



NW
INNOVATION
WORKS

GAS TO METHANOL FACILITY AT THE PORT OF TACOMA

Northwest Innovation Works (NWIW) is proposing a facility at the Port of Tacoma to convert natural gas to methanol, which would then be exported by ship to Asia for use as feedstock for the production of olefins. The facility is planned for the former Kaiser property, which would once again be home to industrial manufacturing that generates jobs and local revenue, brings environmental benefits and returns the site to productive use.

BUILDING THE BRIDGE TO A STRONGER REGIONAL ECONOMY ...

NWIW is proposing to construct a two-phased \$3.4 billion gas-to-methanol plant at the Port of Tacoma. At the peak of construction, the project will create up to 1,000 jobs. Once operational, the facility will employ approximately 260 full-time managers and workers, providing family wages plus benefits. Nearby facilities include Schnitzer Steel, Targa Sound Terminals, and Port of Tacoma breakbulk- and containerized cargo facilities. The Port of Tacoma approved a lease agreement with NWIW in May 2014. This step means that permitting with the appropriate regulatory agencies can begin.

... AND A CLEANER GLOBAL ENVIRONMENT

Also known as “methyl alcohol” or “wood alcohol,” methanol is a light and colorless liquid that evaporates in air. It is biodegradable and not carcinogenic. All methanol produced at the facility will be exported to Asia, where Chinese companies will convert it to olefins in order to make manufactured plastics, fibers and other materials.

Today, the primary feedstocks for the olefins produced in China for use in manufacturing are petroleum and coal. Using methanol from natural gas, instead of coal, to produce olefin reduces carbon emissions by 70 percent and reduces China’s overall dependence on coal – a significant goal in addressing climate change.



Site of NWIW’s proposed gas-to-methanol facility at the Port of Tacoma (former Kaiser property)

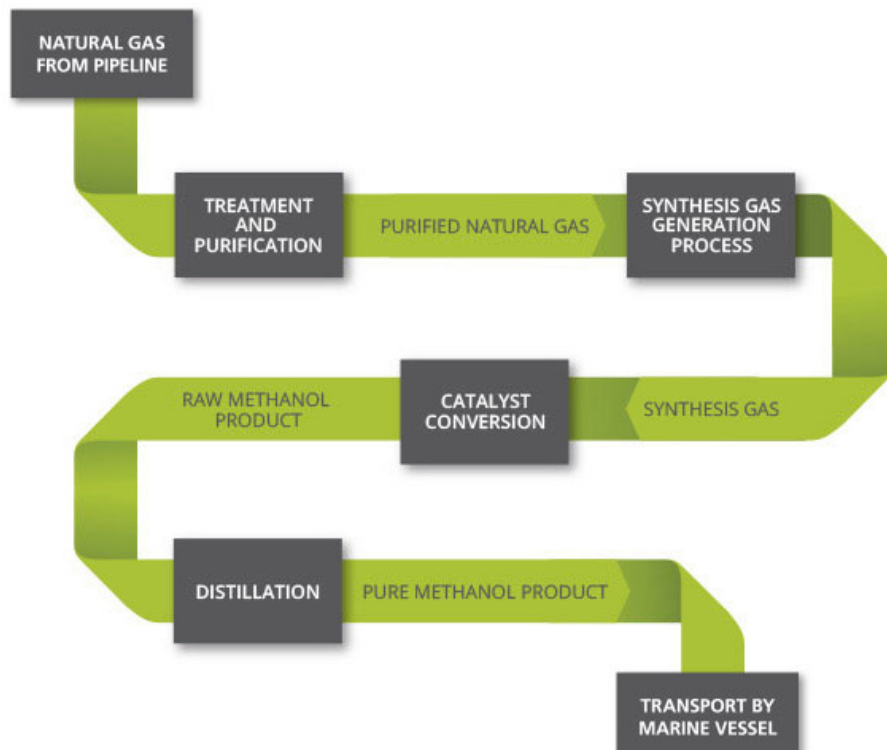
To create an even more environmentally responsible facility, NWIW selected an ultra-low emission (ULE) reforming technology for each of its proposed facilities. This efficient technology converts natural gas to methanol by using a combination of electricity and process-generated heat to power production. By using less natural gas, the process produces significantly fewer carbon emissions than traditional methanol production technology.

WORKING WITH THE LOCAL COMMUNITY

Methanol and olefins are common in items we use every day, but production of methanol from natural gas is not a process most people are familiar with. NWIW is working closely with the Port of Tacoma, the cities of Tacoma and Fife, Tacoma Fire Department, Pierce County, and the Puyallup Tribe to consider the unique site needs at the Port of Tacoma. We are committed to working with stakeholders and community members in Tacoma and Pierce County to answer questions about the facility, its operations, and the permitting process. The natural gas for this facility would be delivered to the site via pipeline, and the natural gas provider must also follow a rigorous permitting process that will offer opportunities for public involvement.

We will also work with the community to address any concerns that are identified during permitting and design, such as traffic, noise, safety, environmental impacts, or other questions about the facility.

THE METHANOL PRODUCTION PROCESS



SAFETY IS OUR FIRST PRIORITY

Methanol plants are subject to state and federal environmental regulations. Worker safety at methanol plants and storage facilities is governed by the same federal and state agencies as other similar industrial facilities. Methanol producers must also meet local fire, zoning and other laws and regulations. NWIW will work proactively with the City of Tacoma Fire Department as well as other first responders and regulatory agencies to develop effective emergency response plans. The site will have a dedicated and trained on-site fire brigade and equipment to support emergency response.

NWIW's facilities will use safe and proven technology. From input pipeline, to distillation, through storage and transport – our processes will employ an enclosed system for handling natural gas, process chemicals and the finished methanol product. The plant and on-site storage facilities will use redundant systems and controls to avoid spills, fires and other risks to the public and the environment. Gas will be delivered to the facility via a lateral pipeline. An enclosed system will load bulk liquid onto carrier vessels designed and regulated to transport our products.

A MULTI-NATIONAL PARTNERSHIP FOCUSED ON THE NORTHWEST

NW Innovation Works is a strong multi-national partnership committed to generating robust economic growth in the Pacific Northwest while meeting a global need – a cleaner source for methanol production.

CECC (Shanghai Bi Ke Clean Energy Technology Co., Ltd.), is a partnership between the Chinese Academy of Sciences (CAS) and Double Green Bridge Hong Kong (DGB), an investor group comprised of members of CECC management. CECC, the parent company for NWIW, is a technology commercialization and project development company with a distinctive portfolio of environmentally responsible technologies and projects in the growing gas and syngas to chemicals and fuels markets.

NW Innovation Works also has proposed facilities at Port of Kalama, Washington, and Port of St. Helens, Oregon.

STAY INFORMED AND INVOLVED

If you would like to receive regular updates about the proposed facility at the Port of Tacoma or have questions, please send an email to tacomainfo@nw-iw.com or visit www.nwinnovationworks.com.

NWIW Tacoma will undergo a thorough permitting process through the State Environmental Policy Act (SEPA), which will be conducted by a public agency at the state or local level. Under SEPA, there are multiple public comment and involvement opportunities. Please visit our website nwinnovationworks.com for the latest project permitting and schedule information.