EVCL

Public Electric Vehicle Charging Platform

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01 Background and Necessity

1-1 Electric Vehicle

Electric vehicles were unexpectedly developed in the 19th century, earlier than internal combustion engine cars.

However, in those days, electric cars had problems with the heavy weight of the battery, the charging time was too long, and the short mileage.

Then, Ford's T-car launch and oil field were discovered in the United States, losing competitiveness in higher prices and fuel costs than internal combustion locomotives, and all electric vehicles withdrew from the market in 1990 due to the abolition of the emission reduction law.

As Arctic glaciers have recently melted and environmental problems such as earthquakes and tsunamis have emerged, countries around the world are expanding related policies and increasing marketability to continue the supply of electric vehicles.

Then it wasn't until the mid-2000s that commercialization and technological development took place in earnest.

Stage 1
(1828~1900)

1828:Design of the first EV model device
1833: invention of electric wagons
1865: Inventions of Storage Batteries for Ev
1886: EV Taxi Cap Launches
1888: Three-wheel EV production, four-seater 1Hp production for the emperor
1890: Popularization of Morrisons EVs and more 1899~1900 1681 steam cars, 1575 EVs, 936 engines
1904 2,000 taxis, trucks, and buses were built
About 4,000 EVs Produced by 57 Small and Medium Businesses

Stage 2
(1900~2008)

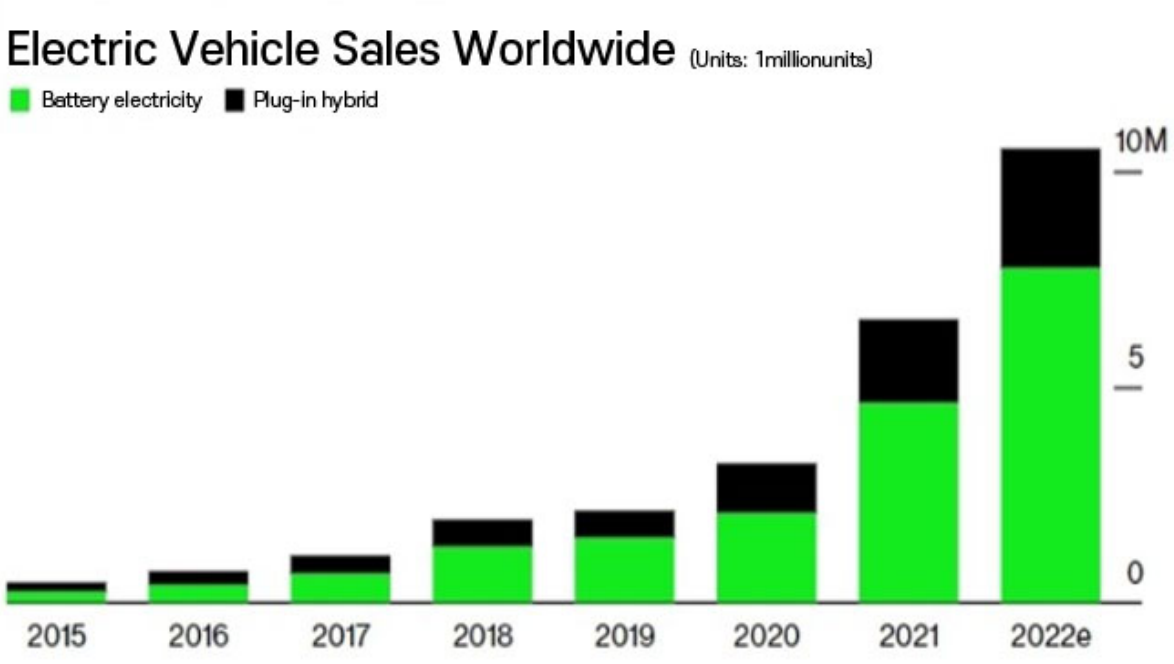
1904: Ford Engine Car Production -> EV Reduction
1920: Crude oil found, engine vehicle 1K$, EV3K$
1980 CAE/Zero legislation, GMEV1 development
1990: LA Auto Show EV1 IMPACT Launches 1996: EV1 Launched, 1150 Rental Operations
2004: GM EV1 Recovery, Disposal-> Toyota Prius Development

Stage 3
(2008~ present)

2008: Energy, environmental regulation, soaring oil prices, financial crisis-> Creating an EV growth environment
2010: GM Volt Launch -> triggering global EV development
*W/Motor Show, EV Concept Car Expansion
2011: F/Motor Show EV Launch
*GM, Benz, Volvo, Audi, Volkswagen, Renault
2012 Tesla EVS Launches (383KM)
2015: IONIQ(191KM)
2018: KONA(396KM)

1-2 Current Status and Prospects of Electric Vehicle Industry

Bloomberg NEF, a market analyst, recently said that global electric vehicle sales were expected to exceed 10 million units for the first time in 2022 to reach 10.5 million units.
This is 60% more than 6.6 million units in 2021, and Bloomberg's tally of electric vehicles includes plug-in hybrids.
As a result, electric vehicles account for 14% of the total automobile market, which is expected to settle in double digits.
This shows an explosive growth rate of 10 times in just five years since it exceeded 1 million units in 2017.
Bloomberg cited two major factors for the rapid growth of electric vehicles.
One is a parallel policy that supports emission regulations and consumers' options as new electric vehicle models are released one after another.

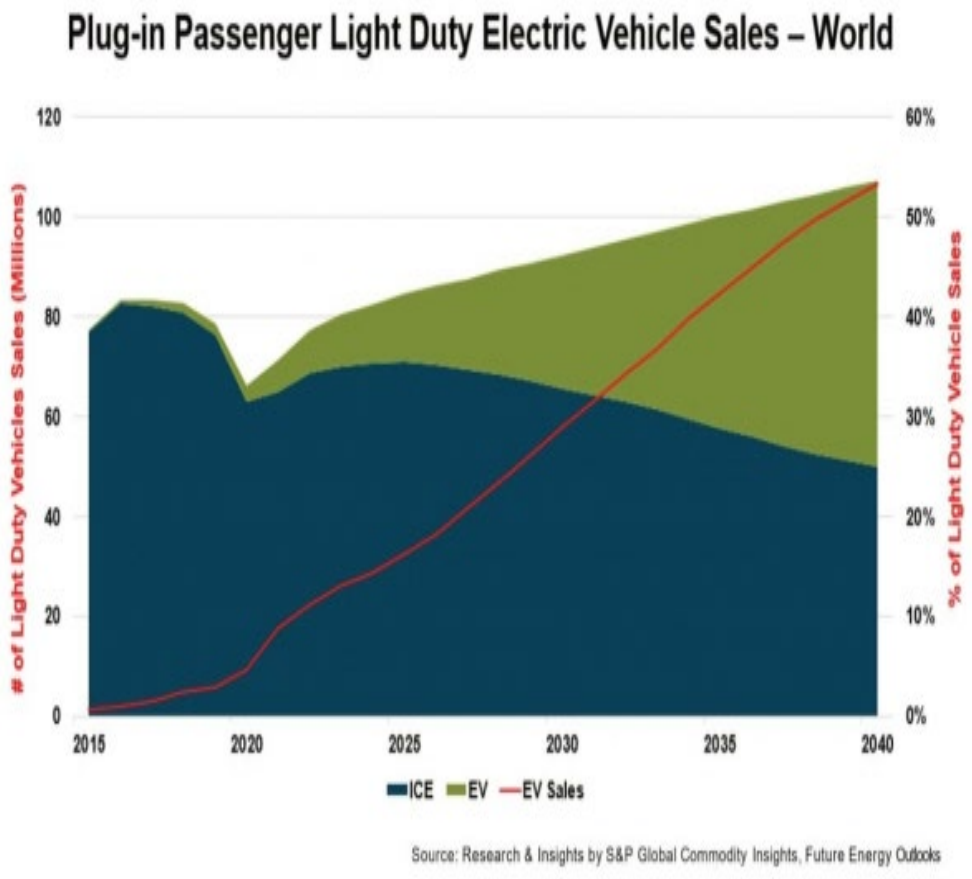


The source of Data : BloombergNEF

Based on this, S&P Global Plats, a global energy information analysis company, said that internal combustion locomotives have entered a downward trend since their peak in 2016, and that rapid growth of electric vehicles will continue.

As a result, electric vehicle sales in 2030 are expected to exceed internal combustion locomotives, accounting for about 30 percent of the total automobile market, and expanding to 57 million units in 2040 .

However, according to a recent tally of electric vehicle sales targets from 20 major automobile manufacturers (OEMs) including Tesla, Volkswagen, BYD, and Hyundai and Kia, on average, their overall sales reached 56% (46 million units) in 2030 and 84% (80 million units) in 2040. Five companies are planning to convert 100% of electric vehicles by 2030 and 12 by 2040.



02 Problems in the Electric Vehicle Industry

2-1 Problem with a lack of chargers

The International Energy Agency (IEA), which releases its annual electric vehicle outlook report, said in a data released last year that there are 1.3 million public electric vehicle charging stations around the world at the end of 2020.
The figure is far short of the 40 million public charging stations that the IEA sees as necessary by 2029.
In December 2021, the Boston Consulting Group (BCG) predicted that 6.5 million public charging stations will be installed in Europe, China, and the United States, the world's top three electric vehicle markets, and the IEA analyzed that $90 billion should be invested annually to increase charging stations to 40 million by 2029.
The Economist, a British economic magazine, cited data from Bloomberg NEF, an energy market research firm, in December last year about the slowing supply of electric vehicles. This is small compared to the prediction that it will cost 600 billion dollars (about 716 trillion won) to charge electric vehicles if less than one-third of the world's car sales in 2030.
The IEA predicts that 200 million public charging stations will be needed to achieve carbon neutrality by 2050 and considering the IEA's optimistic outlook compared to other institutions, more electric vehicle charging stations are actually needed.

2-2 Problems with Charger Occupancy

If a vehicle other than an electric vehicle is parked in a charging area or a charged electric vehicle occupies it, considerable inconvenience and complaints will occur to the owner who needs to be charged.

This phenomenon is occurring a lot as the electric vehicle penetration rate increases. Not only in Korea but also in some countries, regulatory measures are being made around the government and local governments to impose fines if ordinary vehicles park in electric vehicle charging areas or if they do not move and park charged vehicles.

In this approach, a charging system based on time spent on the charger should be utilized, not a charging system based on the amount of charging power generated when the charger is used.

Parking in the electric vehicle charging area is only for charging the electric vehicle, and if charging is completed, leaving the charging area empty for charging others should be the basic condition of the electric vehicle charger usage rule.

By applying the charging rate system to the use of chargers and charging areas, it is possible to increase the possibility of using chargers for inventory of charged electric vehicle movement parking recognition and occupying charging areas.

This EVCL platform for a reasonable increase in convenience for electric vehicle users will be a solution to the problem by introducing the concept of charging for chargers and charging area occupancy as well as charging for chargers.

2-3 Complexity of traditional charging platforms

There are various types and types of personal and public chargers that exist.
Private chargers used by electric vehicle owners have a simple structure and are relatively cheaper than public chargers, while public chargers require expensive manufacturing costs, operation, management, and maintenance due to various combinations of devices such as control, communication devices, and infrastructure management platforms.
In addition, the cost of building services between operators that charge public chargers for roaming services will be added, increasing the burden on electric vehicle users.
There are structural complications such as settlement process according to the settlement of usage fees between charging operators, dual server load according to settlement process, and inconvenience caused by third-party intervention for settlement, and energy consumption for administrative processing is incurred.
Due to these inconveniences, each charging company's own system and the self-developed charger are hindering the establishment of integrated roaming services among charging companies, and increases the cost of development, operation, and settlement.
Overall, it is resulting in an increase in charging charges for electric vehicle users to operate the service.

03 EVCL

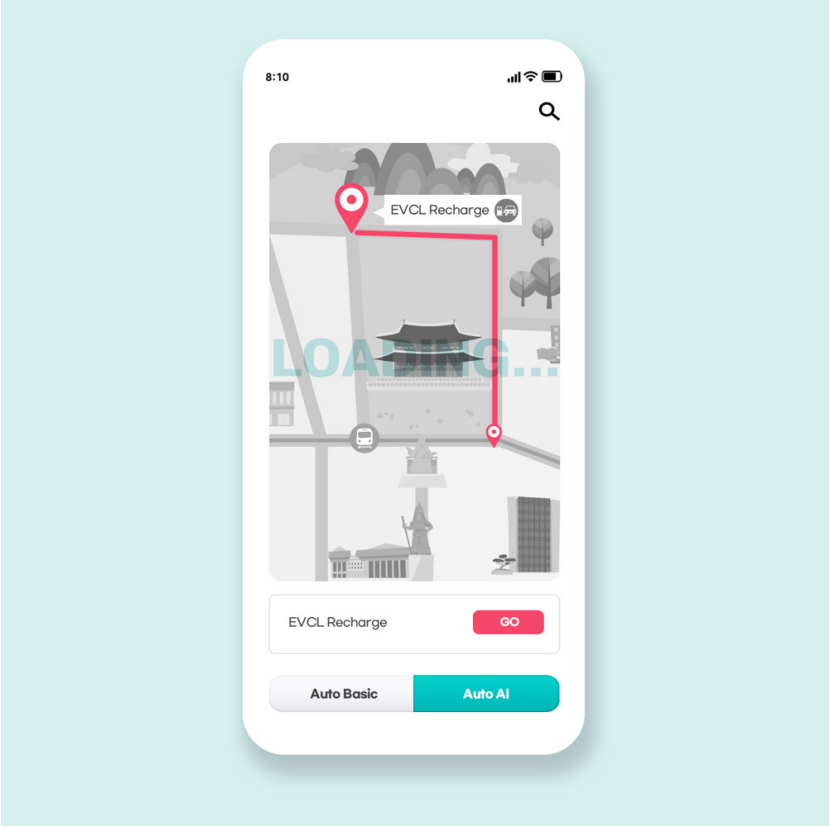
EVCL uses ERC-20 cryptocurrency issued based on blockchain technology to receive tokens as rewards through services that can charge electric vehicles, reviews of charging stations, and driving mileage.

In addition to charging-related services, EVCL provides vehicle-mounted features optimized for electric vehicles.

EVCL will provide convenient and transparent vehicle-related services through blockchain technology, and as a platform app, it will be an essential item for all electric vehicle owners and a reliable vehicle management advisor. EVCL's platform will help global efforts to solve problems that have been steadily raised by electric vehicle users and turn them into pollution-free vehicles.

04 EVCL Recharge

4-1 Location-Based Charging Station Exploration



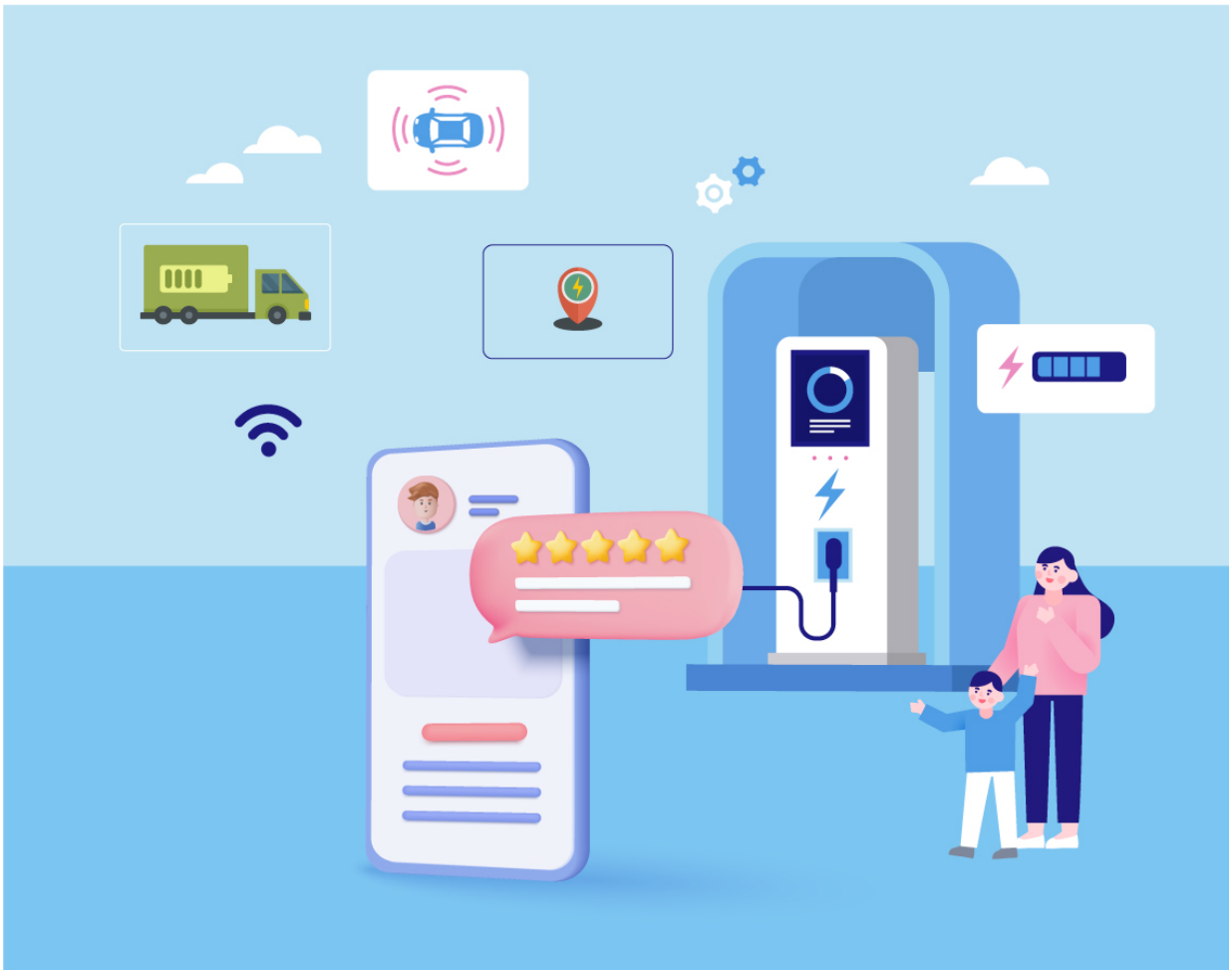
Depending on the driver's location, it finds the closest and most suitable charging station to the vehicle.

When the user enters information such as the charging type and average charging time of the vehicle he owns in EVCL APP, the user automatically finds the nearest charging station based on the location of the vehicle.

At this time, the user's location information is processed by the blockchain server and is safe from information leakage.

After that, in conjunction with Kakao Navigation and Naver Maps, When you select a charging station in the EVCL APP, it will automatically connect you to the navigation app and make the route searchable.

4-2 Review and Reward



After completing charging at the charging station, the user can leave a review of the charging station usage and give stars according to the evaluation items.

If you evaluate the accessibility of charging stations, availability of large vehicles, operation of charging devices, and convenience facilities such as toilets near charging stations, you can receive EVCL tokens as rewards, and additional rewards will be given to excellent reviewers with high community contributions.

The user's review is stored on the blockchain server and cannot be forged or altered, and the user's visit information and personal information are also safely stored.

05 EVCL direction of business

5-1 EVCL Token Payment System

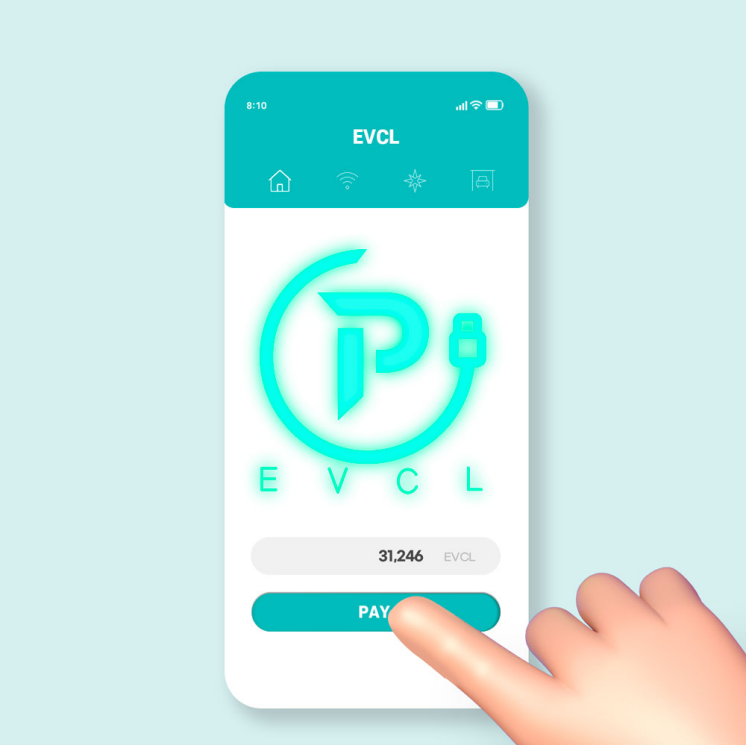
EVCL aims to develop and build all systems that combine OCPP, a domestic and foreign infrastructure service charging standard, and blockchain technology based on the Ministry of Environment's guidelines for building electric vehicle charging stations.

Although each charging system is not integrated and does not provide an efficient environment for both charging operators and electric vehicle users, EVCL will build an EVCL platform ecosystem that provides real-time integrated management of charger/discharge/charger data to provide a more efficient environment.

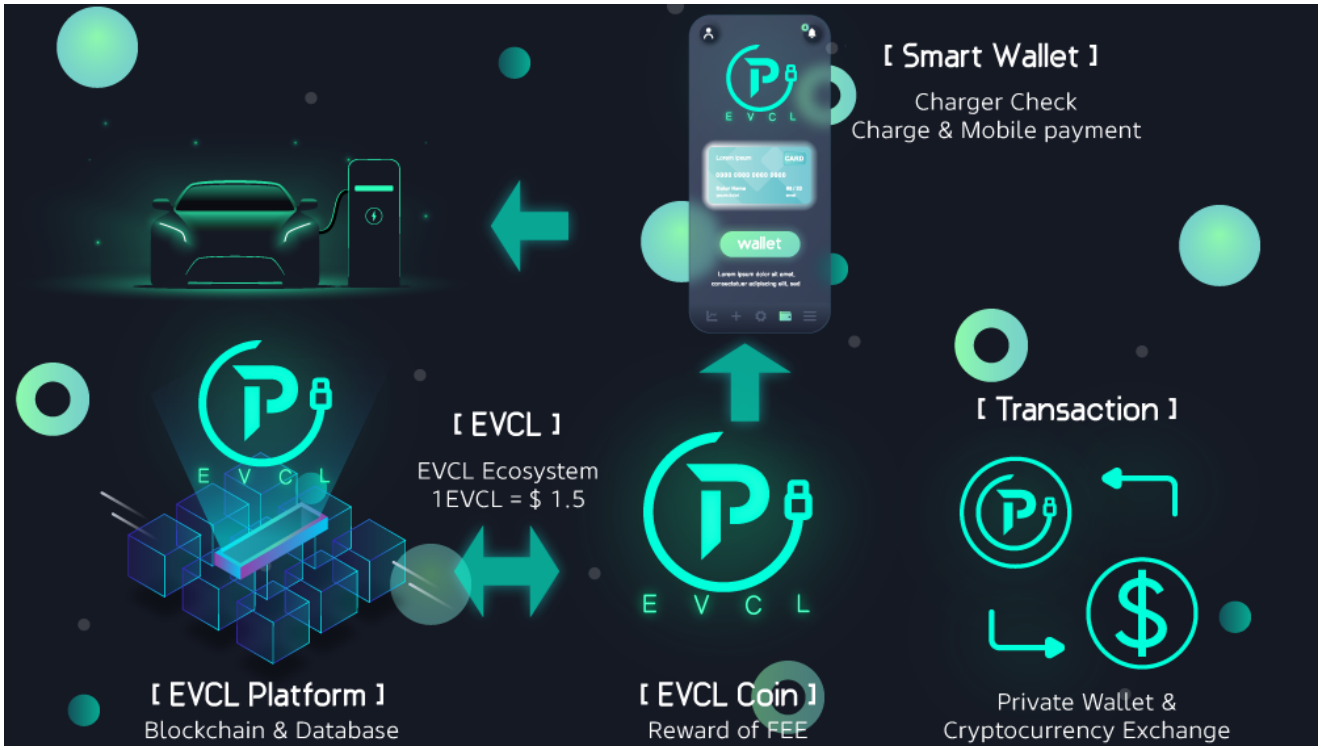
This platform will utilize the blockchain to ensure data stability, solve reliability problems at the same time, and enable continuous tracking of charging data.

It can also be used for payment using EVCL tokens, and a certain percentage of the payment amount will be compensated with EVCL tokens when paying for the charger.

The token will also be available for trading on the virtual asset exchange as well as on the EVCL platform.



5-2 EVCL Architecture



EVCL's blockchain architecture can be viewed as a cryptographic payment platform in one IoT ecosystem based on EVCL modules.

When an electric vehicle user approaches a charger for charging, it is not exposed to the user, but the service can be used through numerous data exchanges between infrastructure layers built on the EVCL platform network.

In this case, the service scenario will check the status of the charger available to the electric vehicle user's smartphone and other communication terminals, receive encrypted data for payment, go through the authentication process, and start charging.

Here, payments are made within an EVCL platform based on blockchain technology, which is a transaction between EVCL with equal cash and equivalent value and EVCL token, a reward for charging charges, which is a key meaning of exchange of value.

This is a key technology in the payment process to understand EVCL token blockchain architecture.

06 EVCL Economy

Publication Information

Coin name	Symbol	Protocol
EVCL	EVCL	ERC - 20

Total Supply

250,000,000

- Early Investor 10 %
- Advisor & Team 10%
- Partner 10 %
- Marketing15 %
- Token Sale 20 %
- Rewards 30 %

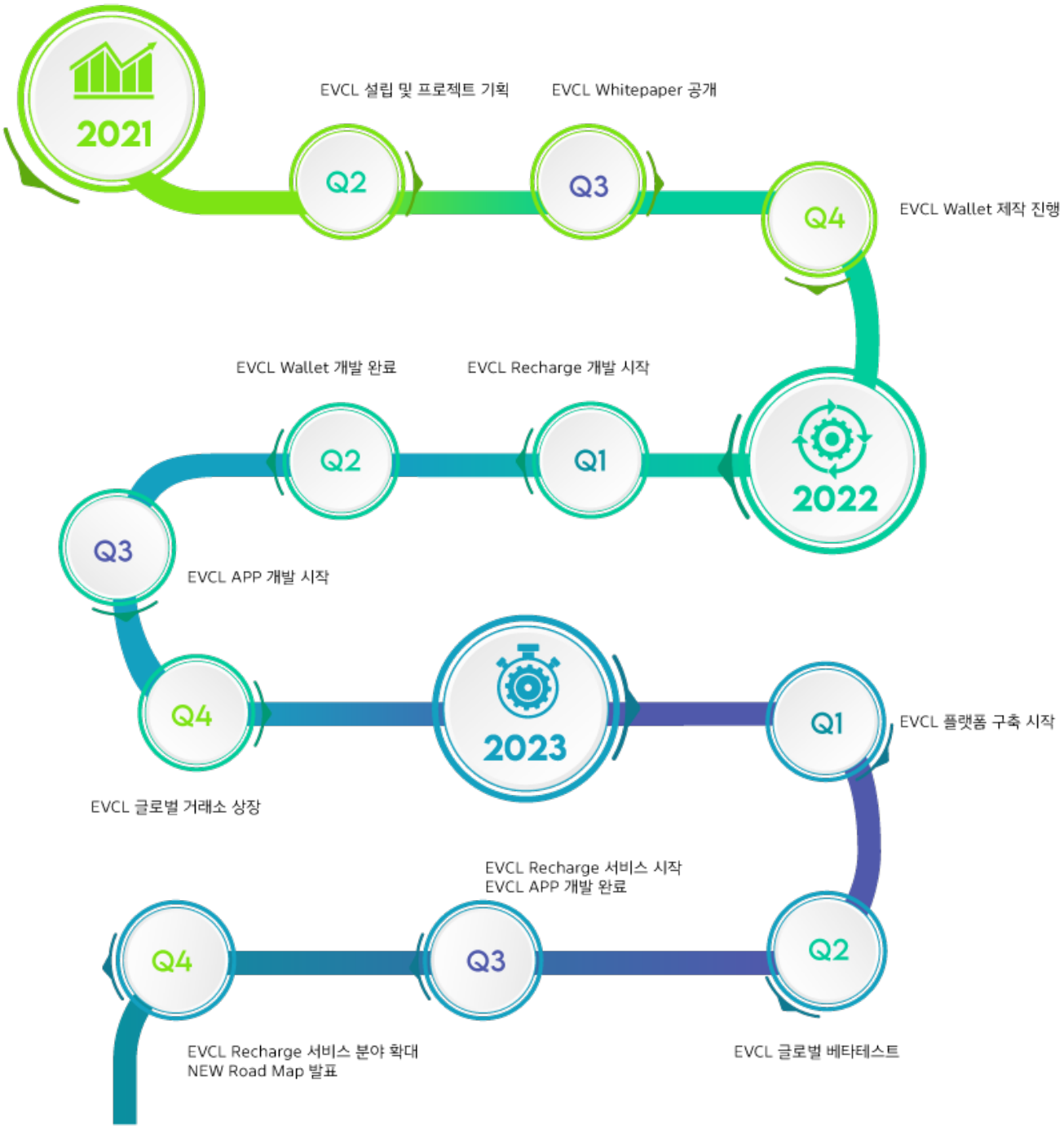
Total Supply : 250,000,000

6-1 EVCL Platform Initial investor incentives

EVCL will provide a more efficient environment by incorporating situations where existing charging systems are not integrated and therefore are not available to both charging operators and electric vehicle users, which will generate significant revenue.
Based on these expected returns, incentives are provided to early business investors as a means of increasing participation and interest.

초기 투자자 추가 인센티브	
구매 수량	인센티브
1~10,000	10%
10,001~30,000	20%

07 Road Map


2021
EVCL 설립 및 프로젝트 기획
EVCL Whitepaper 공개
Q2
Q3
Q4
EVCL Wallet 제작 진행
EVCL Wallet 개발 완료
EVCL Recharge 개발 시작
Q2
Q1
2022
Q3
EVCL APP 개발 시작
Q4
2023
Q1
EVCL 플랫폼 구축 시작
EVCL 글로벌 거래소 상장
EVCL Recharge 서비스 시작
EVCL APP 개발 완료
Q4
Q3
Q2
EVCL Recharge 서비스 분야 확대
NEW Road Map 발표
EVCL 글로벌 베타테스트

08 Escape Clause

EVCL members and stakeholders will do their best to ensure the success of the project. However, even if you comply with the development schedule presented in the roadmap and start the service, the project may not be as successful as expected due to lack of public interest or changes in the external environment.
Therefore, individuals and corporations investing in EVCL should be aware that this project poses significant investment risks and should not participate in EVCL investments if they cannot afford it.

This white paper is intended for information delivery, and the contents of this white paper are only one indicator. The purpose of this white paper is to cover a summary and introduction to EVCL Recharge that EVCL is preparing.

Therefore, EVCL is not responsible for any particular decision making based on what is written in the White Paper.

We would like to inform you that all information or analysis in this white paper cannot be the basis for investment decisions and is not any investment proposal or advice.
We would like to inform you that any future planned content or data in this white paper may, for any reason, be inaccurate and have no guarantee or commitment to that content.

EVCL shall not be liable for any compensation, compensation or other liability for any type of damage, loss, or liability arising from the investor's reading of this White Paper, or any future proceeds or losses arising from the transaction of tokens or tokens.

Before participating in activities under the white paper, participants should contact other experts, such as law, finance, and tax, seek advice, and decide to participate at their own responsibility.

At this time, EVCL does not guarantee any future development of services provided by EVCL, and the roadmap provided in the White Paper is merely a reference to the development of services provided by EVCL, which may vary depending on EVCL's circumstances.

In transactions of tokens in EVCL, EVCL and EVCL participants in token transactions shall not provide, distribute, resell, or transfer EVCL tokens to citizens, natural persons, corporations (hereinafter referred to as "participation restrictors") in areas where laws and policies of the country prohibit or restrict digital token transactions.

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The information contained in this white paper has not been verified or authorized by any regulatory body, and any act against the law shall not be effective against EVCL.

The publication and distribution of this White Paper does not guarantee compliance with all of the regulations of the country in which it was issued.
The official data for EVCL is this white paper and is written in Korean.

This white paper may be translated into other languages and may be used to communicate verbally or in writing with prospective buyers and existing buyers, which may lead to some information being distorted, misinterpreted or lost.

Therefore, please be aware that the accuracy of these alternative communications cannot be guaranteed.

In the event of inaccurate communication, the information in this official white paper written in Korean takes precedence.

EVCL notifies buyers of a number of risks, including the risk of losing money on EVCL purchases.

The accuracy of the information on risk or uncertainty written below is not guaranteed. Purchasers are deemed to have agreed to be aware of and purchase the risk as it stands, apparently without any form of guarantee from EVCL, as the sale and possession of EVCL.

1. Blockchain Risk: Blockchain system congestion can cause transactions to be processed late or invalidated. In particular, smart contracts in charge of issuing and distributing EVCL tokens are based on technology called Ethereum Blockchain. The Ethereum protocol may have weaknesses and vulnerabilities, and various bugs can occur, including those in which EVCL tokens are lost. These Ethereum blockchain problems can also cause material damage to EVCL token buyers.

2. Personal Information Risk: User's personal information is required for distribution and control of EVCL tokens in EVCL buyers' electronic wallets. Therefore, if personal information is leaked, EVCL tokens in the buyer's electronic wallet may be leaked. Moreover, due to the leakage of buyer's personal information, third parties may browse the buyer's e-wallet and steal EVCL tokens.

3. Security Risks: Like all other cryptocurrencies, Ethereum is vulnerable to mining attacks such as 'double payment attacks' or '51% attacks'. Hackers or other malicious groups can attack EVCL or EVCL tokens in the same way as above, and successful blockchain attacks can seriously damage EVCL token transactions.

4. Electronic Wallet Compatibility Risk: To purchase or store EVCL tokens, you must use an electronic wallet that is technically compatible with EVCL tokens. If you use a different wallet, you may not be able to access the EVCL token you purchased.

5. Force Majeure Risk: EVCL Charge is still under development and EVCL will try to develop and maintain EVCL Charge as it is written in the white paper, but changes can occur for a number of reasons, including legal, design, technical and administrative regulations.

EVCL is not responsible for liquidity loss or loss due to force majeure factors such as introduction of platforms or open sources that adversely affect EVCL or EVCL tokens, or lack of market interest