PolkaBridge whitepaper
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I. Problem statement

Decentralized Financial (Defi) is a prominent trend in the blockchain sector and brings a lot of benefits to users in the market. Currently Decentralized applications (dApps) are mostly still deployed on Ethereum.

Polkadot is a platform blockchain developing strongly, and it has many advantages in terms of processing speed and scalability.

How can a user work on the Ethereum platform and interact with the Polkadot platform in only a dApp?

PolkaBridge was born for that.

PolkaBridge is a decentralized all-in-one application platform. One of PolkaBridge’s most noticeable products is the PolkaBridge DEX - a decentralized exchange that allows users to swap tokens on Polkadot to other ones on other blockchain platforms without any centralized organizations. In addition, with the smart farming mechanism, liquidity providers can earn more rewards than they think.

II. Products

1. PolkaBridge DEX
   1.1. Cross-chain swap

PolkaBridge provides a swap functionality from Polkadot to other blockchain platforms such as Ethereum, Binance Smart Chain without intermediaries.

PolkaBridge uses Moonbeam’s solution (Parachains on Polkadot), allowing smart contract to run on Polkadot. That means that PolkaBridge will use 2 smart contracts at the same time to swap, one on the Polkadot platform and other on the corresponding blockchain platform.

Example for swapping from ETH (on Ethereum) to DOT (on Polkadot):
- On UI, users will find one pool called ‘ETH-DOT pool’. This pool actually includes 2 pool: one contains ETH on ERC20, one contains DOT. Users will swap token through liquidity of this pools. Liquidity providers will be able to claim rewards when users swap. Provide more liquidity, get more rewards. See how to calculate rewards in Farming section.
- The user’s ETH will be transferred to the ETH pool of ETH-DOT pool. Here, based on the data of existing tokens in the pool to calculate the conversion rate to DOT. After calculating the amount of DOT, the smart contract (Moonbeam) will return to the user’s wallet. The swap process is completed.
- Users will be allowed to choose a slippage rate from the UI dApp to swap out. Note the higher the slippage, the higher the risk.

Assuming the current ETH price is 1000$, and DOT price is 10$. In the pool there will be ETH and DOT at the rate of 1 ETH: 100 DOT. In this example, the pool will have 100 ETH and 10,000 DOT. When the user wants to swap x ETH to
DOT, the number of DOT received will be calculated according to the following formula:

\[ LP\ DOT - \frac{LP\ ETH \times LP\ DOT}{x + LP\ ETH} \]

So, this user will receive 99.00990099 DOT, slippage is 2.01%.

1.2. Deflationary Farming

Liquidity provider will be able to earn rewards even when sleeping. All rewards will be paid by PBR token.

All transactions moving PBR attaches a small fee worth equal to 0.5% of total amount. This fee is planned into 2 pools:

- 90% shared for all farmers (liquidity providers on PolkaBridge DEX)
- 10% burned. All of them will be burned every month since TGE.

For example, PBR’s current price is 0.1$ and there are 10 pool on PolkaBridge. When a user swap 1,000 USDT to PBR (on any exchange, DEX), in theory that user should receive about 10,000 PBR (slippage not included). But because of the deflation mechanism, the user only gets about 9,950 PBR. The remaining 50 PBR will be divided into 2 parts: 5 PBR will be put in the burning pool, the other 45 PBR will be shared among 10 farming pools based on the amount of liquidity on each one. So, farmers can earn their own rewards without minting any PBR tokens.

With this mechanism, the supply of PBR token will decrease over time, making a positive impact on price of PBR.

Reward is calculated by following formula:

\[ \text{Reward} = \text{numbershare} \times \frac{\text{fees/trans}}{\text{total pool}} \]

Another example, the system has an existing DOT-USDT pool with a current LP of 10,000 USDT and 1,000 DOT. Suppose a user has 2,000 USDT and wants to join in farming, now the user needs to add 1,000 USDT and 100 DOT (bought by 1,000 USDT at a price of 10$ per DOT, not including slippage for ease of understanding) to the pool. At this point, this user’s LP DOT-USDT (share) in the pool is 100/ (1,000 + 100) = 9.091%. So, when 1,000 PBR is added to the pool as reward, the user will earn 90.91 claimable PBR.

2. PolkaBridge Lending
Coming soon

3. PolkaBridge Launchpad

Coming soon

III. PBR token

PBR is a native token in the PolkaBridge ecosystem.

The main features of the PBR token in the PolkaBridge ecosystem:

1. **Rewards for farming**: Like other Defi platforms, there will be many pools to farming. Liquidity providers will earn an amount of PBR corresponding to total amount of liquidity that he added.

2. **Governance**: PBR holders have the right to vote to change parameters, features and development roadmap of the PolkaBridge ecosystem in the future.

3. **Lending fee**: Using PBR as fee to borrow on PolkaBridge Lending, the user will receive a 50% discount, and the remaining 50% will be burned to optimize deflation mechanism.

4. **Launchpad**: To participate in future projects on PolkaBridge Launchpad, a user must hold a certain amount of PBR to be whitelisted.

In addition, PBR plays an important role in the development and expansion of the PolkaBridge ecosystem in the future. Marketing strategies, bounty, listing exchanges will also use PBR as rewards and fees.

IV. Secure

Defi is becoming more popular and offers great value for cryptocurrency investors. The total value locked (TVL) in Defi has reached more than 10B $ in 2020. However, there is still a problem that Defi has a lot of flaws that hackers have exploited & caused huge damage to the user.

There are several solutions that PolkaBridge will implement to maximize the level of system security:

- A smart contract audit: All PolkaBridge’s smart contracts, before running the mainnet, will be fully audited by reputable third party such as Quant stamp, Cretic, Consensys ...
- The system monitors transactions on dApp: Detecting unusual transactions, such as large volume transactions, high frequency transactions in a short time, the actions of whales, ...
- Pause contract system immediately if something goes wrong
- Reserve fund for compensation if any loss occurs
V. **Tokenomics**

Total supply: 100,000,000 (100M) PBR. Token allocation detail:

1. **Presale**: 20% (20M). Presale tokens will be unlocked right after listing Uniswap. Tokens that were not sold in the presale will be burned. Detail of the presale will be announced on PolkaBridge’s media channels soon.

2. **Initial Uniswap liquidity**: 10% (10M). After presale, PBR will be listed on Uniswap for trading. It’s expected to add 60% amount of ETH from presale.

3. **Ecosystem**: 30% (30M). This fund is used to develop the ecosystem of PolkaBridge. Functions that will be developed in the future, issues related to legalities with development ... 30M tokens in the Ecosystem fund will be unlocked 1M tokens per month since TGE. Therefore, it takes 30 months.

4. **Marketing, Airdrop, Bounty**: 20% (20M): This fund is used for the purpose of developing the community, products and ecosystem of PolkaBridge and implementing marketing campaigns, advertising, bounty. 1M tokens will be released every month since TGE.

5. **Foundation**: 20% (20M). This fund is shared between the founders of PolkaBridge. All of them will be locked for 2 years. The release schedule is 5M tokens every 6 months since TGE.

All the lock and unlock tokens will be done automatically by the PolkaBridge smart contract on the Ethereum platform, and no one will be able to intervene or change.

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**PBR token release schedule**

VI. **Roadmap**

We have a long-term roadmap; you can expect totally.
1. Q3, 2020:
   - Research on Defi & cross-chain solution
   - Research on Polkadot Ecosystem
2. Q4, 2020:
   - Team forming & project barnstorming
   - Design Tokenomics for PolkaBridge token (PBR)
3. Q1, 2021:
   - Develop smart contract and web
   - Whitepaper
   - PBR token IDO
   - Listing PBR on Uniswap
   - Listing on PolkaProject
   - Farming
   - Listing on tier-2 CEXs
4. Q2, 2021:
   - Launchpad
   - Migrating PBR to Polkadot parachain testnet
5. Q3, 2021:
   - Multichain DEX (Ethereum, Binance Smart Chain)
6. Q4, 2021:
   - Migrating PBR to Polkadot parachain mainnet
   - Integrating Polkadot parachain to Multichain DEX
7. Q1, 2022:
   - Crosschain DEX
8. Q2, 2022:
   - Lending
   - Prediction
   And more soon…

VII. Disclaimers

The purpose of this whitepaper is to present the PolkaBridge cryptocurrency. The information set forth herein may not be exhaustive and does not imply any elements of a contractual relationship. Its sole purpose is to provide relevant, reasonable information to potential investors and participants in order form them to determine whether to undertake a more thorough analysis of the offering.

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Cryptocurrency exchange rates have exhibited strong volatility to date and the extent of exposure to potential loss could extend to the entire cryptocurrency investment. Many factors outside of the control of PolkaBridge will affect the market price of cryptocurrencies, including, but not limited to, national and international economic, financial, regulatory, political, terrorist, military, and other events, adverse or positive news events and publicity, and generally extreme, uncertain, and volatile market conditions. Extreme changes in price and ability to sell/exchange may occur at any time.