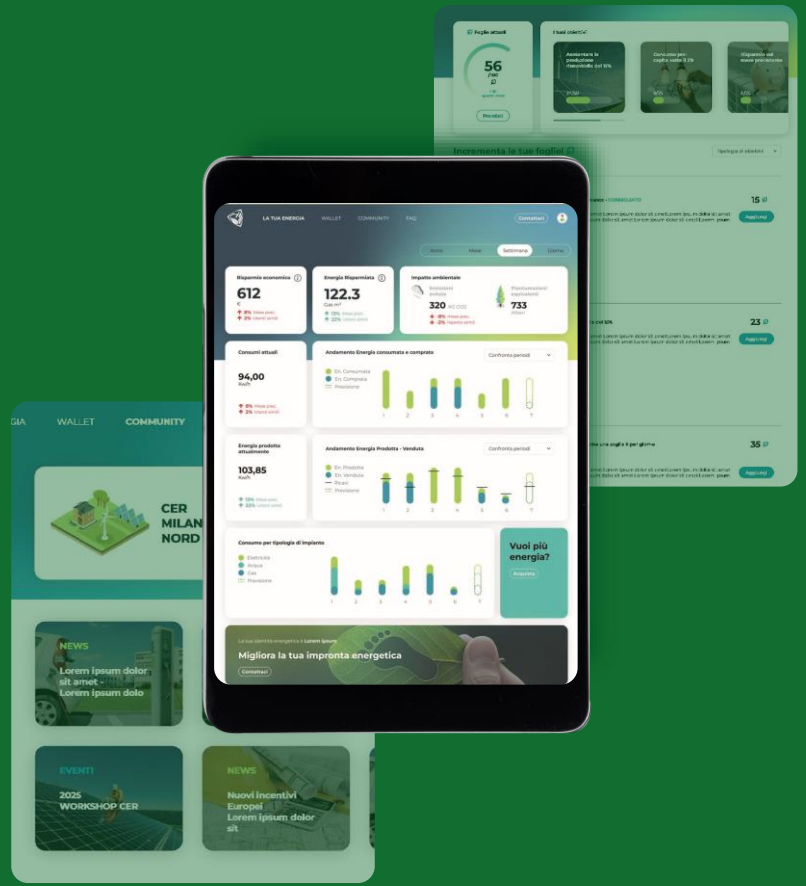
innovazione
ambiente
finanza

HUB green PROJECT

INNOVATION PLATFORM FOR ENERGY TRANSITION



Our solution:

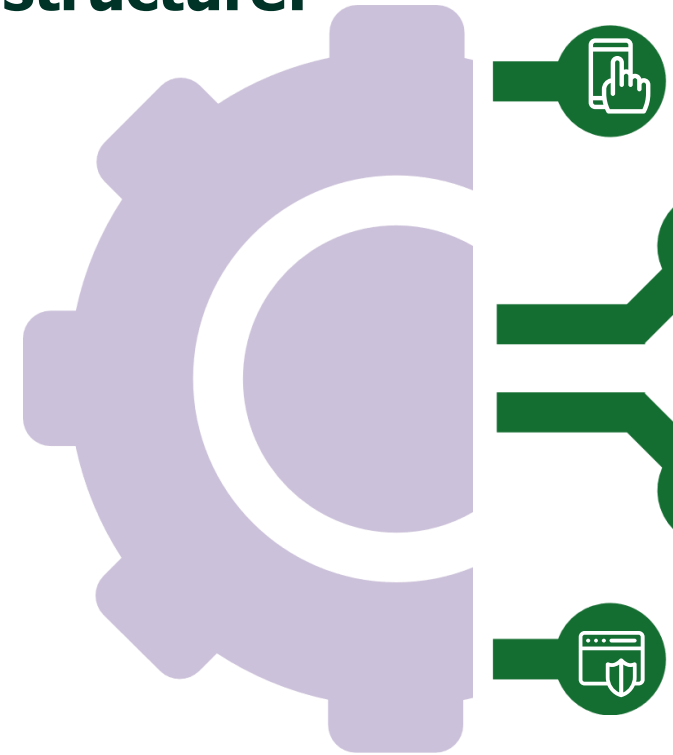
A platform that enables users and energy managers to p**articipate in, manage and promote** decentralized energy assets, with full transparency

By incentivizing the most deserving users, **Hub Green Project** launches a new model of meritocratic and conscious **sustainability on the market**, through **Grid Stability** solutions.

We offer an all-in-one solution for **organizing and notarizing network data** with great safety and ease of use

Our software enables energy exchange between users through a **secondary energy marketplace**

The structure:



REC

Management software
User experience for Renewable Energy Community

Secondary market

P2P energy exchange between REC users and with national energy markets

Crowdfunding

Building new RECs, tokenizing their assets and thus making them liquid

Web3

Notarization of documents, NFTs and incentives

The structure:

REC

Web platform for **managing and monitoring of RECs**, and for active participation of its members in order to monitor energy performance

Crowdfunding

Option of fundraising or investing in the development of RECs, in order to **foster new renewable energy projects**

Secondary market

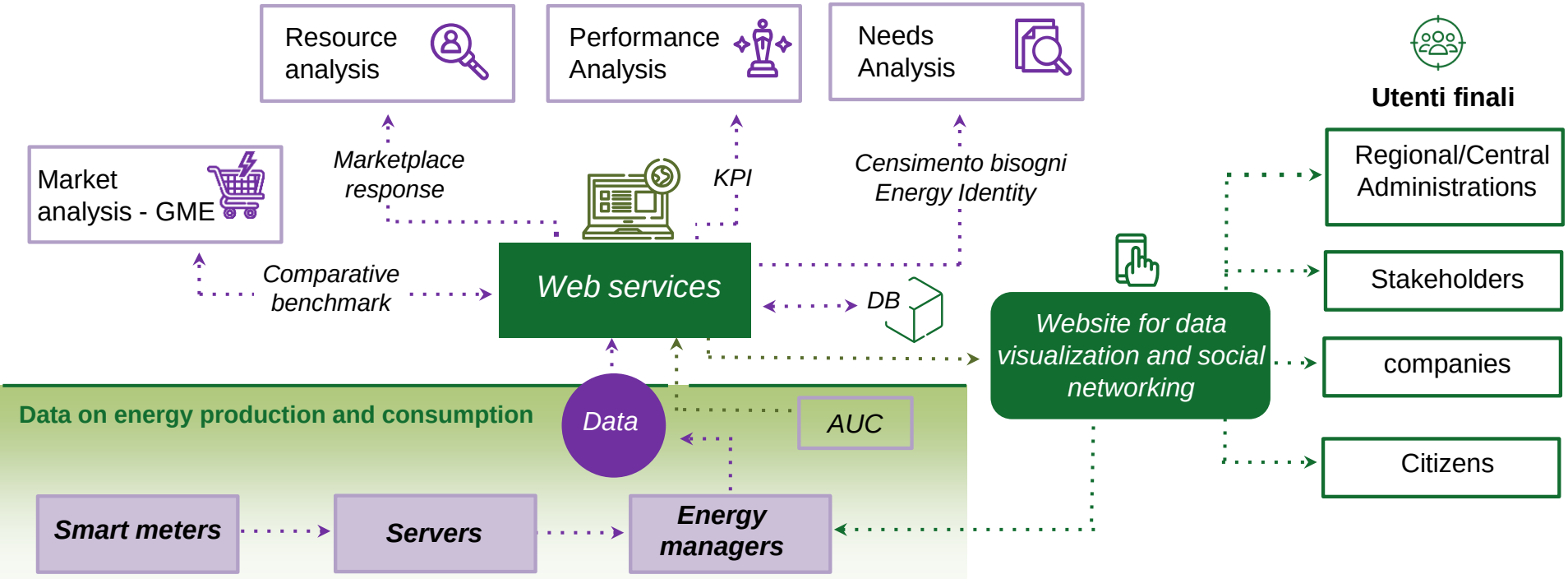
Internal P2P market that enables prosumers to **sell their energy** and **participate in national energy markets**

Web3 extensions

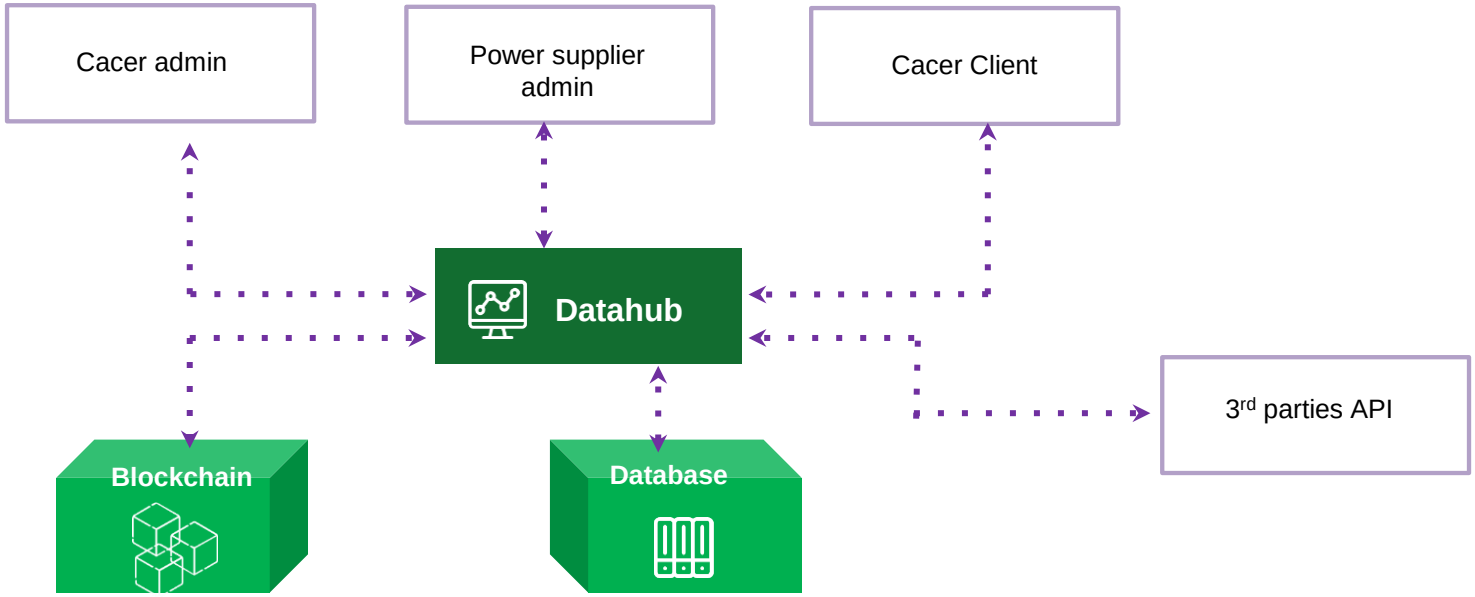
Document notarization, NFT voting, incentivizing user participation

Guaranteeing **transparency and immutability for REC users**

Hub Green Project platform



Dataflow - relationship between the various players in the ecosystem



Business application of our tech

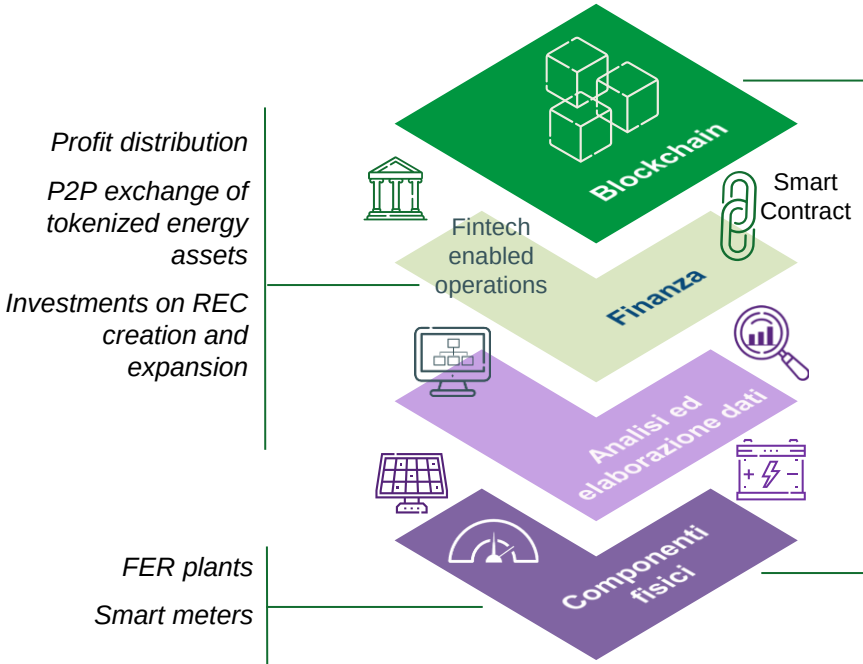
Real economy
Marketplace for meeting supply and demand between energy prosumers and consumers

Monitoring
Establishment of one's energy plan, by selecting the right mix of energy produced by local prosumers or utility providers.

Blockchain
Storing of data relative to energy production and consumption.

UX/UI
Best Green Practices

Fintech
Tokenization of assets in order to foster the creation of new energy communities.

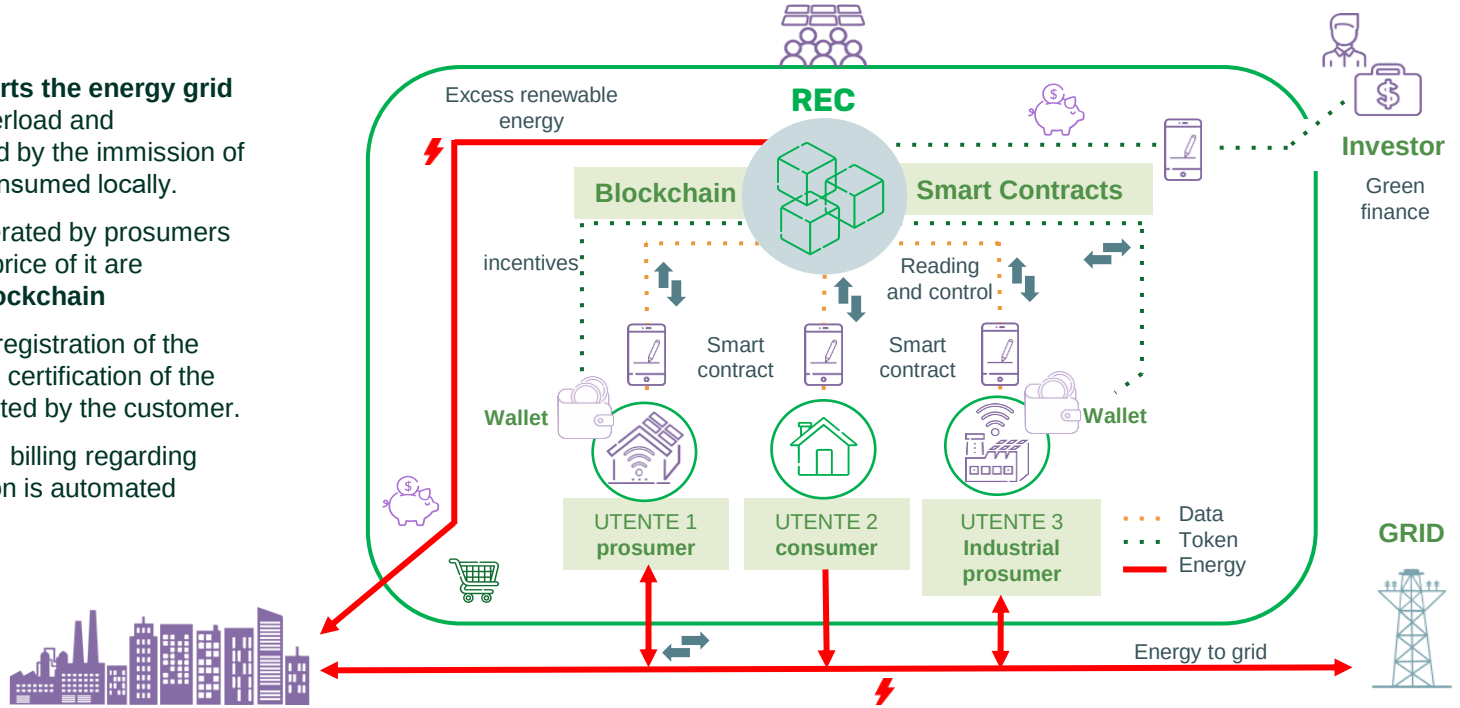


A platform to serve energy communities

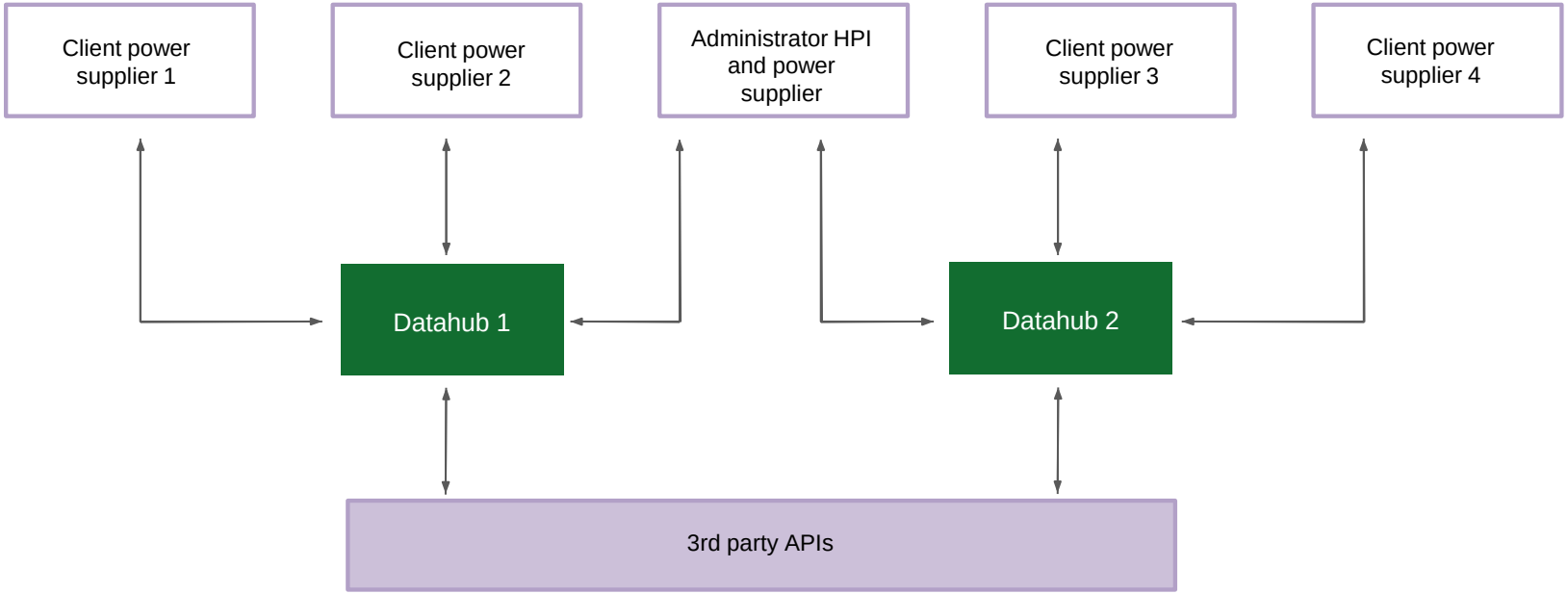
The management dynamics of the REC and the integration of Blockchain to guarantee transparency

Our platform **supports the energy grid** by reducing grid overload and inefficiencies caused by the immission of energy that's not consumed locally.

- The energy generated by prosumers and the relative price of it are **notarized on blockchain**
- Consumer side: registration of the **supply plan** and certification of the energy mix selected by the customer.
- **Smart Contract:** billing regarding user remuneration is automated



Multiple power suppliers (server structure)



Frameworks and technology choices:

NET Core 6, Flask e **.NET Core 8** backend frameworks.

Angular 14 e Angular 17, DevExtreme frontend framework

Bootstrap 5 e DevExtreme

CSS generation

PostgreSQL, TimeScale, SQLServer for databases.

HTML, CSS, TypeScript, C#, Python, SQL

Aruba for Cloud Storage and Servers, all GDPR compliant

Go.lang API interface language for blockchain interaction

Solidity language for smart contract development

Tech stack and architecture

Our technology setup is optimized for immediate growth, with future expansion leveraging advanced automation to ensure lasting scalability.

Adminportal

.Net Core6 .NET Core 8, Flask, Angular14, Angular17
DevExtreme
Bootstrap5

Datahub

PostgreSQL
TimeScale
SQLServer
Aruba

Client

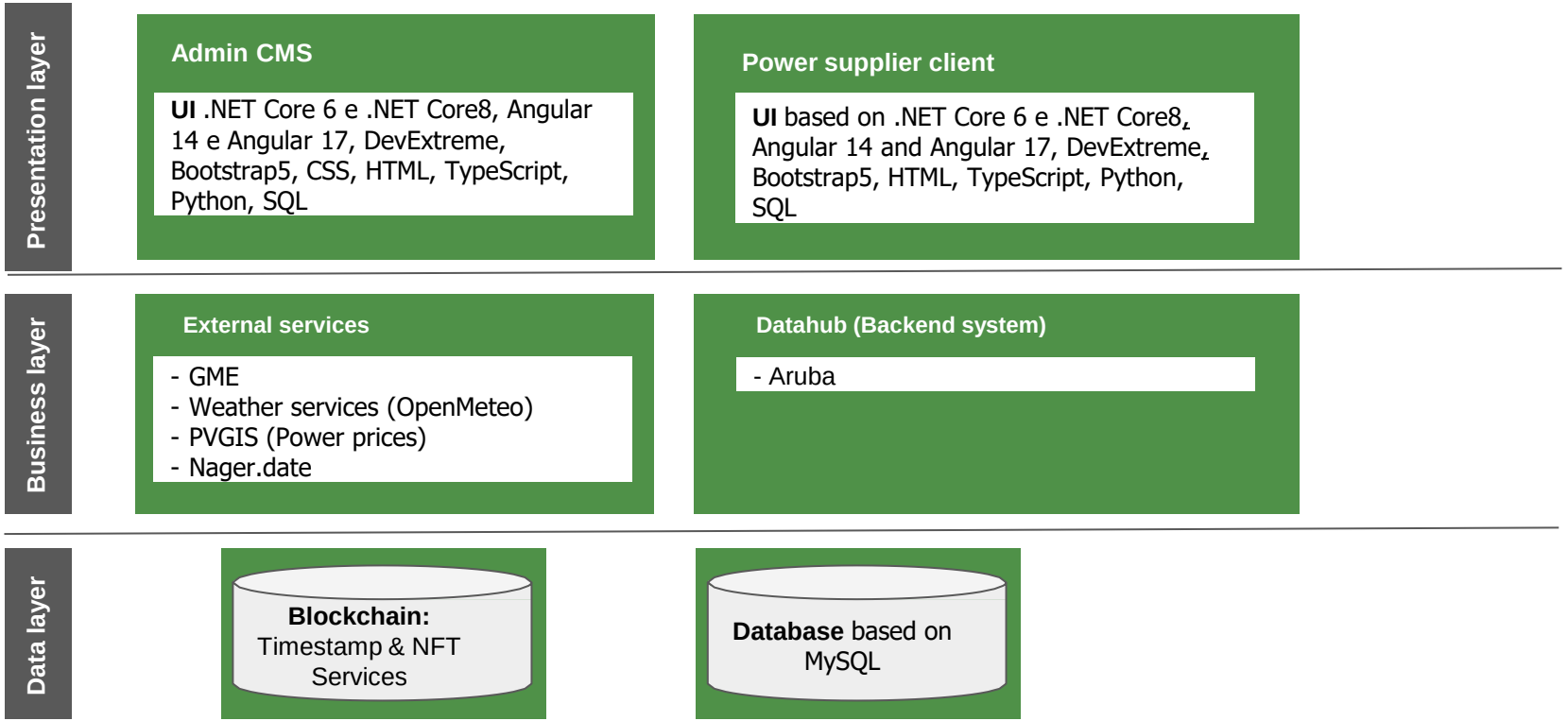
HTML
CSS
TypeScript
C#
Python
SQL

Blockchain

Go.lang,
Solidity

Tech stack and architecture

Our architecture is designed to effectively support long-term growth, integrating advanced automation solutions to ensure business continuity and flexible adaptability, even in scenarios of significant and unpredictable expansion.



Third party integration:

GME, energy markets manager

PVGIS, Photovoltaic Geographical Information System, for irradiation and performance of solar panels

OpenMeteo for data about weather forecast

Nager.date for holiday monitoring

API from energy providers.
To gather info about consumers and their energy usage habits.

OpenAI enabled chatbot.
Can provide specific info about HPI, like FAQs and such.

Our infrastructure and technology have been expertly designed to be fit for purpose, to facilitate further upscaling, and to be robust enough to handle the challenges of aggressive market expansion.

Blockchain

Go.lang

Solidity

Frontend

Angular

DevExtreme

Backend

.NET Core

Node.js

Server

Aruba

Supporting Systems

Bugsnag

Github

Database

PostgreSQL

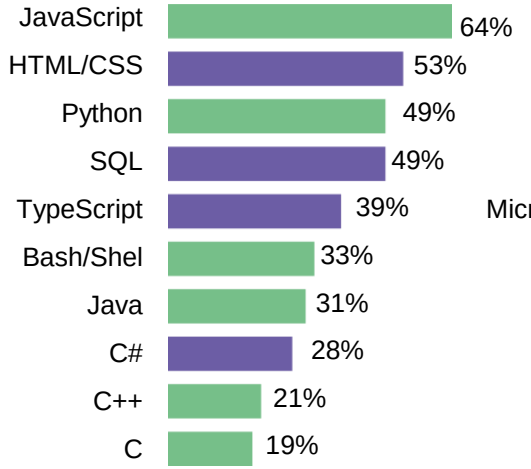
Timescale

SQL Server

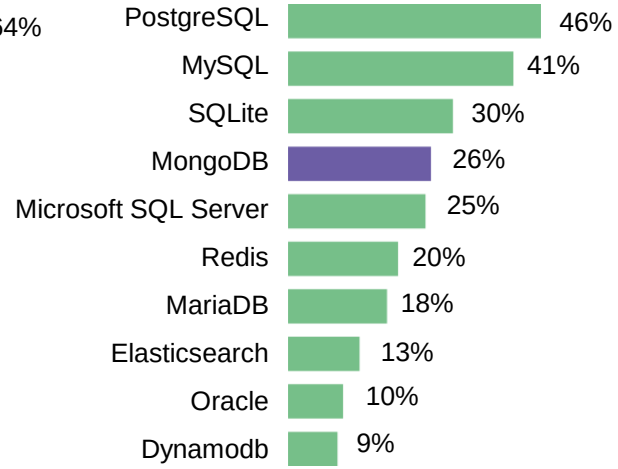
Most popular technology choices:

Digitive technology stack comprises programming languages and frameworks that are **most popular** among developers, which facilitates finding relevant competence and capacity in the market

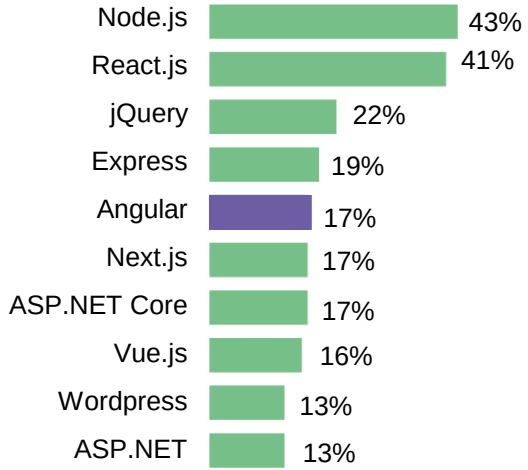
Most popular programming, scripting and markup languages



Most popular database



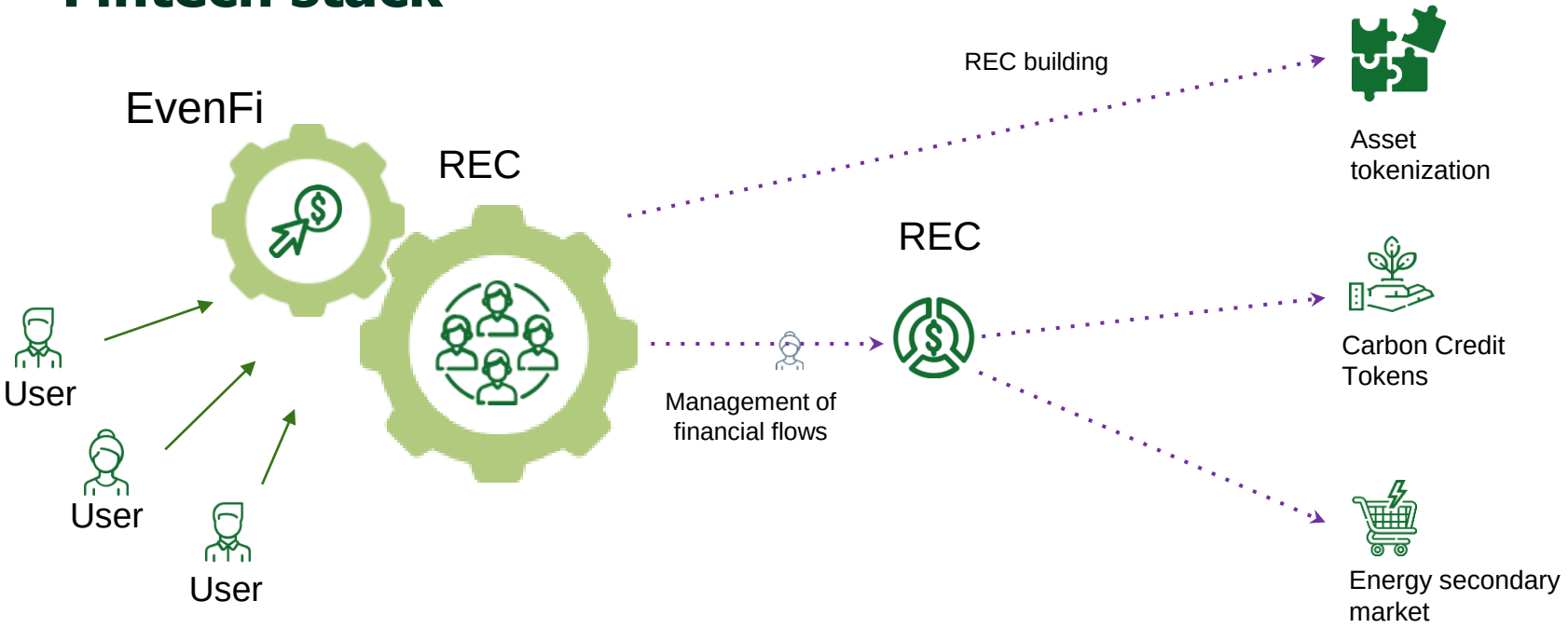
Most popular frameworks, libraries and tools



Source: Stack OverFlow Developer Survey 2023

Used by HPI

Fintech stack



The platform's technological architecture is designed to offer a scalable, secure and flexible solution, capable of handling a high volume of transactions and supporting the continuous growth of energy communities. Hub Green Project is built using the latest cloud-native technologies.

Internal energy market

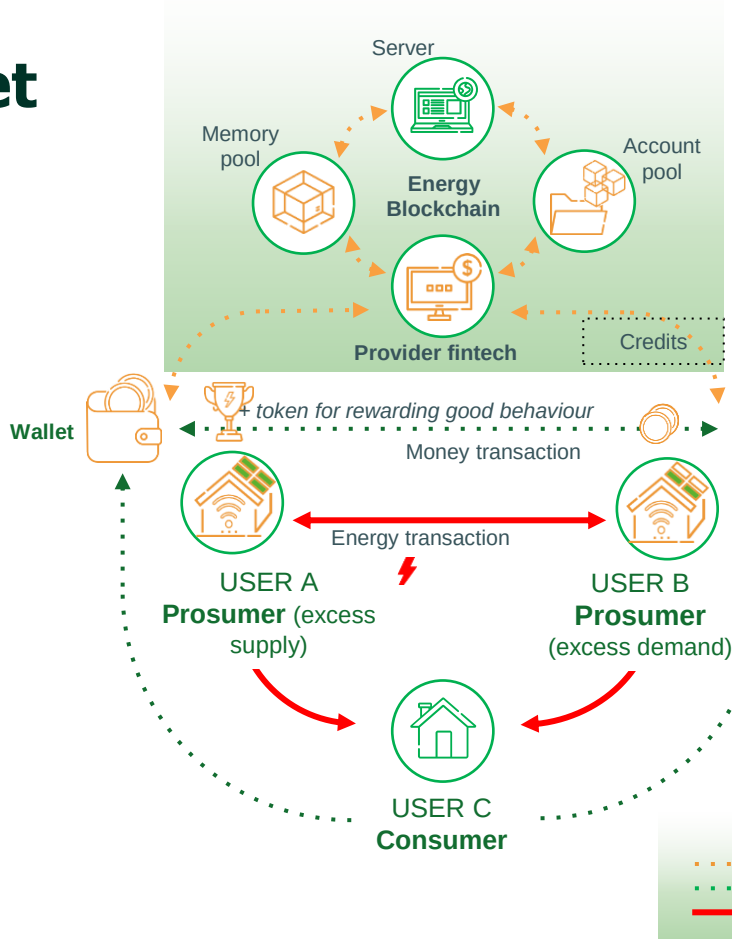
Internal secondary marketplace

Prosumers can be either **sellers or buyers** depending on supply and demand of energy.
USER A: prosumers register supply and demand on blockchain, and share it with the network.

The system encourages auto-consumption.
USER B: submits an offer for buying energy, that's notarized on blockchain and shared in the network.

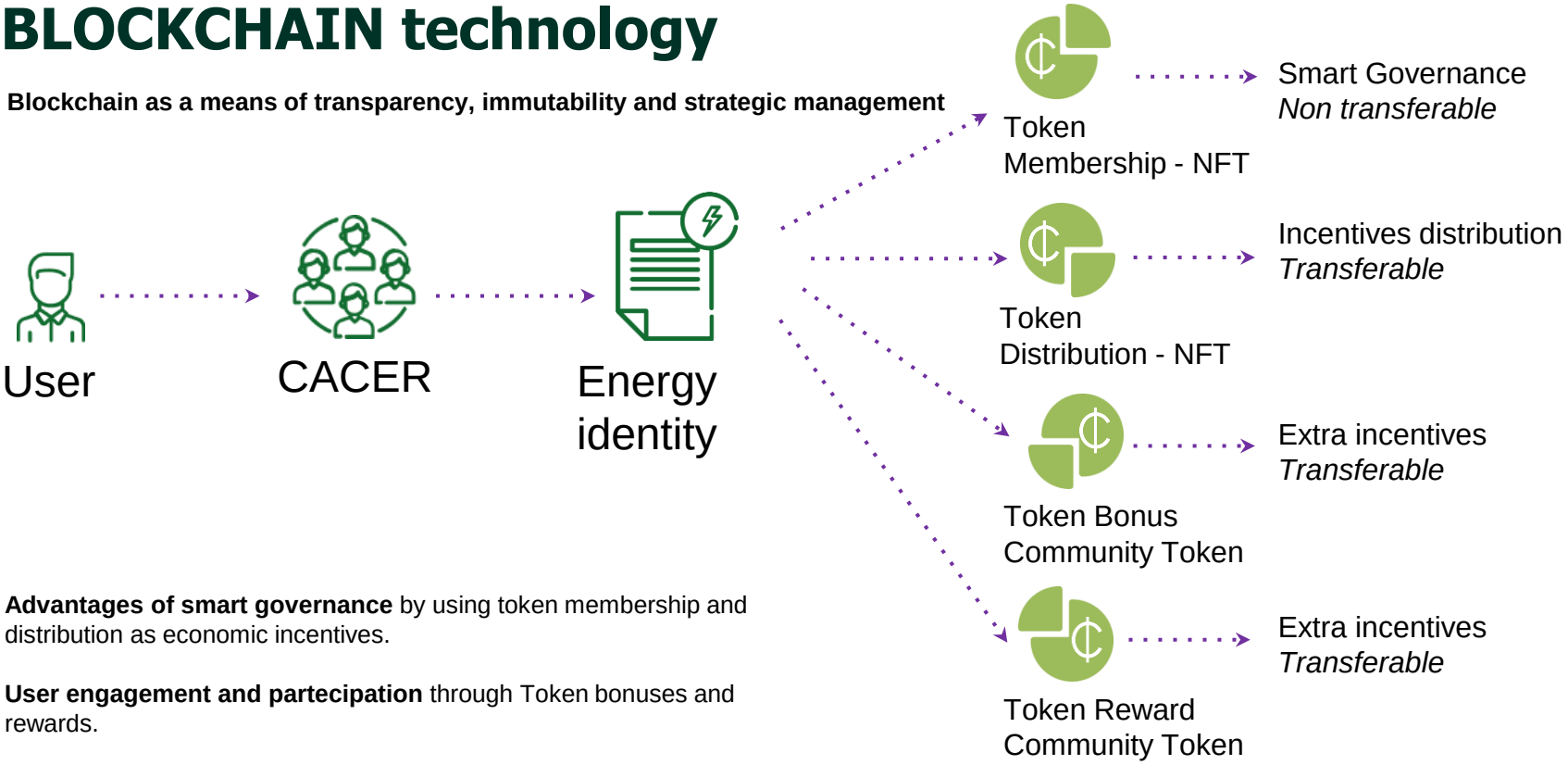
Automatic match between supply and demand, payment is sent and the transaction is registered on the blockchain.

USER C: consumer buys energy at a lower price than national average and deposits the value in the seller's wallet in the form of currency/token



BLOCKCHAIN technology

Blockchain as a means of transparency, immutability and strategic management



Advantages of smart governance by using token membership and distribution as economic incentives.

User engagement and partecipation through Token bonuses and rewards.

We surpass the limits of the national grid with a flexible SaaS model that adapts to consumers and companies, garanteeing substantial savings.

Thank you for your attention

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