



FUTURE ENERGY PARK

**An Innovative Clean Energy Project
Connecting Alberta's Agriculture and
Energy Sectors**



Green Impact Partners, through its subsidiary Future Energy Park Inc., is proposing the construction and operation of the Future Energy Park – a net CO₂ negative renewable biofuels facility that uses low-grade wheat to produce ethanol and renewable natural gas.

WHO IS GREEN IMPACT PARTNERS?

Based in Calgary, Alberta, Green Impact Partners is a publicly traded (TSXV: GIPV) Canadian clean energy company focused on the development of sustainable biofuel resources.

With its growing portfolio of renewable natural gas projects, capital expenditures of approximately \$2 billion are expected over the next three years.

WHERE IS THE FACILITY LOCATED?

Located within the City of Calgary, Future Energy Park is being sited in an industrial area southeast of the intersection of Peigan and Stoney Trail SE. Access to the site will be from 84 Street SE along the boundary of Rocky View County and the city. The plant will be constructed and operated on a 21 hectare site (52 acre) on lands designated for future industrial use.



WHAT ARE THE PROJECT BENEFITS?

Future Energy Park is a \$900 million fully integrated biofuels facility that will produce ethanol, renewable natural gas, electricity, and steam. As the first of its kind in North America, the facility will use advanced technology and provide the following direct benefits to the City of Calgary and the Province of Alberta:

- Approximately 800 jobs over 24 months during construction and 50 jobs during operations
- Direct revenue of over \$150 million annually to rural wheat producers
- Provincial and municipal tax revenues
- Repurposed by-products including cattle feed and fertilizer

DEFINITIONS

Low-grade Wheat: Wheat that's not suitable for human consumption but an excellent feedstock for the production of ethanol and renewable natural gas.

Ethanol Plant: Portion of the facility that produces ethanol through the fermentation process, involving the breakdown of starch and sugars from low-grade wheat.

Ethanol: A renewable biofuel that can be blended with gasoline to produce a lower carbon content fuel.

Renewable Natural Gas Plant: Portion of the facility where wheat stillage (a by-product of ethanol production) is mixed with water in anaerobic digesters (oxygen free environment) to produce renewable natural gas.

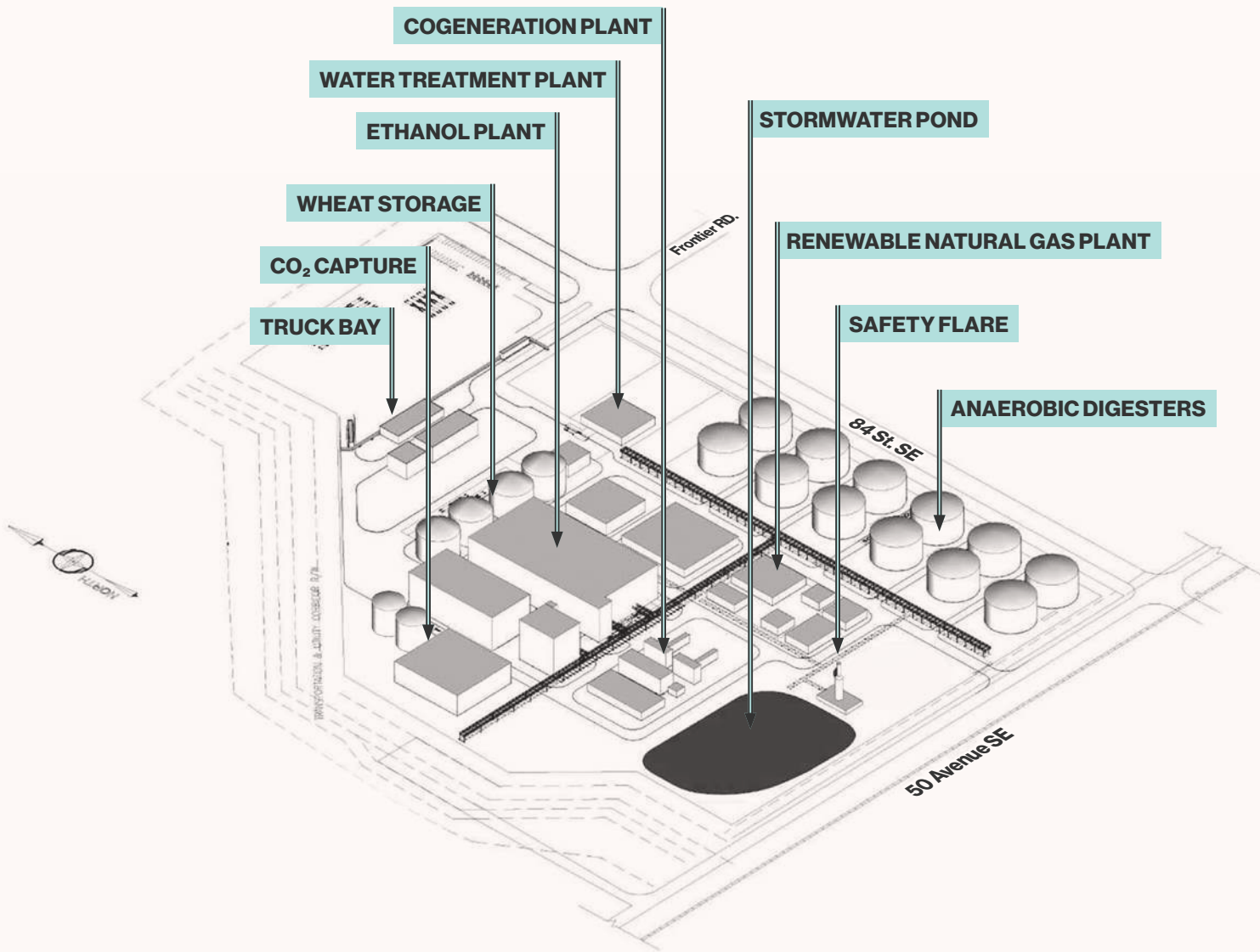
Renewable Natural Gas: Produced methane is captured from the anaerobic digesters and upgraded to pipeline quality natural gas.

Future Energy Park preliminary conceptual rendering



WHAT WILL THE FACILITY LOOK LIKE?

Future Energy Park will consist of many different parts that all work together in creating sustainable biofuels. Working with a team of architects, engineers, planners, environmental specialists, and landscape architects, the plant will be a landmark facility showcasing the technological ingenuity involved in the production of renewable fuels. Our team is developing conceptual architectural plans reflective of a modern energy facility. As our final design moves forward it will be shared with the community.





CO₂ CAPTURE

Future Energy Park Inc. intends to capture CO₂ from its ethanol and renewable natural gas processes to go beyond the goal of net-zero CO₂ emissions.

Captured CO₂ will be transported and permanently sequestered off-site in an underground CO₂ reservoir.

As both ethanol and renewable natural gas are produced by a renewable resource, any CO₂ emissions from the process are considered carbon neutral.

FUTURE ENERGY PARK & THE ENVIRONMENT

- Air Emissions**

The facility will be designed to meet the Alberta Ambient Air Quality Objectives and provincial and federal standards for nitrogen oxides (NOx).
- Lighting**

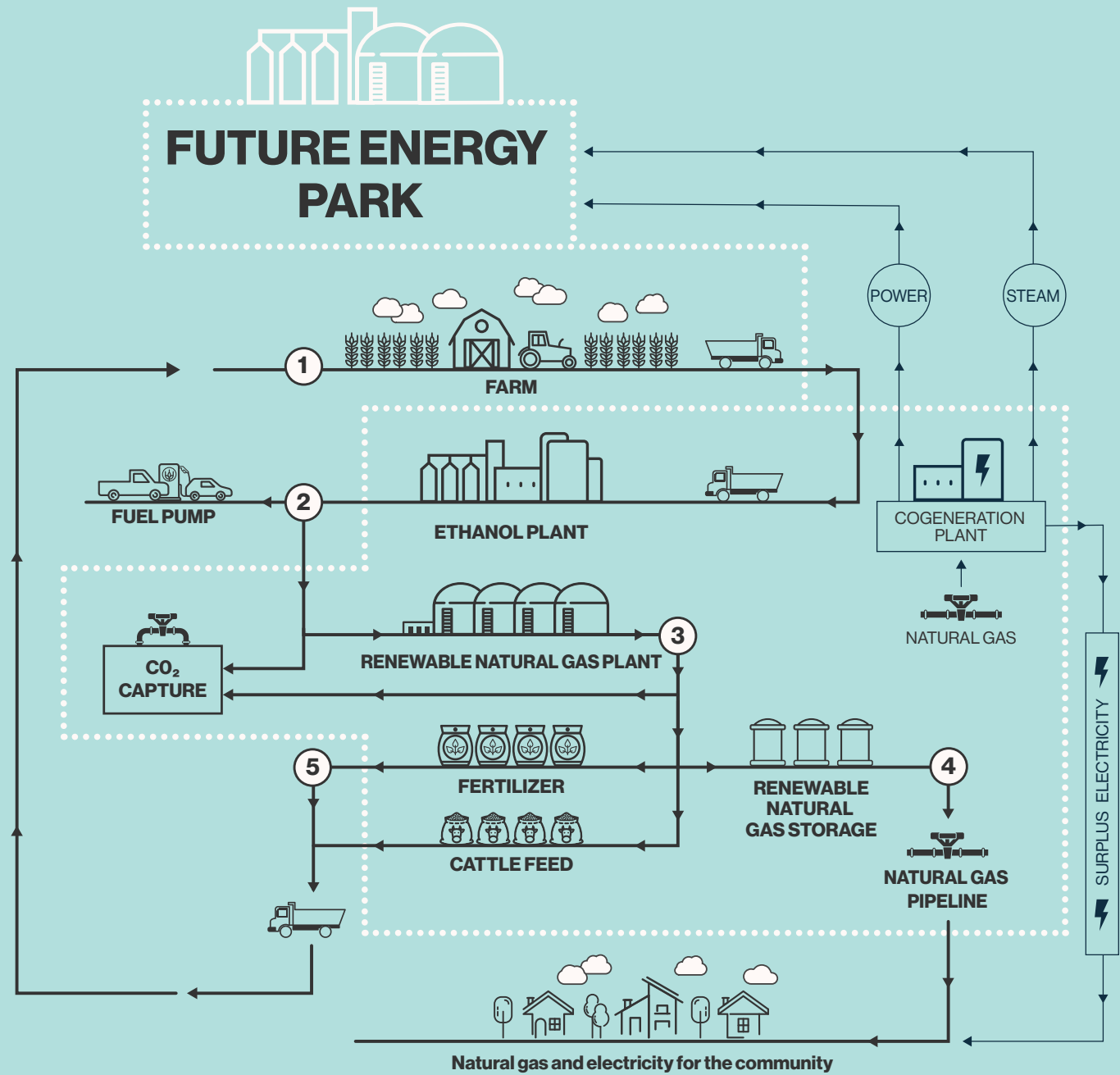
The facility will be illuminated to ensure safety at the site and will abide by the City of Calgary's lighting requirements.
- Noise**

Preliminary noise studies have been conducted to understand potential sound sources and their contribution to the surrounding area. Based on these studies, the Project will not result in significant changes to ambient noise and the facility will comply with applicable provincial and municipal noise requirements.
- Safety**

Safety is paramount and considered in every aspect of the facility's design from construction through to operations.

A site-specific emergency response plan will be developed and reviewed by local emergency services to incorporate their knowledge and expertise.

WHERE ALBERTA'S AGRICULTURE & ENERGY SECTORS MEET



- 1**

Wheat producers will be able to sell low-grade wheat to the facility and generate income by converting a low value product to an alternative use.
- 2**

After being weighed and stored, wheat is processed into ethanol and transported to fuel blending facilities in Alberta for distribution across North America.
- 3**

Wheat stillage (by-product of ethanol production) is further processed to produce renewable natural gas and digestate (another byproduct of the facility).
- 4**

Renewable natural gas is produced in anaerobic digesters (oxygen free environment), stored, and transported for use within the local natural gas distribution network.
- 5**

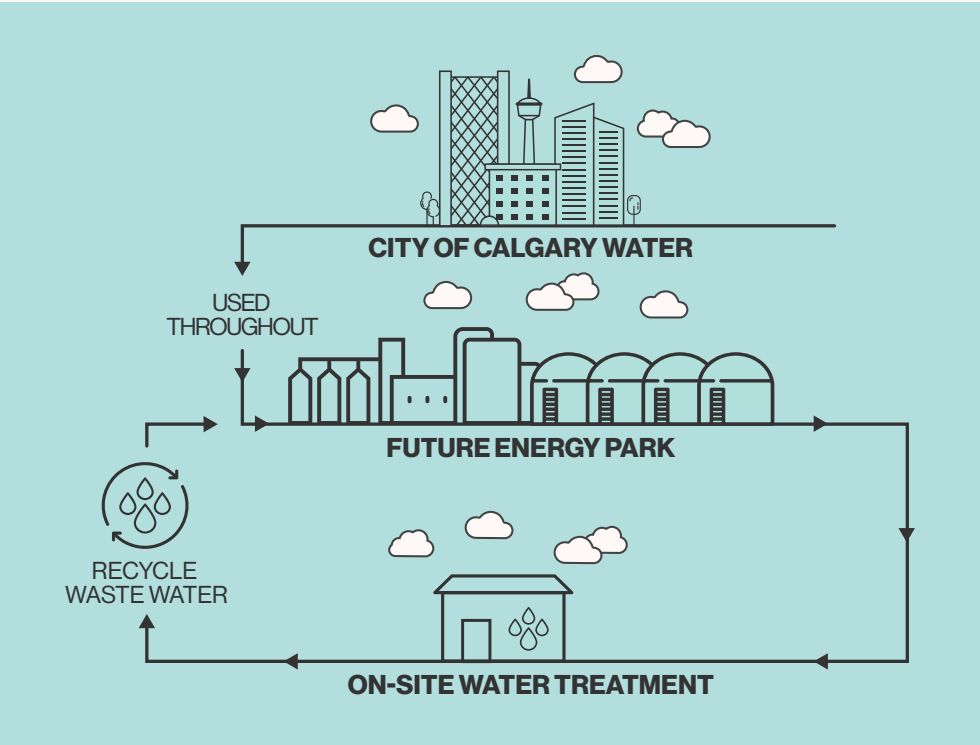
Agricultural fertilizer and cattle feed is produced from the digestate (by-product of renewable natural gas process) and sold to agricultural operators.

ALBERTA'S RENEWABLE FUELS STANDARD

Under existing legislation, Alberta fuel suppliers are required to ensure that gasoline sold in the province contains no less than 5% renewable fuel. Currently, there is a lack of renewable fuel supply to meet the standard. Future Energy Park will play a critical role in addressing this shortfall.

WATER USE

Water is integral to the operation of the facility and will be predominantly sourced from the City of Calgary. To optimize water use, the plant will have on-site water treatment that will recycle wastewater for reuse where possible.



COGENERATION STEAM+POWER

Future Energy Park will use ultra high efficiency gas fired cogeneration technology to produce both steam and electricity for use on-site.

The cogeneration plant will be equipped with two (2) 14.4 megawatt (MW) gas turbines, two (2) heat recovery steam generators, and two (2) exhaust stacks. The plant will have a maximum output of 28.8 MW with ~24 MW of power supporting the facility with any surplus being supplied to the local electrical grid.

The cogeneration plant will be enclosed within a building that is connected to a 25 kilovolt (kV) switchyard located within the boundaries of the site. ENMAX will connect the switchyard to the electrical distribution system.

The cogeneration plant will use natural gas supplied by an existing pipeline adjacent to the site.

REGULATORY AND MUNICIPAL APPROVALS

Future Energy Park is subject to various municipal and provincial approvals.

City of Calgary – Land Use Redesignation and Development Permit

A land use redesignation and a development permit will be required from the City of Calgary. The current land use district, *Special Future Urban District*, is proposed for redesignation as *Industrial Direct Control District*.

The City of Calgary has an established process for land use redesignation and development permit applications. This includes public notices, circulation to City of Calgary departments for review and comment, a public hearing, and Council and/or City Planning Commission approval. Once Future Energy Park's application is submitted, it can be viewed at The City of Calgary's Dmap portal (<https://dmap.calgary.ca/>) with updates to be provided on the Project website.

The land use redesignation and the development permit application are expected to be submitted in the spring of 2022.

Alberta Environment and Parks

The facility is subject to review and approval by Alberta Environment and Parks (AEP) under the *Environmental Protection and Enhancement Act*. An application under the Act is anticipated in the summer of 2022. Future Energy Park Inc. will be sharing its environmental findings with the public through our ongoing engagement activities.

Alberta Utilities Commission

The Alberta Utilities Commission (AUC) is responsible for the review and approval of the proposed cogeneration plant.

The AUC is an independent, quasi-judicial agency of the province of Alberta. The AUC is responsible to ensure that the delivery of Alberta's utility service takes place in a manner that is fair, responsible, and in the public interest.

Submission of an application to the AUC is anticipated for the fall of 2022. Further information on their regulatory process can be found at www.auc.ab.ca or by contacting our Project team.

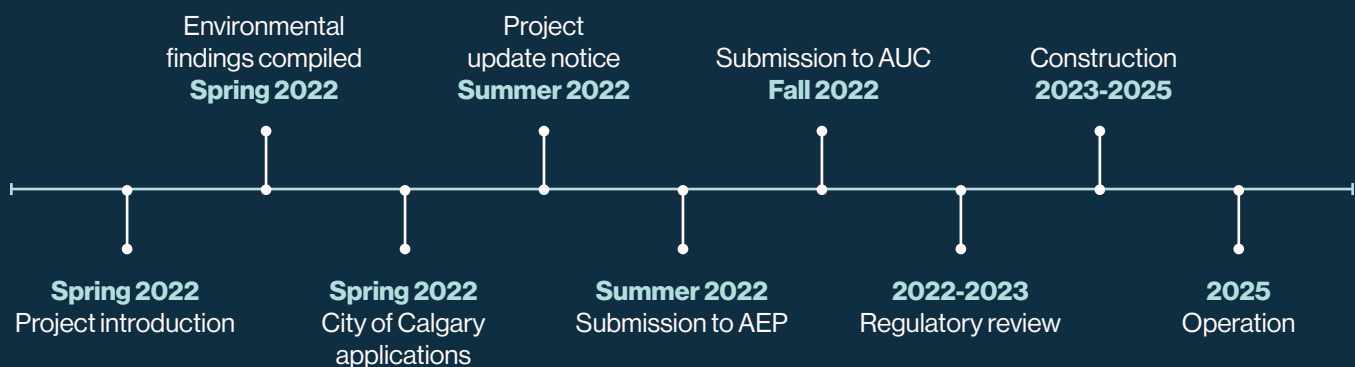
Alberta Energy Regulator

Future Energy Park Inc. is working with the Alberta Energy Regulator (AER) to determine permitting requirements for pipelines that may be needed for the facility.



Future Energy Park site looking southwest

TIMELINES



Timelines subject to change

QUESTIONS OR COMMENTS?

Understanding the communities we work in is integral to our business. Our Project team is available to answer your questions and receive your feedback that will be shared with the various regulators responsible for the review of the Project.

We encourage you to sign up for email notices to receive updated information regarding filing notices, public events, or other milestones. You can sign up by visiting the Project website or by contacting our team.

CONTACT US

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 **www.greenipi.com/portfolio/future-energy-park/**