costs and increase the financing flexibility of the underlying entity. If the enabling legislation and the financing order are appropriately crafted, and if the bonds are properly structured to conform to rating agency criteria, the securitization bonds will likely be awarded AAA (sf) ratings. For a lower rated issuer, this has the potential to produce significantly lower financing costs than if the issuer had sold debt under its own credit. While access to guilt-edged financing rates represents a significant advantage for the lower rated municipal issuers, even highly rated credits can benefit from securitization through the increase in financial flexibility that these structures provide. Most traditional revenue bond indentures contain a rate covenant that requires the issuer to set rates such that net revenues available for debt service meet or exceed a specified debt service coverage requirement, usually between 1.25x and 1.50x. However, many issuers, particularly higher rated ones, maintain an internal financial policy that, in practice, exceeds the indenture requirement. Because of the existence of the true-up mechanism, securitization bonds are structured with what amounts to a 1.0x coverage requirement. In this way, a utility can use securitization financing to finance a specific capital need without having to generate the excess cash flow required by the revenue bond rate covenant. Additionally, the securitization will not dilute the debt service coverage on the utility's existing municipal revenue bonds. Finally, the securitization structure establishes a bankruptcy remote financing vehicle that provides a municipal utility with an additional, legally separate entity with which to access the market. This may broaden the potential customer base for the securitization bonds by bringing in investors who have either not purchased the bonds of the underlying issuer because of credit concerns, or who have reached their exposure limits on the underlying credit and are "full on the name".

We believe that there are some challenges to issuing these securities, however. While the structure does have the potential to lower costs for both the utility and its ratepayers, the surcharge that generates the pledged revenues appears as a separate line item on customer bills. While we acknowledge that some customers may prefer an itemized bill to a consolidated one, we caution that the surcharge is a very visible line item. Therefore, we believe that utilities will have to use this financing technique judiciously to finance projects associated with discrete, clearly identifiable public purposes. Additionally, we believe that the securitization will be more politically palatable if the projects financed are outside of the usual and customary capital improvement program of the utility. In that regard, we believe that things like unfunded environmental mandates and conservation projects such as sustainability initiatives and renewable energy investments lend themselves most favorably to securitization. This may help offset two possible objections to the use of this technique. First, it might neutralize potential concerns over the appropriate amount of "use of proceeds" disclosure. Second, it may help to defuse political sensitivities associated with the use of securitization financing, rather than the traditional municipal financing and rate setting process, to issue debt. Nevertheless, as municipal securitization becomes more prevalent, we expect that other states will, over time, follow the lead of California, Hawaii and New York and use this structure to finance a variety of utility capital needs.

Required disclosures

Conflicts disclosures

The analyst(s) responsible for preparing this research report received compensation that is based upon various factors, including total revenues of the member companies of RBC Capital Markets and its affiliates, a portion of which are or have been generated by investment banking activities of the member companies of RBC Capital Markets and its affiliates.

Conflicts policy

RBC Capital Markets Policy for Managing Conflicts of Interest in Relation to Investment Research is available from us on request. To access our current policy, clients should refer to
https://www.rbccm.com/global/file-414164.pdf
or send a request to RBC Capital Markets Research Publishing, P.O. Box 50, 200 Bay Street, Royal Bank Plaza, 29th Floor, South Tower, Toronto, Ontario M5J 2W7. We reserve the right to amend or supplement this policy at any time.

Dissemination of research and short-term trade ideas

RBC Capital Markets endeavours to make all reasonable efforts to provide research simultaneously to all eligible clients, having regard to local time zones in overseas jurisdictions. Subject to any applicable regulatory considerations, "eligible clients" may include RBC Capital Markets institutional clients globally, the retail divisions of RBC Dominion Securities Inc. and RBC Capital Markets LLC, and affiliates. RBC Capital Markets' equity research is posted to our proprietary websites to ensure eligible clients receive coverage initiations and changes in rating, targets and opinions in a timely manner. Additional distribution may be done by the sales personnel via email, fax or regular mail. Clients may also receive our research via third party vendors. Please contact your investment advisor or institutional salesperson for more information regarding RBC Capital Markets research. RBC Capital Markets also provides eligible clients with access to SPARC on its proprietary INSIGHT website. SPARC contains market color and commentary, and may also contain Short-Term Trade Ideas regarding the securities of subject companies discussed in this or other research reports. SPARC may be accessed via the following hyperlink: https://www.rbcinsight.com. A Short-Term Trade Idea reflects the research analyst's directional view regarding the price of the security of a subject company in the coming days or weeks, based on market and trading events. A Short-Term Trade Idea may differ from the price targets and/or recommendations in our published research reports reflecting the research analyst's views of the longer-term (one year) prospects of the subject company, as a result of the differing time horizons, methodologies and/or other factors. Thus, it is possible that the security of a subject company that is considered a long-term 'Sector Perform' or even an 'Underperform' might be a short-term buying opportunity as a result of temporary selling pressure in the market; conversely, the security of a subject company that is rated a long-term 'Outperform' could be considered susceptible to a short-term downward price correction. Short-Term Trade Ideas are not ratings, nor are they part of any ratings system, and RBC Capital Markets generally does not intend, nor undertakes any obligation, to maintain or update Short-Term Trade Ideas. Short-Term Trade Ideas discussed in SPARC may not be suitable for all investors and have not been tailored to individual investor circumstances and objectives, and investors should make their own independent decisions regarding any Short-Term Trade Ideas discussed therein.

Analyst certification

All of the views expressed in this report accurately reflect the personal views of the responsible analyst(s) about any and all of the subject securities or issuers. No part of the compensation of the responsible analyst(s) named herein is, or will be, directly or indirectly, related to the specific recommendations or views expressed by the responsible analyst(s) in this report.

Disclaimer

eligible for sale in some jurisdictions. RBC Capital Markets may be restricted from publishing research reports, from time to time, due to regulatory restrictions and/or internal compliance policies. If this is the case, the latest published research reports available to clients may not reflect recent material changes in the applicable industry and/or applicable subject companies. RBC Capital Markets research reports are current only as of the date set forth on the research reports. This report is not, and under no circumstances should be construed as, a solicitation to act as securities broker or dealer in any jurisdiction by any person or company that is not legally permitted to carry on the business of a securities broker or dealer in that jurisdiction. To the full extent permitted by law neither RBC Capital Markets nor any of its affiliates, nor any other person, accepts any liability whatsoever for any direct or consequential loss arising from any use of this report or the information contained herein. No matter contained in this document may be reproduced or copied by any means without the prior consent of RBC Capital Markets.

Additional information is available on request.

To U.S. Residents:
This publication has been approved by RBC Capital Markets, LLC (member FINRA, NYSE, SIPC), which is a U.S. registered broker-dealer and which accepts responsibility for this report and its dissemination in the United States. Any U.S. recipient of this report that is not a registered broker-dealer or a bank acting in a broker or dealer capacity and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report, should contact and place orders with RBC Capital Markets, LLC.

To Canadian Residents:
This publication has been approved by RBC Dominion Securities Inc.(member IIROC). Any Canadian recipient of this report that is not a Designated Institution in Ontario, an Accredited Investor in British Columbia or Alberta or a Sophisticated Purchaser in Quebec (or similar permitted purchaser in any other province) and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report should contact and place orders with RBC Dominion Securities Inc., which, without in any way limiting the foregoing, accepts responsibility for this report and its dissemination in Canada.

To U.K. Residents:
This publication has been approved by RBC Europe Limited ('RBCEL') which is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority ('FCA') and the Prudential Regulation Authority, in connection with its distribution in the United Kingdom. This material is not for general distribution in the United Kingdom to retail clients, as defined under the rules of the FCA. However, targeted distribution may be made to selected retail clients of RBC and its affiliates. RBCEL accepts responsibility for this report and its dissemination in the United Kingdom.

To Persons Receiving This Advice in Australia:
This material has been distributed in Australia by Royal Bank of Canada - Sydney Branch (ABN 86 076 940 880, AFSL No. 246521). This material has been prepared for general circulation and does not take into account the objectives, financial situation or needs of any recipient. Accordingly, any recipient should, before acting on this material, consider the appropriateness of this material having regard to their objectives, financial situation and needs. If this material relates to the acquisition or possible acquisition of a particular financial product, a recipient in Australia should obtain any relevant disclosure document prepared in respect of that product and consider that document before making any decision about whether to acquire the product. This research report is not for retail investors as defined in section 761G of the Corporations Act.

To Hong Kong Residents:
RBC Capital Markets (Hong Kong) Limited and Royal Bank of Canada, Hong Kong Branch (both entities regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission ('SFC')). Financial Services provided to Australia: Financial services may be provided in Australia in accordance with applicable law. Financial services provided by the Royal Bank of Canada, Hong Kong Branch are provided pursuant to the Royal Bank of Canada's Australian Financial Services Licence ('AFSL') (No. 246521). RBC Capital Markets (Hong Kong) Limited is exempt from the requirement to hold an AFSL under the Corporations Act 2001 in respect of the provision of such financial services. RBC Capital Markets (Hong Kong) Limited is regulated by the Hong Kong Monetary Authority and the SFC under the laws of Hong Kong, which differ from Australian laws.

To Singapore Residents:
This publication is distributed in Singapore by the Royal Bank of Canada, Singapore Branch, an offshore bank regulated by the Monetary Authority of Singapore. This material has been prepared for general circulation and does not take into account the objectives, financial situation, or needs of any recipient. You are advised to seek independent advice from a financial adviser before purchasing any product. If you do not obtain independent advice, you should consider whether the product is suitable for you. Past performance is not indicative of future performance. If you have any questions related to this publication, please contact the Royal Bank of Canada, Singapore Branch.

To Japanese Residents:
Unless otherwise exempted by Japanese law, this publication is distributed in Japan by or through RBC Capital Markets (Japan) Ltd., a registered type one financial instruments firm and/or Royal Bank of Canada, Tokyo Branch, a licensed foreign bank.

Fixed Income & Currency Strategy Research Team

Europe

RBC Europe Limited:

James Ashley	Chief European Economist	+44-20-7029-0133	james.ashley@rbccm.com
Adam Cole	Head of G10 FX Strategy	+44-20-7029-7078	adam.cole@rbccm.com
Vatsala Datta	UK Rates Strategist	+44 20-7029-0184	vatsala.datta@rbccm.com
Timo del Carpio	European Economist	+44-20-7029-7085	timo.delcarpio@rbccm.com
Keng Goh	Associate FX Strategist	+44 20-7029-7077	keng.goh@rbccm.com
Sam Hill, CFA	Senior UK Economist	+44-20-7029-0092	sam.hill@rbccm.com
Peter Schaffrik	Head of UK & European Rates and Economics Research	+44-20-7029-7076	peter.schaffrik@rbccm.com
Michaela Seimen Howat	SSA Strategist	+44 20 7029 0122	michaela.seimenhowat@rbccm.com

Asia-Pacific

Royal Bank of Canada – Sydney Branch:

Su-Lin Ong	Head of Australian and New Zealand FIC Strategy	+612-9033-3088	su-lin.ong@rbccm.com
Michael Turner	Fixed Income & Currency Strategist	+612-9033-3088	michael.turner@rbccm.com

Royal Bank of Canada – Hong Kong Branch:

Sue Trinh	Senior Currency Strategist	+852-2848-5135	sue.trinh@rbccm.com

North America

RBC Dominion Securities Inc.:

Paul Borean	Fixed Income Strategist	(416) 842-2809	paul.borean@rbccm.com
Mark Chandler	Head of Canadian FIC Strategy	(416) 842-6388	mark.chandler@rbccm.com
George Davis, CMT	Chief Technical Analyst	(416) 842-6633	george.davis@rbccm.com
Jordan Kotick	Head of Cross Asset Strategy	(416) 842-9632	jordan.kotick@rbccm.com
Greg Moore	Senior Currency Strategist	(416) 842-2802	greg.moore@rbccm.com
Ian Pollick	Senior Fixed Income Strategist	(416) 842-6362	ian.pollick@rbccm.com

RBC Capital Markets, LLC:

Michael Cloherty	Head of US Rates Strategy	(212) 437-2480	michael.cloherty@rbccm.com
Dan Grubert	Rates Strategist	(212) 618-7764	dan.grubert@rbccm.com
Elsa Lignos	Senior Currency Strategist	(212) 428-6492	elsa.lignos@rbccm.com
Chris Mauro	Head of US Municipals Strategy	(212) 618-7729	chris.mauro@rbccm.com
Jacob Oubina	Senior US Economist	(212) 618-7795	jacob.oubina@rbccm.com
Tom Porcelli	Chief US Economist	(212) 618-7788	tom.porcelli@rbccm.com
Daniel Tenengauzer	Head of EM & Global FX Strategy	(212) 618-3535	daniel.tenengauzer@rbccm.com
Daria Parkhomenko	Associate	(212) 618-7857	daria.parkhomenko@rbccm.com
Jay Govender	Associate Strategist – Cross Asset Strategy	(212) 618-3539	jay.govender@rbccm.com
George Wang, CFA	Rates Strategist	(212) 905-5949	george.wang@rbccm.com