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Going Cashless: Norway's Digital Currency Project Raises Privacy Questions

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The small Nordic country of Norway may not be particularly notable on the global crypto map. With its 22 blockchain solution providers, the nation doesn't stand out even at the regional level.

However, as the race to test and implement central bank digital currencies (CBDCs) accelerates every day, the Scandinavian nation is taking an active stance on its own national digital currency. In fact, it was among the first countries to begin the work on a CBDC back in 2016.

Dropping cash

In recent years, amid a rise in cashless payment methods and concern over cash-enabled illicit transactions, some Norwegian banks have moved to remove cash options altogether.

In 2016, Trond Bentestuen, then an executive at major Norwegian bank DNB, proposed to stop using cash as a means of payment in the country:

> "Today, there is approximately 50 billion kroner in circulation and [the country's central bank] Norges Bank can only account for 40 percent of its use. That means that 60 percent of money usage is outside of any control."

A year before that, another large Norwegian bank, Nordea, also refused to accept cash, leaving only one branch in Oslo Central Station to continue handling cash.

This sentiment came in parallel with Bitcoin enthusiasm, as DNB enabled its customers to buy BTC via its mobile app, local courts demanded that convicted drug dealers pay their

fines in crypto, and local newspapers widely discussed investments in digital assets.

Last year Torbjørn Hægeland, executive director for financial stability at Norway's central bank, Norges Bank, outlined to the project's goal of replacing cash use in the country:

> "With this background, the decline in cash use and other structural changes in the payment system are key drivers for the project."

The experimental phase of the Norwegian CBDC will last until June 2023 and end with recommendations from the central bank on whether the implementation of a prototype is necessary.

Ethereum is the key

In September 2022, Norges Bank released the open-source code for the Ethereum-backed digital currency sandbox. Available on GitHub, the sandbox is designed to offer an interface for interacting with the test network, enabling functions like minting, burning and transferring ERC-20 tokens.

However, the second part of the source code, announced to go public by mid-September, has yet to be revealed. As specified in a blog post, the initial use of open-source code was not a "signal that the technology will be based on open-source code," but a "good starting point for learning as much as possible in collaboration with developers and alliance partners."

Earlier, the bank revealed its principal partner in building the infrastructure for the project — Nahmii, a Norway-based developer of a layer-2 scaling solution for Ethereum of the same name. The company has been working on this scaling technology for Ethereum for several years and has its own network and tokens. At this point, the test network for the Norwegian CBDC uses not the public Ethereum ecosystem, but a private version of the enterprise blockchain Hyperledger Besu.

In late 2022, Norway became part of Project Icebreaker, a joint exploration with the central banks of Israel, Norway and Sweden on how CBDCs can be used for cross-border payments. Within its framework, the three central banks will connect their domestic proof-of-concept CBDC systems. The final report for the project is scheduled for the first quarter of 2023.

Local specifics, universal problems

In terms of hopes and fears, what defines the Norwegian CBDC project among others is the national regulatory context. Like its geographical neighbors, Norway is known for its cautious approach to the digital assets market, with high taxes and the relatively small scale of its domestic crypto ecosystem — a recent study by EU Blockchain Observatory estimated its total equity funding at a modest $26.9 million.

Norwegian serial entrepreneur Sander Andersen, who has recently moved his fintech company to Switzerland, doubts that the upcoming project will co-exist peacefully with the crypto industry. There are already more than enough problems for tech entrepreneurs in the country, he said in a chat with Cointelegraph:

> "Despite the country's strong infrastructure for entrepreneurs in other

> industries, such as low energy costs and free education, these benefits do not extend to the digital realm. The tax burden faced by digital companies makes it nearly impossible to compete with businesses based in more business-friendly jurisdictions."

As central bank digital currencies have the potential to compete with private cryptocurrencies, and the goal of any government is to control financial transactions as tightly as possible, Andersen doesn't see Norway among the exceptions:

> "The Norwegian central bank's CBDC project can also pose a threat to the legal status of private stablecoins in the country. The introduction of a CBDC may prompt increased regulation and oversight of private stablecoins, making it harder for these companies to operate."

Speaking to Cointelegraph, Michael Lewellen, head of solutions architecture at OpenZeppelin, a company contributing its contracts library to the Norges Bank project, doesn't sound so pessimistic. From a technical perspective, he emphasized, there is nothing stopping private stablecoins from trading and operating alongside CBDCs on both public and private Ethereum networks, especially if they use common, compatible token standards such as ERC-20.

However, from a policy perspective, there's nothing that can stop central banks from performing financial gatekeeping and enforcing the Know Your Customer (KYC) standards, and this is where the CBDC looks like a natural development. Banks will not sit idly by as the blockchain ecosystem grows, as there is a lot of shadow-banking activity happening on-chain, Lewellen specified, adding:

"CBDCs offer central banks the ability to better perform gatekeeping and enforce KYC rules on CBDC holders, whereas enforcing the same standards against entities using non-governmental stablecoins is far more challenging."

Could Norway's CBDC offer anything reassuring in terms of users' privacy? It's hardly possible from both technological and strategic points of view, Lewellen said. Today, a mature solution doesn't exist that would allow privacy in a compliant manner regarding the use of CBDCs.

Any national digital currency would almost certainly require every address to be linked to an identity, using KYC and other means we see in banks today. In fact, if done on the private ledger, like the one that Norges Bank is testing right now, the CBDC will offer not only less privacy for a single customer, but at the same time less public transparency with regard to blockchains.

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