

THE BURNABY REFINERY'S

Neighbourhood News

A NEWSLETTER FOR OUR NEIGHBOURS
SPRING 2019 - ISSUE 57



Fuels of the Future

Parkland's Transition to Green Refining

Modernizing to Meet the Needs of the Future

Petroleum products are, and for the foreseeable future will remain, a vital component of Canada's transportation needs, particularly in the marine, aviation, rail and trucking sectors. However, for the good of our planet, we need to produce fuels with lower carbon intensity in order to reduce greenhouse gas emissions. Both the provincial and federal governments have introduced requirements for low-carbon fuels. Parkland Burnaby Refinery is making investments to meet these objectives and is looking to introduce green refining into its business.

STORY CONTINUES ON PAGE 2

Co-processing with Renewable Feedstocks

Low-carbon government policies have led to Parkland's decision to co-process renewable feedstocks; this will be an important part of the refinery's future. (Read more about our co-processing in our Tech Talk article on page four.)

"In order to accommodate green refining, we will need to transition certain elements of our facility to safely and reliably produce co-processed fuels," said Facilities Planning Manager Chad Groves.

Parkland is in the early stages of planning but anticipates investing more than \$300 million in the following green refining improvements over the next five years:

- Remove out-of-service tanks and install new tanks to accommodate storage of renewable feedstocks and low carbon fuels
- Alter conversion and treating capabilities to co-process renewable feedstocks
- Increase hydrogen production to enable treatment capability for renewable feedstocks
- Continue investments in emissions improvements, aligned with our Metro Vancouver air permit requirements
- Enable rail and wharf flexibility for renewables handling

"These investments are planned in addition to the approximately \$100 million we will invest each year to ensure safe and reliable base operations," added Chad.

All this work will require about 60 new employees plus additional contractors.

"As our workforce grows to meet our green refining goals, we've made the conscious decision to acquire new offsite office space in Brentwood for about 300 refinery and Vancouver-based Parkland staff to help mitigate additional traffic in the area," said Chad.

Transitioning into the green refining business will take time, and Parkland has partnered with a number of B.C.-based third parties to source and develop renewable feedstocks. Additionally, the University of British Columbia, the Business Council of British Columbia and the provincial government—in particular the Ministry of Energy, Mines and Petroleum Resources—each have low-carbon initiatives that support and inform our efforts.

Community Remains Top of Mind

Minimizing impacts on the community will remain a priority during regular operations and throughout all phases of Parkland's green refining investments.

"We are committed to keeping the community informed of our plans, listening to our neighbours' feedback and incorporating it where practical," said Chad. "We are excited for what the future holds and we are looking forward to helping shape the future of fuels, right here in Burnaby."



Manager's Message

Alex Coles, General Manager

We're excited to embark on a new journey to green refining and are taking steps to reach that goal—several of which you can read about in this issue of Neighbourhood News. We are testing ways to incorporate renewable feedstocks into our refining processes to produce low-carbon fuels. In order to integrate these feedstocks into our refining process at a commercial scale, we are evaluating the changes we need to make within our facility. Over the next five years Parkland plans to make significant capital investments to modernize the facility so we can produce greener fuels that will contribute fewer greenhouse gas emissions. We recently ran a co-processing trial using tallow with very successful results. Developing our capability to incorporate biofeeds into our current processes will help us meet provincial and federal climate goals and establishes Parkland as a leader in low-carbon fuel manufacturing.

Parkland also remains committed to investing in our base refining business to ensure we continue to run safely and reliably. In 2018, our employees and contractors logged over one million work hours without a recordable injury. Emergency preparedness is one of the many ways we work to avert emergency situations. We recently hosted a tank fire training course with other local fire departments and industry partners. Participants learned new techniques for the unlikely event of such an incident, and our emergency response experts connected with others in the industry to share knowledge and build relationships. Likewise, our annual emergency response drill was also a success. We used the Incident Command System to practice responding to a hypothetical fuel spill at our wharf and were able to deploy the proper equipment and work with other external agencies to form a Unified Incident Command.

With our investments in the refinery comes the need to hire more people to bring our plans to fruition. We recognize the need to be mindful of our footprint and, to that end, will be moving some staff from the refinery to a new office space in the nearby Brentwood neighbourhood. Mitigating our impact on the surrounding community is paramount and Parkland is committed to being a good neighbour and environmental steward. We are steadfast in this pledge through our transition into green refining and look forward to our facility's new direction.



Parkland plans to make significant capital investments to modernize the facility so we can produce greener fuels

One of our priorities is to incorporate green refining into our business and produce fuels that help reduce our planet's greenhouse gas (GHG) emissions. To this end, Parkland ran a co-processing trial last November using a bio-oil called tallow. The trial was a success and produced about 400,000 litres of renewable gasoline and diesel—enough to drive a car around the world 100 times. This is the second successful co-processing trail at Parkland Burnaby Refinery; the first was completed in May 2017 using canola oil.

In co-processing, a portion of the crude oil feedstock used to produce fuels is substituted with a renewable source of feedstock, like tallow or canola oil. Co-processing renewable feedstock with petroleum feedstock produces fuels with lower carbon intensity. This is measured on a lifecycle basis that takes into account all emissions including those from fuel production. The B.C. government has set a standard to reduce the carbon intensity of diesel and gasoline by 20 per cent by 2030, and co-processing will help Parkland achieve this goal.

A Made-in-B.C. Solution

The tallow feedstock that was used in the November trial was barged to the refinery from West Coast Reduction, a Vancouver-owned and -operated company that has been in business for over 50 years. By using a renewable feedstock from a local source there were fewer GHG emissions produced during the tallow's transportation.

"As far as we're aware, this was the first test run using tallow in a refinery fluid catalytic cracker (FCC) on this scale,"

said Parkland's Facilities Planning Engineer Jane Bracken. "We were able to successfully inject the tallow into our refinery system all while ensuring our facility kept operating safely, reliably, environmentally soundly and efficiently."

The co-processed diesel and gasoline met all the standards required and was sold commercially.

Looking to the Future

Parkland is planning additional pre-commercialization co-processing trials in 2019.

"We'll be increasing the volumes of renewable feedstocks and developing best practices throughout 2019," said Jane. "We are confident we can meet our low-carbon targets, and this signals that our industry can contribute significantly to achieving GHG policy objectives."

Parkland will also continue its work with other B.C.-based organizations on the development and implementation of alternative feedstocks—known as second-generation feedstocks—such as sewage sludge and forest residuals. While first generation feedstocks like tallow and canola oil are readily available commercially, these new feedstocks are still in the research and development phase.

"The November co-processing trial was a great accomplishment and provides us with momentum to continue our journey to green refining," said Jane. "This is the beginning of what will be a very exciting transition for our facility."



Burnaby Refinery's Fluid Catalytic Cracker (FCC)

Safety Matters Tank Fire Training



Parkland refinery staff participated in a refresher training course on combatting tank fires this past November. The daylong course was offered twice so all the refinery's emergency responders could participate. Firefighters from Burnaby, Vancouver, Port Moody and Delta were also invited to participate, as were representatives from Suncor Energy.

"Tank fire fighting, like all oil and gas firefighting, is a very specialized field," said Parkland Emergency Response Specialist Brad Kuznik, "and it's not something that's taught at the Justice Institute, which offers a firefighting technology certificate. The tank fire fighting course was an opportunity that we jumped on to host; about 24 of our staff participated in addition to the guests we invited."

The course was led by Williams Fire & Hazard Control, a Houston-based company that specializes in emergency response. Its team is called in to fight land- and marine-based flammable liquid fires around the world.

"They are the leaders in this field," Brad noted. "This was a course that explained the principles of fighting tank fires including response strategies, equipment planning, and deployment techniques."

In-depth Training

Earlier in 2018, Parkland sent 18 employees on two separate dates to attend an industrial fire school at Louisiana State University Fire & Emergency Training Institute (LSU FETI) in Baton Rouge, Louisiana.

"We spent a week training with live fires, learning about various water streams, foams and their effectiveness, as well as reviewing logistics, strategies and tactics," said Brad. The sessions focused on several types of process fire scenarios as well as tank fires. "Tank fires are different; they require pre-planning, a lot of setup and specialized response procedures, so it was useful to actually apply what we know to a simulated situation in the field."

Preparation is Key

Continuous training and education ensures the Parkland Fire Department is prepared in the unlikely event of an emergency. Parkland also engages regularly with other agencies and industry partners that would potentially aid in our response to an incident.

"You need to know your potential hazards and prepare for them," concluded Brad. "We have systems and safeguards in place and we take preventative measures to ensure emergency situations don't happen here."

Across the Fence

Annual Emergency Response Drill

Every year, Parkland staff and external partners gather to practice their roles in the unlikely event of an emergency at the refinery. Our latest drill took place in January, with the hypothetical scenario of a diesel spill at our wharf.

“These drills demonstrate our ability to handle various types of emergencies as well as our capability to use a Unified Incident Command protocol where Parkland staff and government agencies act in a cohesive manner to identify all aspects of the situation and conduct a unified response,” said Parkland Health, Safety and Environment Manager Jill Donnelly.

Upwards of 50 refinery employees and contractors were involved in the January drill in addition to representatives from Transport Canada, Canadian Coast Guard,

Fisheries and Oceans Canada, Port of Vancouver, Environment Canada, B.C. Ministry of Environment, Tsleil-Waututh First Nation, the City of Burnaby, B.C. Oil and Gas Commission, Fraser Health, and Western Canada Marine Response Corporation.

January’s drill went very well and Jill was particularly impressed with how quickly additional booms were deployed at the dock to contain the fictitious spill.

“It was also great to see how many of our regulators attended,” she said. “Working with them during drills helps us establish connections, which is very important. If an incident were to occur, they have valuable insights and resources to ensure the situation remains in control at all times.”



CAP

Community Advisory Panel Membership

The Parkland/North Burnaby Community Advisory Panel (CAP) is seeking new members.

The CAP meets quarterly to discuss Burnaby Refinery operations and other topics of mutual importance to refinery neighbours and staff. Meetings are led by a third-party facilitator and meeting minutes and presentations are posted online for the public.

CAP members collaborate to address community concerns, brainstorm engagement methods and share ideas to foster dialogue and understanding between the refinery and its North Burnaby neighbours.

If you are interested in joining the CAP, please contact prbcrefineryinfo@parkland.ca. For more information, please visit www.parklandcap.ca.

Colouring Contest!

Enter to win one of three
\$150 Chevron
Gift Certificates!

Time to get Creative!

One of our talented reliability engineers, Bonnie Moore, drew this beautiful interpretation of the Parkland Burnaby Refinery. We invite you to colour the image on the right for a chance to win one of three \$150 Chevron gas certificates.

To submit your
colouring contest entry:

Scan or snap a photo of your
drawing and e-mail it to us at
prbcrefineryinfo@parkland.ca

or

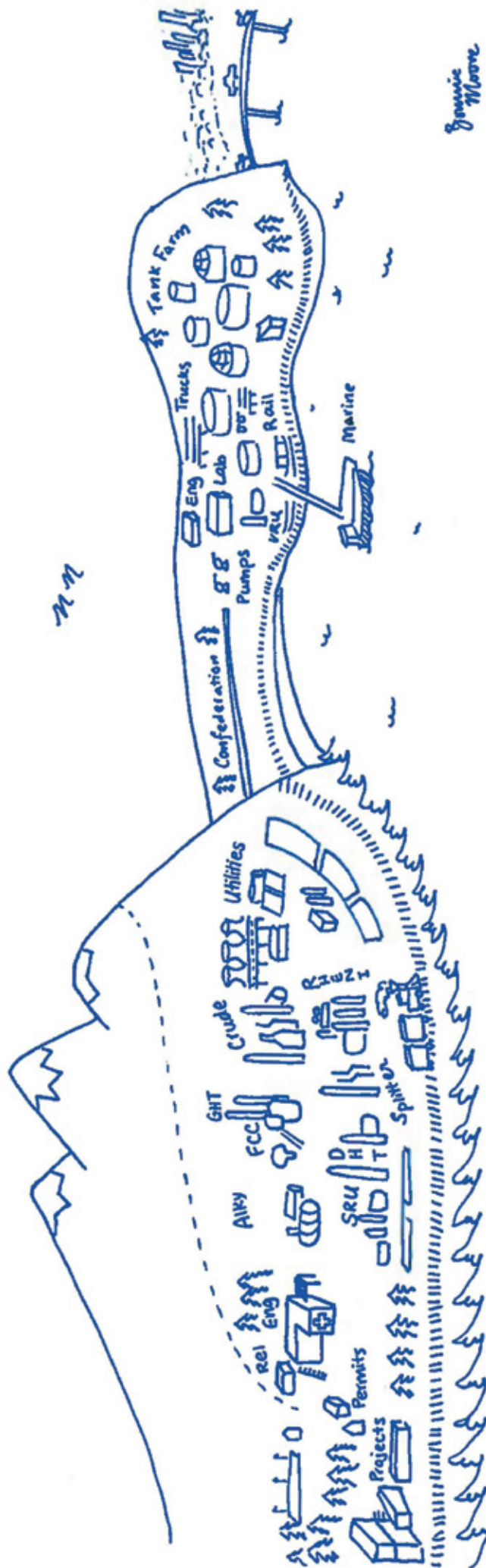
Send us your drawing via mail to:
355 North Willingdon Ave,
Burnaby, B.C. V5C 1X4
Attention Community Affairs

Please ensure you include the information
below so we can contact our winners. We
look forward to seeing your masterpieces!

Name

Age (optional)

Contact e-mail or phone number



Community Corner

Light Up the Heights

Parkland was proud to once again support The Heights Merchants Association's Light Up the Heights event in December. The community embraces this opportunity to shop locally during the holidays with festive celebrations including the annual tree lighting ceremony, appearances from the elusive Man in the Red Suit, and carolers who warmed the mood on cold winter days.

"Light Up the Heights is our own local holiday tradition, where we bring the holiday spirit to the sidewalks of Burnaby Heights," said Isabel Kolic, executive director of the Heights Merchants Association. "This fun and sweet event is made possible by support from local sponsors, such as Parkland Refinery."



Burnaby Neighbourhood House's Diamond Ball Fundraising Gala

Parkland is pleased to also support the Burnaby Neighbourhood House (BNH). Its 15th annual Diamond Ball Gala was held on Saturday, March 9 and Parkland was a proud sponsor. BNH is the first neighbourhood house to provide services in Burnaby. Using a wide range of programs, services and events, BNH brings community members together in a positive and supportive environment.

For more information about BNH, please visit www.burnabynh.ca.

Parkland Toy Drive

Another way Parkland helped make the holiday season bright was by supporting the Burnaby Christmas Bureau. For the past 12 years, the refinery's Construction and Administrative divisions have teamed up to organize a refinery toy drive.

Our employees and contractors brought new, unwrapped toys to work for donation to the Bureau. At our year-end contractor "thank you" luncheon, Stephen D'Souza, executive director of Burnaby Community Services, met with our staff and transported the toys to the Bureau's Toy Room. This year, Parkland staff also volunteered their time to help decorate the Toy Room located in Brentwood Town Centre.



Contact Us

We welcome your questions and feedback. Please don't hesitate to call or e-mail our Community Contact Line:

T **604-257-4040**

E prbcrefineryinfo@parkland.ca

Our phone line is monitored during regular business hours. After-hours paging instructions are available to report unusual odours, activities or noise. The public may also report odours directly to Metro Vancouver Air Quality at **604-436-6777**.

For more information about the Parkland Burnaby Refinery, visit www.parklandcap.ca

Neighbourhood News is produced by Parkland Refining (B.C.) Ltd. for residents of the Heights, Capitol Hill and surrounding areas of North Burnaby.

We invite your comments, questions or suggestions for future articles.

Please contact us at Neighbourhood News, Parkland Burnaby Refinery, 355 North Willingdon Avenue, Burnaby, BC, V5C 1X4.

Shannon Urquhart, COMMUNITY AFFAIRS LEAD,
604-257-5030

Kel Coulson, MANAGER - POLICY & EXTERNAL RELATIONS, **604-296-3856**

"We are very grateful to Parkland for their ongoing commitment to supporting families with low income and seniors experiencing isolation. Parkland does a great job of engaging with the local neighbourhood, and with its employees and contractors to help those most vulnerable in our community," said Stephen.

"We're proud our employees and contractors are so generous and passionate about helping those in our local community," said Grey Turner, construction field rep and 2018 toy drive co-organizer. "I think I can speak for everyone here and say that it just feels really good to be able to reach out and help someone who is less fortunate than we are."