



Backgrounder on Canada’s new polymer bank note series

The Bank of Canada periodically issues a new series of bank notes, with new security features and visual designs, in order to stay ahead of counterfeiting and to take advantage of advances in security technology. The *Polymer* series bank notes to be issued starting in 2011 will be more secure than the current bank notes, and will also be more economical and have a smaller environmental impact.

Protection against counterfeiting is the key

Recent history has demonstrated how important it is to stay ahead of counterfeiting. As shown in the chart below, the level of counterfeiting in Canada increased dramatically during the period from 2001 to 2004, before the current *Canadian Journey* notes with holographic stripe and other key security features began to be introduced. The upgraded security of the *Canadian Journey* notes—together with a concerted strategy to train retailers to recognize genuine notes, to work with police and the courts to deter counterfeiting, and to improve the quality of notes in circulation—brought counterfeiting down to the present low level of fewer than 50 counterfeits detected annually for each million genuine bank notes in circulation.

Number of Counterfeit Bank Notes Detected Per Million Notes in Circulation



To keep counterfeiting low, the Bank has been working on a new series of bank notes to be issued beginning in 2011. As the Bank announced in March 2010, the new bank notes will be printed on a polymer material, a smooth durable film developed specifically for bank notes and used in a number of countries around the world. The new notes will have leading-edge security features specifically designed for use with polymer. These security features and the first of the new visual designs will be unveiled in the spring of 2011. With their combination of security features and polymer material, the notes will be among the most advanced in the world. They will be easy for retailers and the public to verify and difficult for counterfeiters to simulate.

Some aspects of the notes will not change. The notes will be the same size, and the five denominations will each retain the same dominant colour as in past series. The *Polymer* series will also retain the suite of features incorporated in the current *Canadian Journey* series to help the blind and partially sighted to identify the notes, together with some improvements in the performance of these accessibility features: the tactile feature will last longer, thanks to the durability of polymer; and the electronic reader supplied to blind users will work on both ends of the new bank notes.

More security at lower long-run cost

While the need to increase protection against counterfeiting was the principal motivation for developing the new series, the *Polymer* series will also be economical. Although the initial cost of polymer notes will be greater than that of paper notes, they are expected to last at least 2.5 times longer in circulation before wearing out and needing to be replaced. As a result, fewer notes will be printed in future years and the *Polymer* series will save at least \$200 million over the life of the series, compared with the option of adding new security features to paper-based notes.

Better for the environment

The Bank commissioned an independent life-cycle analysis of bank notes, which will be published when the first notes are unveiled in the spring of 2011. The analysis established that, because the polymer notes will last longer in circulation, fewer notes will need to be printed over the life of the series, thereby reducing the environmental impact of manufacturing and transporting polymer bank notes, compared with notes printed on cotton paper. The Bank will recycle the polymer material that is produced when worn bank notes are shredded and is exploring a number of Canadian-based recycling options.

How the new series was developed

The new notes have been under development for several years. As part of its ongoing technology research program with its partners, the Bank has developed some new security features and adapted other existing features for the Canadian context. Individual features and test designs have been evaluated for security and ease of use. The resistance of bank note materials to the wear and tear of circulation has also been tested, and final designs for the notes have undergone extensive print testing.

A formal process was used to select the combination of security features and substrate for the new series of notes. The Bank's requirements for bank notes suitable for Canada were provided to a number of leading firms in the bank note industry, and the proposed solutions were subjected to a thorough technical, security and financial evaluation. The combination of polymer and the associated security features was found to be the solution that best met the selection criteria.

It is essential that business arrangements for bank notes provide for the reliable supply of materials and services throughout the life of a bank note series. A contract for the supply of polymer material and associated security features was negotiated with Note Printing Australia (NPA), a wholly owned subsidiary of the Reserve Bank of Australia. The Bank has collaborated with the Reserve Bank to ensure that the supply of material and access to intellectual property are assured. The substrate itself will be supplied to NPA by the Australian company, Securrency International, and the notes will be printed in Canada by two private sector security printers, Canadian Bank Note Company, Limited and BA International Inc., both based in Ottawa.

Preparing the cash system for the changeover

Because the *Polymer* series represents a significant change for the Canadian cash system, the Bank is working closely with organizations that handle bank notes in Canada, including financial institutions and cash transportation companies. The manufacturers of equipment that processes bank notes, such as automated teller machines, note sorters, and vending or ticket machines, have also been consulted on a confidential basis during the development of the notes. Equipment will need adjustment during the transition, as is the case with the introduction of every new series. However, since the notes are expected to last longer, the cash system should benefit in the long run from the change to a polymer substrate. Because they are expected to last longer, the polymer notes that are in circulation will be of better quality and will be more efficient to process; as well, smaller volumes of worn notes will need to be returned to the Bank of Canada for destruction. And because the new notes will be more secure, they will help to keep counterfeiting low and to maintain confidence among retailers and consumers.

What's next?

The design for each note in the *Polymer* series will be unveiled several months before the new notes begin to circulate, so that retailers and the general public will have time to learn about the features and appearance of each denomination before they first use the notes. Thus, the \$100 and \$50 designs will be unveiled in the spring of 2011. New \$100 notes will begin to be available from financial institutions in November 2011, and \$50 notes will be issued starting in March 2012. The remaining denominations—the \$20 note, followed by the \$10 and \$5 notes—will be unveiled and issued by the end of 2013. Following the issue of each denomination, the Bank and financial institutions will work together to withdraw older notes of that denomination from circulation. Nonetheless, all previous series of Bank of Canada notes retain their face value.