

PKN ORLEN and Alstom to cooperate on hydrogen railway

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- First hydrogen vehicles could operate on regional lines within two years

17 May 2022 - PKN ORLEN has signed a strategic cooperation agreement with Alstom for the supply of zero-emission, eco-friendly trains and hydrogen fuel for public rail transport. The corporation, which is consistently implementing the hydrogen strategy, announced earlier this year, that it will provide the refuelling infrastructure for trains produced by Alstom. The first hydrogen vehicles are likely to roll out on regional lines within two years.

"We are effectively implementing our hydrogen strategy, which supports our efforts to achieve carbon neutrality. By 2030, we intend to allocate about PLN 7.5bn into investments. This will translate into a reduction of 1.6m tonnes of CO₂ emissions and, most importantly, an increase in Poland's energy security. Cooperation with Alstom is another important step that will strengthen our position as a regional leader in hydrogen technologies," **said Daniel Obajtek, President of the PKN ORLEN Management Board.**

Under the agreement, Alstom will cooperate with PKN ORLEN in participating in proceedings organised by public rail transport operators. Alstom will be responsible for the supply of zero-emission trains powered by hydrogen fuel cells. In turn, PKN ORLEN will be responsible for the distribution, storage and supply of hydrogen fuel for these trains.

"We are consistently developing alternative energy sources, including hydrogen. This is the fuel of the future that will drive the energy transition in the long term. We have strong competences in this area, backed by experience. Cooperation with Alstom will enable us to implement pilot hydrogen projects in public rail transport and strengthen our position in Poland and the whole Central European region," **said Józef Węgrecki, PKN ORLEN Management Board Member for Operations.**

"One of the key elements of Alstom's strategy is to have a positive impact on the climate and the environment. We have been using hydrogen technology in railway transport for years and we are the first company in the world to start commercial passenger transport with hydrogen trains, which are completely emission-free and, what is important, partly produced in Poland. We were the first to introduce high-speed trains to Poland - 20 Pendolino trains. I hope that Alstom will also be the first to introduce hydrogen trains to Poland. The signing of today's agreement with PKN ORLEN is another step towards the transformation of the Polish railway with the use of state-of-the-art global technologies," **said Sławomir Cyza, President and Managing Director of Alstom in Poland, Ukraine and the Baltic States.**

"Alstom is a pioneer in developing hydrogen technology for rail transport. In 2018, we were the world's first manufacturer to put the Coradia iLint hydrogen train into commercial service. Cooperation with PKN ORLEN will allow us to more effectively realise our ambition of

technological leadership in rail transport, as well as Poland's ambition as one of the key countries where hydrogen technologies are being developed and implemented. The main motivation for working on hydrogen technologies is the need to look for emission-free energy sources, also in transport. Increasing zero-emission rail traffic means less pollution and lower CO₂ emissions," **said Artur Fryczkowski, Vice-President and Head of Sales and Business Development of Alstom in Poland, Ukraine and the Baltic States.**

In response to challenges connected with energy transformation, ORLEN Group has prepared a Hydrogen Strategy 2030, integrated with the ORLEN 2030 Business Strategy. The document defines the company's goals until the end of the decade and long-term ambitions in four key areas: mobility, refining and petrochemicals, industry and energy, and research and development.

The hydrogen strategy assumes the use of hydrogen in urban public transport and railways. To this end, PKN ORLEN has already signed letters of intent to cooperate with more than 20 Polish cities and companies that are potential hydrogen recipients.

In 2021, an analytical laboratory for hydrogen research and the first hydrogen hub was commissioned in Trzebinia, which is currently producing grey hydrogen for transport, but will eventually produce low-emission hydrogen from renewable energy sources. By the end of this decade, 10 hydrogen hubs are to be operational in Włocławek and Płock, among others.

Meanwhile, by 2025, a hydrogen laboratory will be established at the Research and Development Centre in Płock. It will carry out tests and research on installations in the field of hydrogen production, its quality and purification, as well as storage and transport.

PKN ORLEN is also the leader of the Mazovian Hydrogen Valley, which cooperates with 36 entities in the field of production, storage and use of zero- and low-emission hydrogen, inter alia in transport, power generation, municipal economy and agriculture.

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