

## Polymer banknotes are **SMARTER**



### More secure

Detailed images and sophisticated security features make polymer banknotes harder to counterfeit.

## Polymer banknotes are **CLEANER**



### Shorter survivability of viruses and bacteria

The smoother, non-absorptive surface of polymer banknotes makes them more hygienic. Scientific studies reviewed by the Department of Health found that viruses, including COVID-19, and bacteria last for shorter periods on polymer banknotes compared with paper banknotes.

## Polymer banknotes are **STRONGER**



### More durable

Rain or shine, your polymer banknotes can withstand the test of time. They can last much longer than paper banknotes given their resistance to water, oil, dirt, and general wear and tear.



### More cost-effective

With a lifespan that is at least 2.5 times longer than paper banknotes, using polymer banknotes will lead to significant savings on printing and distribution costs in the long run.



**Kahit pera'y  
may tupi,**

**pwede pa  
rin itong  
ipambili!**



BangkoSentralngPilipinas



bsp.gov.ph



@BangkoSentral



@BangkoSentral



Scan the QR code or visit  
[bit.ly/PolymerPH](https://bit.ly/PolymerPH) to learn more.





Obverse Design Highlights: Philippine Eagle (*Pithecophaga jefferyi*) and Sampaguita (*Jasminum sambac*)



Reverse Design Highlights: Tubbataha Reefs Natural Park (UNESCO World Heritage Site), South Sea Pearl (*Pinctada maxima*), and T'nalak weave design

## 1 Polymer Substrate

**FEEL** the smooth surface. The banknote is one continuous sheet with transparent areas.



## 2 Enhanced Value Panel

**TILT** the note from left to right, and vice versa, to see the rolling-bar effect.



## 3 Sampaguita Clear Window

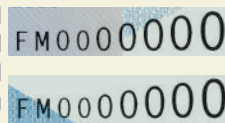
**LOOK** through the small transparent window depicting the Sampaguita (*Jasminum sambac*).

**FEEL** the transparent embossed line structures with the text "BSP" inside the flower on the front face of the note.



## 4 Serial Numbers

**LOOK** for two identical serial numbers composed of two prefix letters and seven asymmetric (increasing in size) digits.



## 5 Tactile Dots

**FEEL** the five highly embossed dots intended to assist the elderly and the visually impaired.



## 6 Embossed Prints

**FEEL** the raised ink that is rough to the touch.

**Front:** Philippine Eagle portrait, "REPUBLICA NG PILIPINAS," signatures, and the amount in words



**Back:** Philippine map, South Sea Pearl, "Tubbataha Reefs Natural Park," T'nalak weave design, denomination, and the amount in words



## 7 Shadow Thread

**LOOK** for the 5-mm vertical band on either side of the note when viewed against the light. The denominational value and "BSP" text appear in repeated series.



## 8 Vertical Clear Window

**LOOK** through the large transparent vertical window containing multiple security features.



## 9 Metallic Features

**LOOK** at the details of metallic images and symbols in the vertical clear window.

**TILT** the note to see color changes and dynamic motion.

**Dynamic Waves.** Wavy lines on the front face of the note move when it is tilted back and forth.



**Republic of the Philippines Seal and Mirrored Denomination.** Both show moving vertical-line effects when the note is tilted back and forth.



**Bangko Sentral ng Pilipinas (BSP) Logo and 3D Denomination.**

On the front, the BSP logo and 3D denomination outline display a striking rainbow effect when the note is tilted at different angles. On the back, only the BSP logo is visible.



## 10 Blue Iridescent Figure

**TILT and LOOK** to see the figure that displays varying tones of blue when the note is viewed at different angles.



## 11 Flying Eagle

**FEEL** the transparent embossed outline of a stylized flying eagle.



# Why are 1000-Piso Polymer Banknotes Smarter, Cleaner, and Stronger?

#PisowithBenefits #SmarterCleanerStronger

## SMARTER, CLEANER, and STRONGER: THE 1000-PISO POLYMER BANKNOTE

The piso of the future is here! In April 2022, the Bangko Sentral ng Pilipinas (BSP) began the circulation of the new and improved 1000-Piso Polymer Banknotes, which will be used alongside the 1000-Piso Paper Banknotes. This will allow the BSP to validate what other countries—such as the United Kingdom, Australia, and Canada, among others—have reported regarding the public benefits of polymer banknotes: SMARTER (more secure and sustainable), CLEANER (more hygienic and sanitary), and STRONGER (more durable and cost-effective) than paper banknotes. The new polymer banknote is also easily distinguishable from the paper banknote given its distinct design and texture.

Central banks around the world improve the designs of their banknotes every 10 years on average. The current series of Philippine banknotes first went into circulation more than 10 years ago.

Public concerns are making the BSP's efforts in this regard more urgent:



First, since the start of the COVID-19 pandemic, sanitizing frequently touched objects, including banknotes and coins, has become a widespread need among the public.



Second, while the Philippines does not have a major counterfeiting problem, crime syndicates keep improving their techniques in counterfeiting the New Generation Currency (NGC) banknotes that are currently in circulation.



Third, given the increasing scarcity of water, energy, and other inputs, our banknotes should be made to last longer, considering both environmental sustainability and cost-effectiveness.

## WHY ARE POLYMER BANKNOTES SMARTER?

First, they are **MORE SECURE**.

Polymer banknotes are more difficult to counterfeit due to the complexity of their printed images and sophisticated security features.

Polymer substrates are made using a unique and advanced technology, which is difficult to replicate. This is evident in the drop in counterfeit notes in circulation from as high as 30 percent to virtually none in countries that have shifted to polymer (CCL Secure Ltd., n.d.).

Canada, Australia, New Zealand, Malaysia, Mexico, Fiji, and Vietnam have experienced a great reduction in counterfeiting cases after shifting to polymer banknotes.

In Canada, after eight years of using polymer notes, detected counterfeits were reduced from a high of 470 down to 15 counterfeits for every million banknotes in circulation. In Vietnam, counterfeiting dropped by 80 percent.

And second, they are **MORE SUSTAINABLE and ENVIRONMENTALLY FRIENDLY**.

Polymer banknotes have a smaller carbon footprint, require lower water and energy usage for production, and cause less environmental toxicity. Moreover, polymer banknotes last at least 2.5 times longer than paper banknotes, reducing the environmental impact associated with regular production to replace banknotes that become unfit from wear and tear (BOE & PE International, n.d.).

A Bank of England (BOE) study estimated a reduction of up to 53 percent in greenhouse gas emissions upon their shift to polymer banknotes from paper banknotes (Shonfield, 2017).

As of 8 December 2022





In a study commissioned by the Bank of Canada (BOC), PE Americas & Tryskele (2011) found that polymer substrate shows benefits over cotton in all main phases of the life cycle: (1) in the manufacturing phase, since it has to be produced 2.5 times less than the cotton paper bank note; (2) in the distribution, since it has to be distributed 2.5 less times and its weight is lighter; and (3) in end-of-life, since the contained carbon in cotton paper bank notes is released as greenhouse gas in the landfill.

When polymer banknotes are retired, they can be recycled to produce various products, such as building components and garden furniture (BOE & PE International, n.d.).

## WHY ARE POLYMER BANKNOTES CLEANER?

They are **MORE RESISTANT TO DIRT, VIRUS, AND BACTERIA.**

Polymer banknotes are significantly cleaner and less susceptible to viral and bacterial transmission due to their smooth and non-absorptive surfaces. They can also be sanitized with less risk of damage unlike paper banknotes.

In Mexico, the average number of bacteria encountered on polymer banknotes was approximately only 25 percent of that found on cotton-based paper banknotes (Vriesekoop et al., 2010).

Consistent with these findings, the Reserve Bank of Australia suggests that a polymer banknote is cleaner and more hygienic than a paper banknote, owing to its protective overcoating ink. This ink also contributes to the polymer banknote's extended durability and cleanliness.

In its 2019 report, the BOE noted that banknotes made from polymer are cleaner because their smooth surface is resistant to dirt and moisture. Additionally, a study by Vriesekoop et al. (2016) demonstrated that washing polymer banknotes resulted in a faster decline in bacterial content compared to washing washi-style<sup>1</sup> cotton and cotton-linen banknotes.

The survival time of the COVID-19 virus was seven days at 30 degrees Celsius on polymer banknotes and three times longer (21 days) on paper banknotes (Riddell et al., 2020).

<sup>1</sup>Washi-style paper banknotes, such as Japanese banknotes, are made of materials such as abaca pulp, mitsumata (*Edgeworthia papyrifera*), and other fibers (National Printing Bureau of Japan, n.d.).

In a special series on COVID-19, the International Monetary Fund (IMF) advised governments to introduce polymer banknotes, which are less likely to transmit the COVID-19 virus (IMF, 2020). After reviewing the scientific evidence, the Philippine Department of Health also suggested the shift to polymer banknotes to reduce the survival time of bacteria and viruses in banknotes.

## WHY ARE POLYMER BANKNOTES STRONGER?





They are **MORE DURABLE and COST-EFFECTIVE.**

Polymer banknotes can last much longer given their resistance to water, oil, dirt, and general wear and tear.

A study commissioned by the BOC found that the lifetime of a cotton paper substrate banknote is only three years compared to a polymer substrate banknote's 7.5 years (PE Americas & Tryskele, 2011).

With an extended life span of two to five times more than paper banknotes, polymer banknotes are more cost-effective in the long run.

**Reported lifetime ratios of various polymer banknotes**  
(increased life factor vs. paper banknotes)

COUNTRIES	 CANADA	 AUSTRALIA	 NEW ZEALAND	 MEXICO	 PAPUA NEW GUINEA
DENOMINATION	20 CAD	10 AUD	20 NZD	20 MXN	2 PGK
LIFETIME RATIO	2.5	3.8	4.8	3.5	4.8

Central banks that use polymer banknotes have reported lower production costs. The BOE, for instance, estimated that the printing of the £5 and £10 notes on polymer than on paper could reduce their production costs by around £100 million over a decade (Bruce & Milliken, 2014).

Moreover, Australia's switch to polymer banknotes resulted in close to \$1 billion in net savings over the past 25 years in inflation-adjusted terms, which does not yet include the substantial savings from reduced counterfeiting cases (Wakefield et al., 2019).





# SMARTER, CLEANER, and STRONGER: THE 1000-PISO POLYMER BANKNOTE

## Learn about the 1000-Piso polymer banknote



Portrait of the Philippine Eagle by Mr. Floyd P. Bermejo

### 1. Why is the BSP introducing the polymer banknote?

In line with global best practices, the Bangko Sentral ng Pilipinas (BSP) continuously improves the country's banknotes with new designs and materials every 10 years, in response to the evolving needs of Filipinos and the availability of modern technologies.

Recent public concerns are making the transition to polymer banknotes more urgent:

- **First**, since the start of the COVID-19 pandemic, sanitizing frequently touched objects, including banknotes and coins, has become a widespread need.
- **Second**, while the Philippines does not have a major counterfeiting problem, crime syndicates keep improving their techniques in counterfeiting the New Generation Currency (NGC) banknotes that are currently in circulation.
- **Third**, given the increasing scarcity of water, energy, and other inputs, our banknotes should be made to last longer and be fully recyclable, considering both environmental sustainability and cost-effectiveness.

These concerns can be addressed by using polymer substrate in our banknotes, which is known worldwide to be more durable, cost-effective, hygienic, difficult to counterfeit, and sustainable.

### 2. Why are polymer banknotes smarter?

The use of advanced technology and optimal resources makes polymer banknotes smarter than paper banknotes.

First, polymer banknotes have more security features, making them **harder to counterfeit** than paper banknotes. Detailed images and sophisticated security features are embedded with the use of advanced technology designed to decrease the likelihood of counterfeiting.

Canada, Australia, New Zealand, Malaysia, Mexico, Fiji, and Vietnam have experienced a great reduction in counterfeiting cases after shifting to polymer banknotes. For instance, in Canada, after 8 years of using polymer notes, detected counterfeits were reduced from a high of 470 down to 15 counterfeits for every million banknotes in circulation.

Second, polymer banknotes have a **smaller carbon footprint**, lower water and energy usage, and less environmental toxicity. The longer lifespan of polymer banknotes reduces the environmental impact associated with the regular production of banknotes to replace those that become unfit from wear and tear.

When deemed unfit, a polymer banknote can be recycled to produce various products, such as building components, plant pots, and garden furniture.

### 3. What makes polymer banknotes cleaner?

Polymer banknotes tend to be **significantly cleaner** than paper banknotes due to their smoother and non-absorptive surfaces, which are more resistant to water, oil, and dirt. Other countries, such as the United Kingdom, also report that polymer banknotes can be washed and sanitized with less risk of damage unlike paper banknotes.

Scientific studies reviewed by the Department of Health (DOH) found that

viruses and bacteria survive for shorter periods on polymer compared to paper banknotes.

DOH also found a **shorter survival period of the SARS-CoV-2 virus on polymer compared to paper banknotes**.<sup>1</sup> SARS-CoV-2 survived for seven days at 30 degrees Celsius on polymer banknotes, while it survived three times longer on paper banknotes at 21 days. Also, the average amount of bacteria encountered on polymer banknotes was approximately 25 percent of that found on cotton-based paper banknotes.

### 4. Why are polymer banknotes stronger?

Polymer banknotes are more durable and therefore more cost-effective than paper banknotes. They have been found to last at least **2 to 5 times longer than paper banknotes**, which offsets the high production cost. Canada has polymer banknotes that last 2.5 times the life of paper banknotes. Usability is even longer in New Zealand, which reported a useable life of 4.8 times that of paper banknotes.

Polymer banknotes are also water- and dirt-resistant.

### 5. What makes polymer banknotes more cost-effective than paper banknotes?

Given that paper banknotes in the Philippines last about **1.5 years, on average**, the BSP would only need to print polymer banknotes in amounts equal to a third or up to half the number of paper banknotes. This will lead to **significant savings in printing costs**. The savings will more than offset the difference in production cost.

<sup>1</sup> Riddell, S.; Goldie S.; Hill, A.; Eagles, D.; & Drew, TW. (2020). The Effect of Temperature on Persistence of SARS-CoV-2 on Common Surfaces. *Virology Journal*.

As of 23 June 2022



Scan the QR code or visit  
[bit.ly/PolymerPH](https://bit.ly/PolymerPH) to learn more.



Bangko Sentral ng Pilipinas



@BangkoSentral



@BangkoSentral



Bangko Sentral



## 6. Why was the 1000-Piso chosen to be the first polymer banknote instead of lower denominations (e.g., 50-Piso to 100-Piso)?

The 1000-Piso is the **most circulated currency** in the country, accounting for 33.2 percent of the total volume of all banknotes in circulation (20-, 50-, 100-, 200-, 500-, and 1000-Piso denominations) as of end-December 2021 (78 percent in value).

It is also the **most counterfeited denomination**, accounting for 48.6 percent of the volume of counterfeited banknotes in the country in 2021.

These two reasons make the 1000-Piso suitable for the initial circulation to test the durability and security features of polymer banknotes.

## 7. When will the BSP issue the new 1000-Piso polymer banknote? What is the timeline for the initial circulation?

The BSP will release for public circulation 500 million pieces of 1000-Piso polymer banknotes, in phases, starting April 2022 up to June 2023. This represents 31.9 percent of the estimated total volume of 1000-Piso banknotes in circulation.

The first bulk delivery of **10 million pieces** of polymer banknotes was made available to banks in April 2022. This is equivalent to 0.7 percent of the estimated total volume of 1000-Piso banknotes in circulation. The delivery of the **remaining 490 million pieces** of polymer banknotes will be from October 2022 to June 2023.

The issuance of polymer notes shall be complemented with targeted technical training for banks, machine suppliers, and cash-in-transit (CIT) service providers, as well as public information campaigns on the design, security features, and proper handling of these newly issued notes.

## 8. Will the banknotes be available via ATMs or will these be available through OTC transactions?

The 1000-Piso polymer banknote will initially be available through over-the-counter bank transactions. Banks are already working on making polymer banknotes available through their ATMs.

## 9. Can we use the new 1000-Piso polymer banknote for payment transactions?

Yes. The 1000-Piso polymer banknote is **legal tender**. One should not hoard or buy it

at a higher price. **They can be used for daily payments and transactions.**

## 10. Will the 1000-Piso paper banknote be demonetized?

No. There will be no demonetization of any currency under the leadership of BSP Governor Benjamin E. Diokno and the current Monetary Board.

The new 1000-Piso polymer banknote will be circulated alongside the existing New Generation Currency (NGC) paper banknote series featuring the three heroes: Jose Abad Santos, Vicente Lim, and Josefa Llanes Escoda.

This means that both the polymer and paper banknotes will be continuously printed over the next few years, and both can be used for payments and transactions.

## 11. What are the design elements of the 1000-Piso polymer banknote?

The design of the 1000-Piso polymer banknote is consistent with the principles of currency integrity, social relevance, efficiency, unified theme, aesthetics, and enhanced security features.

The **obverse side** features two of the country's national symbols—the Philippine Eagle (*Pithecophaga jefferyi*), as its focal point, and the Sampaguita (*Jasminum sambac*). The Philippine Eagle exemplifies the Filipino's uniqueness, strength, power, and love for freedom,<sup>2</sup> as well as a sharp vision for the country's future. Meanwhile, the Sampaguita symbolizes purity, simplicity, humility, and strength.<sup>3</sup>

The **reverse side** of the new 1000-Piso polymer banknote features images of the Tubbataha Reefs Natural Park, a UNESCO World Heritage Site, T'nalak weave design, and the South Sea Pearl.

## 12. Why feature the Philippine Eagle?

The Philippine Eagle is one of the world's most powerful birds of prey and is native to the Philippines. As such, it is a source of national pride and identity.

We find the Philippine Eagle apt for the 1000-Piso polymer banknote—the highest denomination—because **it depicts strength and love for freedom of Filipinos**, as well as independence and a clear vision of the BSP to help achieve **a better and more inclusive economy**.

Moreover, the Philippine Eagle is also one of our endangered species. As such, highlighting the importance of its

preservation, such as by featuring it in our banknote, is very apt and timely.

**This is not the first time we are featuring the Philippine Eagle in our currency.** It was featured in the 50-centavo coin that was in circulation for decades. It was also featured in the 500-Piso commemorative coin issued in 2018 to commemorate the 25th anniversary of the BSP.

BSP's selection of currency design themes is cyclical, and we feature our sources of national pride at various times and using different denominations. For example, *Lapulapu* was featured on the 1-centavo coin decades ago, and now he is on the 5000-Piso commemorative banknote. At present, the 1-centavo coin carries the flora and fauna theme.

## 13. Why choose flora and fauna? Why not keep the same design for the 1000-Piso polymer banknote?

Over several decades, the BSP has consistently featured both our national heroes and our country's natural environment in our currency.

The BSP has printed and minted more than 70 circulated and commemorative coins, banknotes, and medals featuring national heroes.

The BSP believes that both national heroes and flora and fauna are deeply important to the Filipinos' cultural and heritage promotion and preservation—and both are worthy of being celebrated through our coins and banknotes.

Selecting both these themes enables us to enrich our country's numismatic artistry and dynamism.

As with the heroes theme, the flora and fauna theme demonstrates our pride and distinction as Filipinos. The change is intended to remind Filipinos of our nation's commitment and actions to ensure a sustainable future for everyone, including the current and future generations of Filipinos. This is very important given the pressing challenges of climate change and other environmental risks.

Alongside financial sector regulators and relevant government agencies, the BSP contributes to promoting the sustainability agenda by mainstreaming and accelerating green and sustainable investments, including those that address climate change and encourage a resilient and low-carbon economy.

<sup>2</sup> Proclamation No. 615, Series of 1995 (<https://www.officialgazette.gov.ph/1995/07/04/proclamation-no-615-s-1995/?msclkid=78aa027da8c211eca7c2d8689e07f1b1>)

<sup>3</sup> National Commission for Culture and the Arts (<https://ncca.gov.ph/about-culture-and-arts/culture-profile/philippine-fast-facts/national-flower-sampaguita/?msclkid=c6db2e6aaa8611ec9b19eac3706d4c71>)





# SMARTER, CLEANER, and STRONGER: THE 1000-PISO POLYMER BANKNOTE

As of 8 December 2022

**1** Vertically aligned value panel with rolling bar effect

1000

**2** Small clear window with embossed Sampaguita image



**3** Five highly embossed dots as tactile feature for the visually challenged



**4** Philippine Eagle portrait



**6** Shadow thread



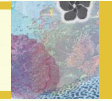
**5** Vertical clear window bearing optically variable devices such as the 3D denomination (obverse side only), seal of the Republic of the Philippines, logo of the Bangko Sentral ng Pilipinas—an iridescent blue figure and a tactile stylized flying eagle.



**7** Image of South Sea Pearl



**8** Tubтатаha Reefs Natural Park



**9** T'nalak weave design



Scan the QR code or visit  
[bit.ly/PolymerPH](https://bit.ly/PolymerPH) to learn more.

Portrait of the Philippine Eagle by Mr. Floyd P. Bermejo



BangkoSentralngPilipinas



@BangkoSentral



@BangkoSentral



bsp.gov.ph





# SMARTER, CLEANER, and STRONGER: THE 1000-PISO POLYMER BANKNOTE

## Security Features

As of 8 December 2022



Obverse Design Highlights: Philippine Eagle (*Pithecophaga jefferyi*) and Sampaguita (*Jasminum sambac*)



Reverse Design Highlights: Tubbataha Reefs Natural Park (UNESCO World Heritage Site), South Sea Pearl (*Pinctada maxima*), and Tnalak weave design

### 1 Polymer Substrate

**FEEL** the smooth surface. The banknote is one continuous sheet with transparent areas.



### 2 Enhanced Value Panel

**TILT** the note from left to right, and vice versa, to see the rolling-bar effect.



### 3 Sampaguita Clear Window

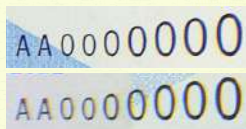
**LOOK** through the small transparent window depicting the **Sampaguita** (*Jasminum sambac*).

**FEEL** the transparent embossed line structures with the text "BSP" inside the flower on the front face of the note.



### 4 Serial Numbers

**LOOK** for two identical serial numbers composed of two prefix letters and seven asymmetric (increasing in size) digits.



### 5 Tactile Dots

**FEEL** the five highly embossed dots intended to assist the elderly and the visually impaired.



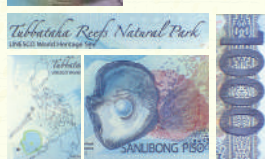
### 6 Embossed Prints

**FEEL** the raised ink that is rough to the touch.

**Front:** Philippine Eagle portrait, "REPUBLICA NG PILIPINAS," signatures, and the amount in words



**Back:** Philippine map, South Sea Pearl, "Tubbataha Reefs Natural Park," Tnalak weave design, denomination, and the amount in words



### 7 Shadow Thread

**LOOK** for the 5-mm vertical band on either side of the note when viewed against the light. The denominational value and "BSP" text appear in repeated series.



### 8 Vertical Clear Window

**LOOK** through the large transparent vertical window containing multiple security features.

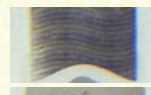


### 9 Metallic Features

**LOOK** at the details of metallic images and symbols in the vertical clear window.

**TILT** the note to see color changes and dynamic motion.

**Dynamic Waves.** Wavy lines on the front face of the note move when it is tilted back and forth.



**Republic of the Philippines Seal and Mirrored Denomination.** Both show moving vertical-line effects when the note is tilted back and forth.



**Bangko Sentral ng Pilipinas (BSP) Logo and 3D Denomination.**

On the **front**, the BSP logo and 3D denomination outline display a striking rainbow effect when the note is tilted at different angles. On the **back**, only the BSP logo is visible.



### 10 Blue Iridescent Figure

**TILT and LOOK** to see the figure that displays varying tones of blue when the note is viewed at different angles.



### 11 Flying Eagle

**FEEL** the transparent embossed outline of a stylized flying eagle.



Scan the QR code or visit  
[bit.ly/PolymerPH](https://bit.ly/PolymerPH) to learn more.

Portrait of the Philippine Eagle by Mr. Floyd P. Bermejo



BangkoSentralngPilipinas



@BangkoSentral



@BangkoSentral



bsp.gov.ph