Hydrogen energy storage kathmandu

Hydrogen energy storage kathmandu

For a country that imports more than Rs200 billion worth of oil annually, and where consumption is rising by the year and the trade deficit is ever widening, producing hydrogen fuel can be the best way to achieve energy self-sufficiency, experts said, but this can happen only if the government makes it a national agenda.

The production of hydrogen fuel is economically feasible and environmentally wise, and will help to reduce fossil fuel dependency, said academicians and researchers engaged in Green Hydrogen Lab funded by Nepal Oil Corporation.

"Whether hydrogen fuel will be feasible and economical all depends on government policy," said Biraj Singh Thapa, assistant professor at the Department of Mechanical Engineering at Kathmandu University and also the team leader of Green Hydrogen Lab.

"We have electricity and water, the major components required to produce hydrogen fuel. Investment in physical infrastructure is all that is needed to produce hydrogen fuel in the country," Thapa said.

Hydrogen fuel can be used as an alternative to petrol, diesel, liquefied petroleum gas (LPG) and coal. It can even power hydrogen generators for electrification and utilisation that run on fossil fuels.

"Firstly, the production of hydrogen fuel will play a key role in lessening the trade deficit that is caused by the import of petroleum products," he said. "Secondly, it has become important to think about Nepal"s energy security as it is totally dependent on petroleum products from India. And thirdly, rising pollution in recent times has become a huge challenge for the country, and hydrogen fuel is a boon to eliminate pollution."

Green Hydrogen Lab"s vision of Nepali industries specialised in producing, storing, transporting and using green hydrogen energy on a commercial level resulted in a project named Technology Transfer and Local Adaptation for Developing NOC as a Hydrogen Fuel Producing and Distributing Company, which was funded by a Rs50 million research grant from Nepal Oil Corporation.

Under the two-year project, Kathmandu University will be producing hydrogen and also working on storage and end-use systems. It will convert gasoline powered internal combustion engine vehicle to hydrogen fuel cell vehicle for demonstration purposes.

The project will also provide recommendations to the government for policy guidelines for green hydrogen, emphasising production, storage and end-use of green hydrogen as a future fuel for Nepal.

Producing 1 kg of hydrogen fuel requires approximately 50 units of electricity, and it allows a car to run for 60-70 km depending on the condition. This is comparable to diesel in terms of efficiency and cost, as per

Thapa.

"Utilising surplus electricity at a subsidised rate, we can produce hydrogen at a cost of $1 per kg," Thapa said. "This is economically feasible, it can be produced within the country and is environmentally friendly."

The country needs policy, regulation, pilot projects and private businesses willing to invest in it as capital running into billions is needed to build hydrogen plants, storage facilities, refuelling stations and vehicles that run on hydrogen, Thapa said.

Contact us for free full report

Web: https://hollanddutchtours.nl/contact-us/
Email: energystorage2000@gmail.com
WhatsApp: 8613816583346