

THE BURNABY REFINERY'S

Neighbourhood News

A NEWSLETTER FOR OUR NEIGHBOURS
FALL 2015 - ISSUE 48



The Economic Impact of the **Burnaby Refinery**

The Burnaby Refinery's roots go way back; we have been part of your neighbourhood and a major contributor to the local and provincial economy since 1935. The refinery is a vital part of Chevron Canada's operations and to our 'crude to customer' business model which is to take crude oil through all its stages until it reaches our valued customers.

Up until the early 1990s, there were four refineries operating in Burrard Inlet; only Chevron's remains with the others now terminals primarily for Alberta-based production. Chevron's commitment to the Burnaby Refinery means it remains an important and reliable supplier of transportation fuel as well as a major employer providing family sustaining jobs.

"The Burnaby Refinery is a fundamental part of the BC economy," said Dave Schick, the refinery's manager of policy, government and public affairs. "Transportation of goods and people over long distances is a big part of our way of life. A reliable supply of fuel from our refinery makes that possible."

The Burnaby Refinery manufactures products under the rigorous environmental standards of both the federal and provincial governments as well as the refinery's regulator, Metro Vancouver. The refinery's positive economic impact is only valued if there is equally robust safety, environmental, and reliability performance. We work hard to ensure our impact on the environment and surrounding community is minimized.

Just how important is the refinery to the region's economic well-being? Here is an overview:

Investments

- The refinery spends about \$70 million annually on locally sourced supplies and services.
- There is an annual requirement for sustaining capital dollars and continuous investment to ensure compliance with our regulators.
- In the last ten years, the refinery has made over \$350 million in investments including environmental, infrastructure and process upgrades to improve reliability, reduce emissions and produce cleaner fuels.

Jobs

- Over 300 people work at the refinery. In addition, over 100 employees are part of our marketing division.
- Hundreds of long-term contractors benefit from their work at the refinery. Thousands of British Columbians are directly employed by the company or as Chevron retailers/wholesalers and specialized service contractors.
- If the refinery were a separate private entity, it would be among the 10 largest companies with a head office located in BC.

A Reliable Source of Transportation Fuels

- The refinery has a daily production capacity of 55,000 barrels.
- We meet about 24 per cent of the province's transportation fuel needs.
- We are a major supplier of key public services sectors including BC Ferries, Coast Mountain Bus, and municipal services.
- 40 per cent of the Vancouver airport's jet fuel requirements come from the refinery.
- The refinery supplies over 8,000 businesses.
- Over 160 BC service stations operated by independent and small business owners.

Contributions to the Tax Base

- The refinery contributes approximately \$50 million in taxes annually.
- Chevron Canada is one of the province's largest tax collectors.

"The North American refining sector is highly competitive," said Dave. "BC is not self-sufficient in the supply and production of finished petroleum products; over 60 % is imported from Alberta. As a result, the refinery regularly benchmarks its performance - including operating costs - with a peer group of similarly sized refineries. So long as we remain competitive, we will support continued investment in our facility providing reliable supply of transportation fuel and high-paying, family sustaining jobs to the surrounding community."



Manager's Message

Steve Parker, General Manager

I've worked in the energy sector for 35 years and I'm often struck by the number of colleagues who, like me, chose this profession because we wanted to make a difference. Energy resources are the lifeblood of any economy: it's what keeps things moving. It is easy to think of the Burnaby Refinery as simply the source of the gas you use to fill up your car at the pump. While that is an important part of what we do, our influence is much greater than that: our work is keeping not only your cars on the road but also trucks, trains, boats and planes moving too. In a country as big as Canada, economic success is based in large part on reliable and affordable transportation of goods. Chevron's contribution to this is significant.

People today are driving far more sophisticated vehicles than when I first got into this business and we also want our cars to meet stronger environmental standards. This is another niche that Chevron serves. We work hard to provide premium products that support modern engine technology. So, as our economy becomes more high-tech, Chevron is working to meet its needs by developing fuels that support this technology shift.

Everyone who works at the Burnaby Refinery takes immense pride in being able to provide our economy with reliable and affordable access to transportation fuels. What we are equally committed to is upholding high environmental standards. Our expectations are the same as those of our neighbours and we work diligently to achieve compliance. We receive many questions about the measures we take to maintain our region's wonderful air quality. Equally important to our environment are the steps we take to make sure the water effluent that leaves the refinery meets strict standards. We don't simply pass our waste water along to the municipality or the region to deal with. As you will read in this issue's Tech Talk article, we use innovative and unique technology to treat the water to world-class standards before it is released into the municipal system.

An important way for us to understand what matters to our community is to receive your comments and questions. One of the ways you can do this is to attend our annual CAP neighbourhood meeting. This year's takes place on November 17. We have seen growing representation on our Community Advisory Panel and it is great to see people reaching out and wanting to be involved. Chevron values the power of an engaged community and November's meeting is an opportunity for you to talk with us about your expectations and how we can meet those. I hope to see you there.



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Safety Matters

Preparing for Winter Driving

At the refinery, safety is always a priority. When it comes to winter weather, our drivers are careful to manage risks. While they are trained to handle just about any driving conditions, they also know they can't control the behaviour of other drivers on the roads. If road conditions are too dangerous, they may make the decision to park and wait out the weather.

What are some of the steps you can take to prepare for winter driving? The refinery reached out to the Winter Driving Safety Alliance for recommendations. WorkSafeBC is one of the group's members.

"Many people drive as part of their job, and some drive their personal vehicle for work purposes," said WorkSafeBC Industry and Labour Services Manager Mark Ordeman. "Whether you are driving for leisure or work it is important to practice safe driving, especially in the winter when the weather hazards increase. The Shift Into Winter website has safe driving tools and resources for all drivers regardless of the purpose for driving."

Shift Into Winter - How to Prepare Your Car

Following are some of the Winter Driving Safety Alliance's recommendations. You can learn more about preparing yourself and your car for winter driving by visiting the Shift into Winter website: shiftintowinter.ca.

1. Install Winter Tires.

Winter tires improve driving safety by providing better traction in snow, slush, and icy conditions. Check for wear before installing the tires and check tire air pressure frequently, as it decreases in cold weather.

2. Give your Car a Maintenance Checkup.

Make sure your battery, brakes, lights and fuses, cooling and heating systems, electrical and exhaust systems, and belts and hoses are in tip-top shape.

3. Change your Wiper Blades to Winter Blades.

Winter blades are heavier and push snow and ice more easily.

4. Clear Snow and Ice from all Windows, Lights, Mirrors, Hood and Roof.

After starting your vehicle, wait for the window to defrost completely to allow clear visibility all around.

5. Take a Fully Charged Cell Phone with you.

A car charger for the phone is a smart device to have on hand. Cell phone batteries can freeze in very cold weather. Don't leave your phone in the car for extended periods of time.

6. Ensure your Windshield Washer Reservoir is Full.

Carry extra washer fluid in your vehicle.

7. Pack a Winter Survival Kit.

Recommended items include:

- Emergency kit containing non-perishable food, blankets and first aid supplies
- Windshield scraper and snow brush
- Extra windshield washer fluid
- Spare tire, wheel wrench and jack
- Shovel and traction mat, sand or kitty litter
- Fuel line antifreeze
- Flares and matches or lighter
- Tire chains and gloves
- Flashlight and extra batteries
- Battery jumper cables
- Extra clothing and footwear
- Sandbags for extra weight

8. Keep your Gas Tank Topped up.

This will help to avoid condensation and moist air inside the tank, which can cause fuel lines to freeze and other serious issues.

9. If you Get Stuck in a Storm, Don't Panic.

Avoid overexertion and exposure. Stay in your vehicle and open your window slightly to make sure you have a supply of fresh air. Use a survival candle for heat. Set out a warning light or flares.



Tech Talk Water Quality

Water is a critical part of the refining process; and is used for most aspects of processing crude, including cooling water for exchangers, and feedwater for the boilers that generate the steam necessary for production processes.

Before any water used by the refinery can be discharged, it undergoes treatment to remove contaminants such as hydrocarbons and metals. Wastewater treated through the plant is discharged into a municipal sewer system and treated again at Metro Vancouver's wastewater treatment plant before being discharged. The refinery employs two process engineers, Kel Coulson and Mack Atkinson, who are responsible for water treatment and utilities.

Deep Shaft Wastewater Treatment

"We are perhaps the first refinery in North America to use a deep shaft bio-remediation system for treating our wastewater," said Kel. "The refinery has a relatively small footprint that cannot accommodate a traditional water treatment facility. Instead, in the 1990s, we installed the deep shaft to provide an extra layer of secondary treatment."

"The shaft, which is located along the western fence line in Area 2 of the refinery, is over 100 metres deep," added Mack. "It's our solution to the challenge of being located where land is in short supply and where the only real direction we could expand was down."

The entire treatment plant is 697 square

metres and operates on 56 kilowatts at peak load. By comparison, a traditional aerobic system would require a land area approximately five times as large and use double the energy to operate.

How it Works

All the water that comes into contact with hydrocarbons at the refinery requires treatment before it can be released. This includes all water from steam generators and recirculating cooling water systems. Every process unit in the refinery is tied into the oily water sewer system: an underground network of sewers that collects all the liquid and directs it into three retention ponds where it is then pumped into the adjacent shaft.

Secondary treatment is a biological process that uses aerobic bacteria to consume contaminants in wastewater. "The mixture of oxygen and "bugs" is called activated sludge and is the heart of the plant. We add oxygen to the water in the shaft, which creates an environment good for our bugs to effectively treat and remove the contaminants," said Kel. "When the water is returned to the surface, it passes over gravel beds for extra cleaning. We ensure it meets our regulatory requirements before the treated water is discharged."

System Improvements

Advances have been made in monitoring the waste water over the past five years.

"As we've learned more about how our upstream processes affect the plant's water quality, we've increased our monitoring," said Mack. "We also have a better understanding of what keeps our bugs healthy. Surfactants (soapy substances) can be disruptive to microorganisms so we now limit their amount or capture water we use for cleaning units. During the turnaround earlier this year, for instance, we sent the water used to wash our equipment off site where it could be decontaminated in a way that would not be harmful."

Monitoring Water Quality

One of the first things Kel and Mack do when they arrive at work each day is monitor water quality. Treated wastewater is regularly monitored for substances that could be potentially harmful to fish and other aquatic life. This testing confirms that treatment plant processes are working effectively and are meeting regulatory requirements.

"Operators also monitor water quality parameters once a shift and we'll take water samples once a week which are submitted to Metro Vancouver," said Kel. "For certain parameters, we have online monitoring equipment which displays results in real time."

The overall goal of wastewater treatment is to ensure good water quality in order to protect and maintain healthy rivers and oceans.

Across the Fence



Join us for the Annual CAP Neighbourhood Meeting

Anyone who lives in the community and would like to know more about the refinery's operations as well as learning about the Chevron Burnaby Refinery Community Advisory Panel (CAP) is welcome to join us for the panel's sixth annual neighbourhood meeting:

Tuesday, November 17, 7 to 9 pm
Confederation Seniors Centre
4585 Albert Street

CAP members will take the opportunity to provide an overview of their activities in 2015. They are also looking to neighbours to suggest topics to discuss in 2016 and will take questions from those attending. Also, in response to community interest, Chevron staff will make a presentation about the refinery's emergency management system.

CAP members are your neighbours. The panel has been active since 1996 and includes local residents who represent community interests. They meet regularly with refinery management and local regulatory officials. Please join us to learn more about the refinery as well as the important work CAP members do on your behalf.

Confederation Park Pipeline Maintenance Update

This summer's routine maintenance and evaluation of the underground pipeline that runs along the refinery's right of way in Confederation Park is now complete for 2015. Workers are currently addressing some slope repair and restoration within a fenced area. Crews will primarily work within this area; however, a concrete pump will need to be placed in front of the fence from time to time. This pump will partially block the trail. Regular park users will be glad to hear that the trail will not be completely closed during this work. A safety guard will be on hand to control access. In agreement with the City of Burnaby, the fence will remain in place into 2016 to allow the vegetation to grow back following the slope's restoration.

Community Corner



Mrs. Desrocher teaches a robotics class and received a grant for new robots

Chevron's Fuel Your School initiative is back. Every time you fill up your tank with 30 litres or more at a Chevron station in Burnaby, Surrey, the North Shore or Coquitlam during the month of October, Chevron will donate \$1 to help fund eligible classroom projects in that community. The Fuel Your School program is a partnership with My Class Needs, a registered Canadian charity that helps connect deserving K-12 classroom projects with interested donors. Chevron will donate up to \$565,000 for projects in these Lower Mainland communities, with preference given to projects that incorporate science, technology, engineering and/or math.

You can also encourage your children's teachers to submit requests to **MyClassNeeds.ca**. Project can be submitted between now and November 30, or while eligible funds are available.



Community Corner

Community Contact Line

(604) 257-4040

Chevron's Burnaby Refinery welcomes your calls and feedback. If you have any comments or concerns, please do not hesitate to call our Community Contact Line: 604-257-4040.

This line is staffed on weekdays between 8 am and 4:30 pm. Your call will be directed to the most appropriate person who can respond quickly. In the event of an emergency, or significant maintenance work underway that may contribute to unusual operating conditions, information and regular updates for the public are made available.

If you are calling after hours or on a weekend, please follow the paging instructions. Your call will be forwarded to our on-duty shift supervisors. If you would like to report an odour or if you notice anything that you think is unusual, please let us know. Your calls are very important to us and we will respond as quickly as possible.

To contact the Metro Vancouver air quality officer **604-436-6777**

For the refinery website, visit **www.chevron.ca/operations/refining**

For information about the Chevron/ North Burnaby Community Advisory Panel, visit **www.chevroncap.com**



Neighbourhood News is a quarterly newsletter produced by Chevron's Burnaby Refinery for residents of the Heights, Capitol Hill and surrounding areas of North Burnaby.

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

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Santa visits Chickadee Boutique on the Heights, during Light Up the Heights PHOTO COURTESY OF HEIGHTS MERCHANTS ASSOC.

Light Up the Heights

It may seem too soon for visions of sugarplums to be dancing in your head, but Christmas will be here before we know it. Get yourself in the festive mood with the community's annual Light Up the Heights celebrations taking place this year on Saturday, December 5.

The Heights Merchants Association invites neighbours to shop locally while enjoying the day's sidewalk festival. Carollers will bring seasonal spirit to shops along Hastings, while the North Pole's number one jolly elf and other winter characters will be handing out treats.

"My favourite part of the day is getting out and seeing the spirit that we bring to the streets," said Heights Merchants Association Executive Director Isabel Kolic. "We hope to see a great community gathering for our traditional tree-lighting ceremony that takes place shortly before 5 pm."

For up-to-date information on this and other events in the Heights visit **www.burnabyheights.com**.

Looking Back Chevron Burnaby Refinery, Tank Farm: Circa 1936

