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AYR, NUDGING CITIZENS TOWARDS SUSTAINABLE MOBILITY HABITS

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Short Description

AYR is an enabler for reducing CO2 emissions in the mobility sector, by nudging citizens towards sustainable habits. It is based on a blockchain platform that counts and values CO2 emissions avoided by people making sustainable mobility choices, rewarding them with digital credits that can be exchanged for green goods and services.

Main part

Climate change is one of the most relevant global challenges, with a huge impact in the future of humanity. We must reduce GHG emissions to keep global warming under 1.5oC compared with pre-industrial levels.

Mobility is responsible for 25% of global GHG emissions and is one of the few sectors within which emissions are still raising. A mobility paradigm change is needed, being behavioural change a requisite to achieve this goal on a sustainable long-term basis.

AYR is an enabler for reducing CO2 emissions in the mobility sector, accelerating the transition towards carbon-neutral cities. 'What if instead of offsetting what is emitted we gave a value to what is not emitted?' 'What if instead of paying people for emitting we rewarded them for not emitting?'

AYR is based on a breakthrough blockchain- and behavioural-economics-enabled platform that counts and values CO2 emissions avoided by people making sustainable mobility choices. AYR rewards the user with green digital credits that store the value of CO2 savings and can be exchanged for green goods and services. AYR credits' intrinsic value results from the avoided Social Cost of Carbon, a commonly employed metric of the expected economic damages from CO2 emissions.

The AYR platform has three functionalities:

Quantify: AYR platform quantifies CO2 emissions avoided through the adoption of sustainable mobility modes, such as the use of an e-bicycle instead of a gasoline-powered vehicle in commuting trips. The data needed for this quantification is collected real-time, and a proprietary algorithm is used to calculate carbon savings.

Value: AYR platform tokenizes the quantified avoided CO2 emissions value into green digital credits (token AYR) which are stored in the user's digital wallet. The user can access its AYR wallet through an app, which is also used to access the nearby offering of mobility services. Using blockchain technology ensures transparency and security. Privacy is guaranteed by design.

Exchange: AYR tokens can be exchanged for green goods and services, rewarding citizens' sustainable behaviour. Credits can be exchanged for sustainable mobility services or for other goods and services, such as charging electric vehicles, EV parking or low-carbon food.

AYR implementation requires the creation of a local ecosystem composed of the municipality, mobility operators, local commerce and other players - a sustainable digital marketplace where AYR works as an 'eco-coin'.

Nudging people towards sustainable mobility habits, AYR promotes a shift from personal driving to green modes, reducing car congestion and CO2 emissions.

What is new?

To reduce CO2 emissions from the transport sector, public policies are mainly centred on punitive measures, based on the 'polluter pays' principle, such as carbon markets and carbon taxes.

AYR is the first worldwide solution that assigns a value to avoided carbon emissions, nudging people towards sustainable mobility habits. The concept of 'valuing what is not emitted' instead of 'offsetting what is emitted' is the innovative characteristic of AYR - 'What if instead of paying people for emitting we rewarded them for not emitting?'. AYR induces the creation of sustainable digital marketplaces, in which AYR circulates as a local 'eco-coin'.

What is transferable to other cities and regions?

AYR has been tested in Matosinhos, in collaboration with the municipality and mobility operators.

The solution is easily transferable to other cities, as it was designed to fit any local reality. No major technological adjustments are needed. Tailoring the solution to other cities only requires the creation of an AYR ecosystem, integrated by the Municipality, mobility operators, city players and citizens.

The roadmap for the replication of the solution includes other cities, as NY, Copenhagen, and São Paulo. AYR solution was one of the five finalists of the Open Innovation Call launched in Oct. 2019 by the Municipality of Copenhagen.

What are outcomes and conclusions?

The results of AYR implementation are the reduction of carbon emissions, by nudging people towards sustainable mobility habits.

The outcomes are quantifiable and monitored in real-time at AYR control centre. For example, the preliminary metrics of the pilot project in Matosinhos were: 23,622 users; 189,701 km; 17.43 tons CO2 avoided; 174,314 AYR generated (6 months).

The Municipality is also using AYR as a policy tool. An innovative regulation was launched, which requires the integration of bike and e-scooter operators in the AYR ecosystem, demanding that they accept payment in AYR credits. Mobility operators are also paying city taxes using AYR.

Who are the main target groups?

The target groups are municipalities, mobility operators, city players, citizens.

Municipalities can use AYR as a policy tool. The sustainability metrics quantified in real-time by the AYR platform are available to City officials through the AYR Dashboard, which will support policy-making processes.

AYR can be used by mobility operators to get more users, through the integration of a sustainability layer in their offer. They can distribute AYR credits to their users according to their commercial targets.

AYR concept is user-centric. People who adopt sustainable mobility modes, are rewarded with AYR credits, which can be exchanged for green goods and services.

And what now? - what will change? - what is the relevance for the future?

After COVID-19 lockdowns, we are seeing a rise in schemes to support cycling, such as permanent and pop-up cycle-ways, free bicycle repairs, free training, or more temporary bike parking spots. People are also increasingly buying bicycles to keep social distancing, avoiding public transports.

This is particularly important since research suggests a link between air pollution and higher coronavirus death rates, discouraging people to drive their own gasoline-powered cars.

AYR will support this transition, promoting the use of soft mobility modes and the decarbonisation of cities.

Link to the project

www.ceija.com