PKN ORLEN
WILL BUILD A HYDROGEN HUB IN WŁOCŁAWEK

By the end of 2021, PKN ORLEN will construct hydrogen hub in Włocławek which will be able to produce up to 600 kg of purified hydrogen per hour. The mentioned investment will include the installation, producing hydrogen of the quality corresponding to the quality of transport fuel, the logistic infrastructure and also, fuelling stations. In the first stage of distribution, the fuel will be destined, first of all, for public and commodity transport. The concern has already signed some agreements with the self-governing organs, being the potential user of hydrogen.

"We are perfectly aware of the challenges connected with the global trend of a new mobility; therefore, our strategy assumes also a successive development of alternative fuels and low-emission technologies. We are convinced that in the future, hydrogen will be a very important fuel, utilized in transport; so, we intensify work in this area. Our aim is to strengthen the position of leader in this requiring market. The investment which will be implemented as early as in the next year in Włocławek, is a milestone enabling the effective competition with the greatest players in our region. In the next step, we plan to implement a similar hub in PKN ORLEN refinery in Płock. The installation for purification of hydrogen is also generated in our bio-refinery in Trzebinia – says **Daniel Obajtek, the President of the Board of PKN ORLEN**.

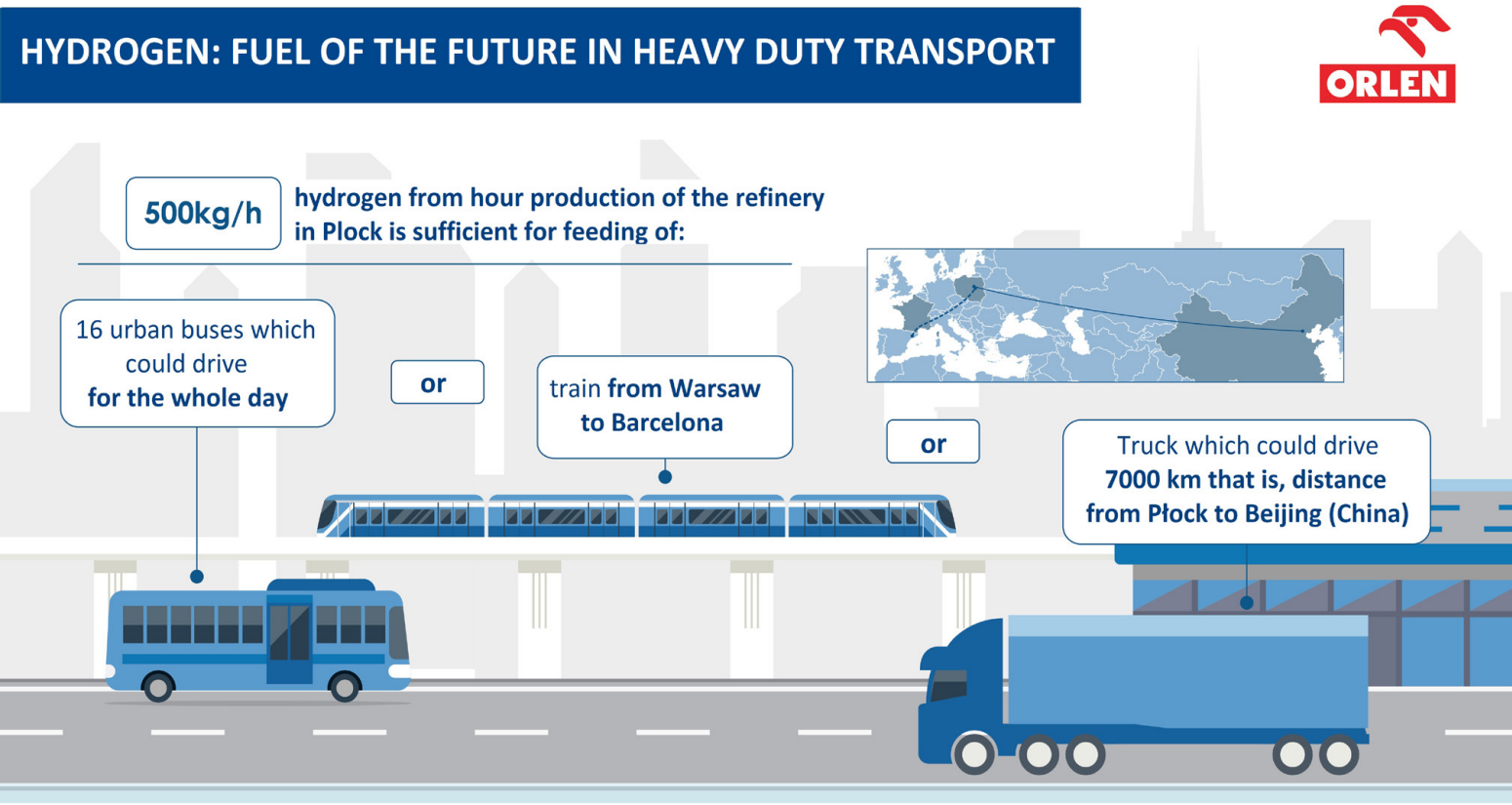
Hydrogen hub in Włocławek will be situated at the territory of ANWIL plant. At the first stage, the manufacturing capacities of the installation will amount to ca. 170 kg/h, however, its modular construction will allow elastic increasing of production together with the increase of demand. Hydrogen, as being purified in Włocławek, is generated in the environment-friendly process of brine electrolysis as a by-product of the process of obtaining chlorine and until now it was utilized in the ammonia producing installations. The method of purification of hydrogen is presently the subject of analyses carried out together with the technical advisor for the mentioned investment. The implemented project will consist of installation for hydrogen purification, infrastructure of fuel loading on the trucks and cisterns, transport semitrailers, system of hydrogen fuel supply and two refuelling stations.

Hydrogen purified in Włoclawek, at the first stage of distribution, will be destined, first of all, for public and commodity transport, including the rail one. The concern has already signed the letters of intention concerning cooperation in favour of development of public hydrogen-operated transport, with Górnośląsk-Zagłębiowska Metropoly, Cracow Communal Holding and Urban Transport Enterprise in Cracow and with Płock. The agreements concluded with the successive self-governing authorities are under run. The Concern has also signed a letter of intention with PESA Bydgoszcz for construction of hydrogen-operated locomotive, which will be used for logistic needs of PKN ORLEN.

Together with the development of market, hydrogen fuel will get to the personal cars and long-distance buses. In longer perspective, the Concern assumes deliveries of hydrogen for the needs of ships, ferries, or stationary applications such as heating etc. There is also planned the possibility of selling hydrogen to the third entities which will introduce it to other outlets, e.g. food or metallurgical industry. Apart from hydrogen hub in Włocławek and the similar investment planned in Plock, PKN ORLEN develops also hydrogen technologies in bio-refinery ORLEN Południe in Trzebinia. The commencement of hydrogen production of the transport fuel quality is planned there in 2021.

The drivers of personal cars may already refuel hydrogen in two stations of ORLEN Group in Germany, whereas in June 2021, such possibility will appear also in three fuel stations in the Czech Republic.

„Network of hydrogen public transport affects actually the return of the investing costs, born on the refuelling stations and supports the budding but possessing-the-potential individual hydrogen transport which is also the area of strategic investments of PKN ORLEN. Especially, at the first stage of hydrogen technology development, it will have the greatest meaning in public and commodity transport. Therefore, we undertake the cooperation with the self-governing authorities as well as with the transport companies; it will enable occupying a strong position on the market and, on the other hand, it will give the possibility to develop independently the technology. In the cities of the north and west Europe, the test projects of hydrogen public transport



are developed and low-emission buses become integral element of local public infrastructure. it is a good direction" – stresses **Józef Węgrecki, the member of the Board of PKN ORLEN for operating matters**.

Investment on infrastructure for hydrogen fuel-based transport are in accordance with the European strategy of sustainable development and are the answer to the EU environment targets, assuming that until 2030, transport sector will minimize the emissions of greenhouse gases to atmosphere by 30% as compared to values from 2005. Apart from electro-mobility biofuels of the 2nd generation, hydrogen is listed as a fuel of future, which may actually lead to the implementation of the European environmental aims.

Due to technical and economic reasons, the greatest present potential of hydrogen is perceived in public transport and cargo. Bus with hydrogen drive has a range of ca. 350–450 km and at one refuelling (lasting ca. 10 min.) it may drive for the whole day. In exploitation cycle, estimated at ca. 12 years, the replacement of one urban bus having a diesel engine by hydrogen-operated vehicle may prevent emission of 800 tons of CO_2 to atmosphere. Moreover, the engines of the hydrogen-driven buses are by ca. 20% more silent as compared to the traditional ones.

Source: https://www.orlen.pl/PL/BiuroPrasowe/Strony/PKN-ORLEN-wybuduje-hub-wodorowy-we-W%C5%82oc%C5%82awku.aspx?fbclid=IwAR1dJoboj_8sTVWVDcWg0epschqI8UQ-GdBFBHTdnPfus3N_EYWHteLxZbA

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