



Hello Neighbours and Friends

I hope you've enjoyed summer, as fall comes quickly upon us! I'm happy to report that Genesee remains a bustle of activity with lots going on at site. For that, I'd like to acknowledge our team of dedicated employees and contractors for their hard work and dedication.

Last year, our Genesee Unit 2 experienced an unplanned outage due to a generator failure. The teamwork, quick-thinking and ingenuity that occurred to return the unit to service over that period was remarkable (over and above for our Genesee team, who have an industry reputation for excellence). We were able to obtain a viable replacement generator from TransAlta's mothballed Sundance Unit 3 and worked to safely move it more than 100 km to Genesee. To optimize the outage time, we also accelerated the Low Pressure (LP) Turbine upgrade project previously planned for 2023.

This spring we also completed a planned maintenance outage on our Genesee Unit 1 that included inspections of boiler repairs and recertification and overhaul of boiler fans and feedwater pumps.

The Genesee site continues to be a busy place with hundreds of workers involved in the construction of the repowering of Genesee Unit 1 and Unit 2 and conversion of Genesee 3 to natural gas. The Genesee Units 1 and 2 are being repowered to new natural gas combined cycle (NGCC) technology. Genesee Unit 1 will become a dedicated NGCC unit in 2023 and respectively Genesee Unit 2 in 2024. Once the Genesee 1 and 2 repowering and Genesee 3 coal-to-gas conversion are complete, Genesee will generate approximately 10,000 to 11,000 GWh annually – enough to meet the entire Alberta residential demand ensuring the facility will continue to be an important source of base load power generation well into the future.

We continue to develop plans for a carbon capture and sequestration project on site. In November 2021, Capital Power and Enbridge announced a collaboration on carbon capture and storage (CCS) solutions in the Wabamun area with Enbridge as the transportation and storage service provider and Capital Power as a CO₂ provider. On March 31, the Government of Alberta announced that Enbridge has been awarded the right to pursue development of the proposed CO₂ sequestration hub.

In June, we announced a partnership with Mitsubishi Heavy Industries Group and Kiewit Energy Group on a front-end engineering and design (FEED) study to determine the next stage of engineering and design for carbon capture and storage (CCS) technology at Genesee 1 and 2. We also continue to advance our Genesee Mine Ash Recovery Project. The facility will process landfill fly ash at the Genesee Mine for use in cement and concrete.

You can read more about the exciting and innovative projects that are underway or planned in this newsletter.

Wishing you a safe and healthy fall season!



A handwritten signature in black ink, appearing to read 'Sean Furey'.

Sean Furey
Vice-President,
Thermal Operations West
Capital Power

Repowering of Genesee Units 1 and 2 Progressing

Capital Power's work to repower Genesee Units 1 & 2 is nearing the mid-way point as, every day, hundreds of workers continue the construction effort on the site immediately west of the established powerhouse. Once complete, the project will bring two natural gas combined cycle (NGCC) units into operation, ending coal-fired power generation at Genesee. The two repowered units will each provide 538 megawatts of net generation capacity.

The construction effort is a highly technical choreography between massive pieces of equipment and the need for pin-point precision. Take for example the two combustion turbines that are central to the project. Arriving on site in February, each piece weighed 350 metric tons (793,664 lbs). Once on-site, each required a delicate lift and slide onto the concrete turbine pad, and precise accuracy in where the turbines were placed in relation to the generator units. The 'room for error' with this move was 0.03 millimetres, or about the width of a human hair.

Like everyone, the construction team is delighted to see cases of COVID diminishing. As part of rigorous health and safety protocols, temperature checks and masking were required during the early stages of construction, and isolation required when signs of sickness appeared. Overall, health and safety aspects of the project have been excellent.

During the first half of 2022, the number of workers on-site peaked at 390. That number is expected to grow to over 800 later this year. Crews will be at work on a range of tasks, everything from completing the civil, mechanical, and electrical infrastructures.

What is a natural gas combined cycle unit?

NGCC power generation is a two-step process. First, it involves the combustion of natural gas in a turbine, which then drives a shaft in a generator. Then, using the exhaust gasses from the combustion process, water is converted to steam, which then drives another turbine. The combined process is amongst the most efficient in terms of power generation.

The repowering project will deliver significant environmental benefits, including reduction in emissions associated with coal-fired power generation. For example, the carbon emissions intensity of using natural gas as a fuel source will decrease CO₂ by approximately 60% when compared to emissions when the units are running on coal. In addition, overall water usage for the repowered units will be reduced with the new technology by at least half.

The project remains on schedule and on-budget, with both units expected to be operational by early 2024.



After a journey by ship, rail and road, the combustion turbine (CT) #1 and CT generator (CTG) #1, integral components of the Repowering Project, arrived at our Genesee Generating Station in February 2022.



Genesee Hosts Site Visit for our Municipal Neighbours

Our Genesee Generating Station hosted a tour on June 27 of the Genesee Repowering site for municipal representatives from the Village of Warburg and Leduc County. Maintaining strong relationships with our neighbours is essential, and this bi-annual meeting with municipalities is filled with discussions about our ongoing operations and future developments at Genesee.



L to R: Michael Sheehan; Sr. Advisor Indigenous and Stakeholder Engagement, Capital Power; Rick Hart, Deputy Mayor, Village of Warburg; Tanni Doblanko, Mayor, Leduc County; Dwayne Mayr, Mayor, Village of Warburg; Ray Scobie, Councillor, Leduc County; and Wisman Bakir, Senior Construction Manager, Genesee Repowering Project

Advancing Carbon Capture at Genesee

As part of our approach to decarbonization, we're prioritizing physical emissions reductions from our facilities to support our long-term resiliency. As a result, we're developing plans to apply carbon capture and storage (CCS) technology at Genesee 1 and 2. This project is anticipated to start capturing carbon as early as 2027 – capturing 95% of the CO₂ emitted from the repowered units and delivering up to 3 million tonnes of annual CO₂ reductions.

In June 2022, we announced that we partnered with Mitsubishi Heavy Industries Group and Kiewit Energy Group on a front-end engineering and design (FEED) study to determine the next stage of engineering and design for the project. In July 2022, the project was awarded Carbon Capture Kickstart funding from Emissions Reduction Alberta. In addition to this project, we announced a collaboration with Enbridge on the development of an open access carbon hub in the Wabamun area.



Supporting Safe Hunting at Genesee

Supporting safe hunting at Genesee, Capital Power is continuing its hunting program that includes black powder rifles, cross bows, shotguns and archery. This program provides excellent hunting opportunities for the public in an area well known for its Whitetail and Mule Deer populations.



The program, in partnership with Hunting for Tomorrow, is open to all eligible hunters. There is no cost to participate, but there are specific rules that all participants must adhere to regarding site access.

The mentorship hunting program is also still active. This program pairs youth participants and first-time hunters with a qualified mentor to receive one-on-one safe hunting instruction and opportunities.

Public access to Capital Power's land at Genesee is only permitted through the Hunting for Tomorrow program. Genesee personnel are on the land 24-hours a day and are at risk if you hunt in unauthorized areas.

For more information, or to apply to hunt at Genesee, contact:

Chuck Strong
chuck@aheia.com 780-466-6682
(toll-free: 1-866-282-4342)
www.huntingfortomorrow.com

Capital Power Pheasant Release Site

Since 2018, Capital Power has provided the Alberta Conservation Association (ACA) with a pheasant release site. The pheasants are farm raised, released to create hunting opportunities and are not meant to create a local population.



This site is private property owned by Capital Power. All hunters must register online for a permit before accessing this pheasant release site.

Visit www.abconservation.com for more information.

2022 Peregrine Falcon Program

We had four baby falcons hatch, grow and leave the Genesee nesting box! On July 7, Rick Morse came to site on behalf of Fish & Wildlife to band the Peregrine Falcon chicks – safely adding bands so research can be gathered to help the falcon population flourish. Rick identified three males and one female (females are larger and have bigger feet!).



The day also included a special guest! In 2020 Sam Smith sent a letter to Genesee staff thanking them for their hard work through the pandemic, and he included a wonderful drawing of the falcons.

Sean Furey reached out to Sam and arranged for him and his family to attend the banding. They got a close look at the chicks and Sam was a fantastic help, holding them during the banding!

The chicks hatched in mid-June and began to fly in late July.

Our Genesee Generating Station has been part of the recovery and maintenance of Peregrine Falcon populations in Alberta since the early 1990s. We've been voluntarily and informally monitoring Peregrine Falcon nest success at Genesee since 1992.



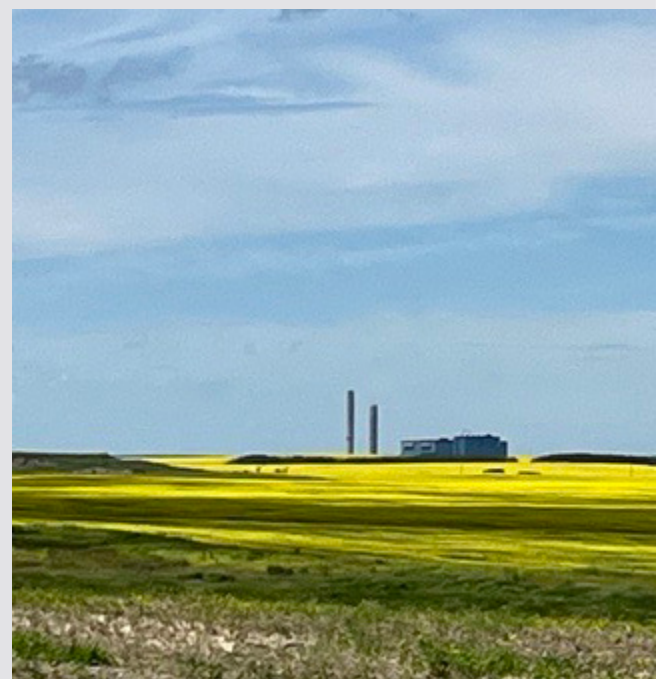
Sam Hill assisted with the banding of the four peregrine falcon chicks that were hatched at Genesee this summer.

Reclaiming the Genesee Mine

At the end of 2021, we have fully reclaimed 1,300.7 hectares (ha) of land at the Genesee Mine (~ 39% of the total surface area), which includes farmland, reforested and wetland areas. Two new reforestation areas were established in 2021, species planted included: paper birch, green alder, white spruce, lodgepole pine and balsam poplar. In 2022, we're focused on maintenance and management of existing tree plantations.

As of July 15, 2022, we have completed:

- **15.3 ha of topsoil placement (65 ha target for 2022)**
- **18 ha of subsoil placement (65 ha target for 2022)**
- **19.5 ha of leveling (65 ha target for 2022)**



Celebrating National Indigenous Peoples Day with Paul First Nation



Capital Power was honoured to participate in Paul First Nation's Treaty Day event earlier this summer.

On June 21, National Indigenous Peoples Day, we joined community members and other industry partners at Paul First Nation's (PFN) Treaty Day, an annual celebration commemorating the signing of Treaty 6 between the federal government (i.e., "the Crown") and Indigenous nations. Treaty 6 territory stretches from western Alberta, through Saskatchewan and into Manitoba, and includes 50 First Nations.

Paul First Nation is a close neighbour to our Genesee Generating Station, and we've been listening, learning and looking for areas where we can build a sustainable long-term relationship. We continue to build our relationships and commit to reconciliation with Indigenous communities.

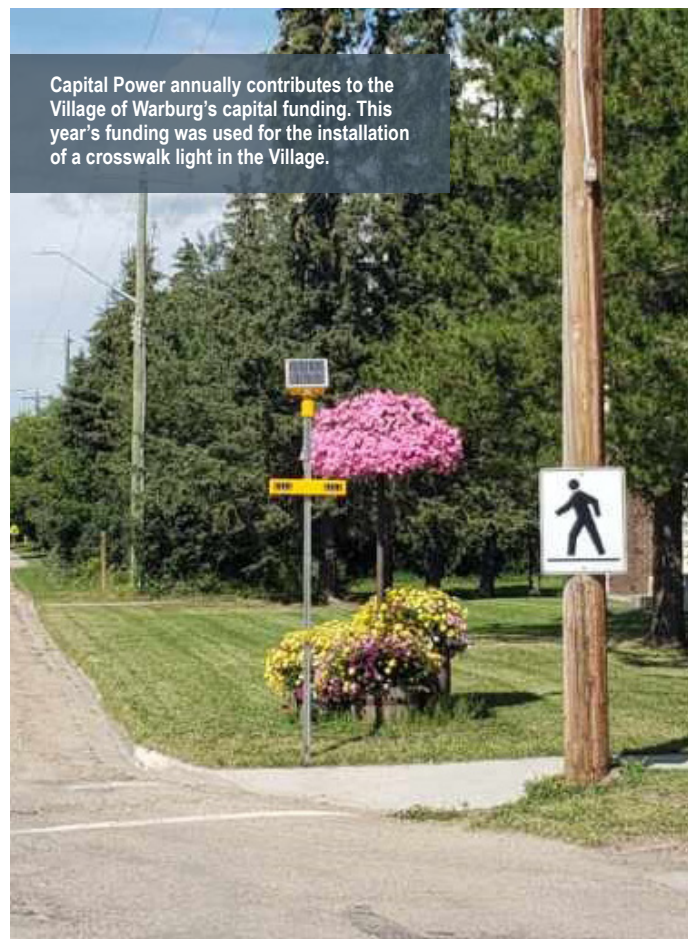
Powering Sustainable Communities

We are committed to investing in the communities where we live and operate and support local programs and organizations that create impact and build sustainable communities. Some of our recent support includes:

- Warburg Heritage Days
- Leduc County Food Bank
- Warburg & Thorsby Christmas Elves
- Warburg Minor Hockey
- Genesee Heritage Park
- Paul First Nation School Hot Lunch Program

Request Support

Capital Power provides support in the areas of Equity & Culture, Wellbeing and Climate Action. If you are a part of a community organization that operates in the area and have events or initiatives that support these focus areas, please consider requesting support through our on-line system on our website:
www.capitalpower.com/sustainability/community/request-for-support.



Capital Power annually contributes to the Village of Warburg's capital funding. This year's funding was used for the installation of a crosswalk light in the Village.

Genesee Station Environmental Performance

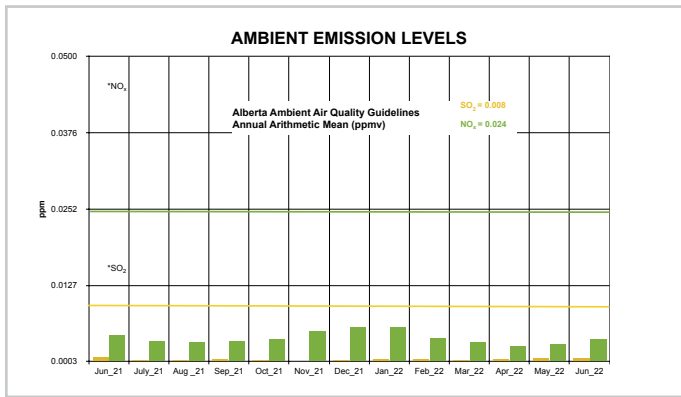
The following graphs show the most recent environmental performance results:

- Ambient air quality as measured by the Genesee ambient air monitoring trailer;
- Stack emissions for stack one (for Genesee 1 and 2);
- Stack emissions for stack two (for Genesee 3).

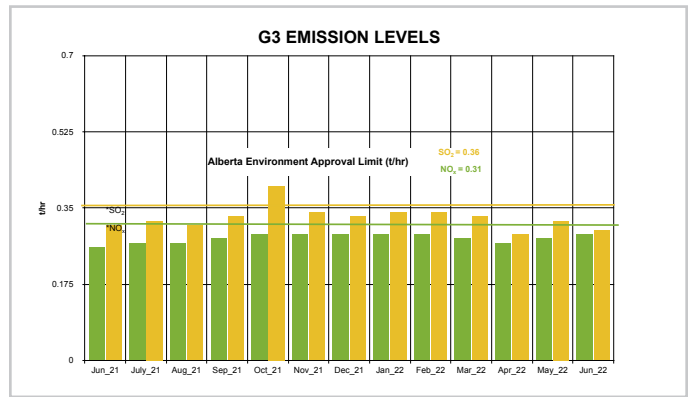
Measurements are compared to guidelines and approval limits set by Alberta Environment & Parks.

Genesee continues to operate below maximum levels set for ambient air quality and stack approval limits.

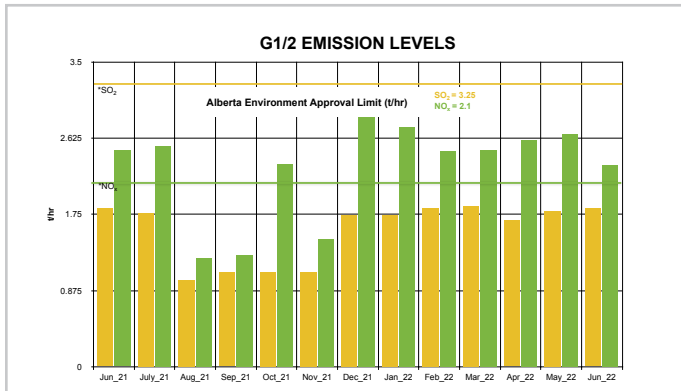
Ambient Emission Levels



G3 Emission Levels



G 1/2 Emission Levels



Sulphur Dioxide (SO₂): In high concentrations, SO₂ is known to be harmful to vegetation and human health. SO₂ is soluble in water and excessive levels can lead to sulfuric acid deposition or acid rain.

Nitrogen Oxides (NO_x): When concentration is high, NO_x is of concern because it contributes to ground-level ozone or smog.

Note: All results are converted to reference standard conditions to be comparable to other coal fired plants in Alberta and elsewhere.

Crime Prevention Tips from Leduc County

Making some of the following easy and cost-effective changes on your property can increase safety and act as a deterrent for criminals and criminal activity.

- lock your doors and windows, even when you are home
- install exterior motion lights around doors and windows
- get a safety deposit box for storage of important or irreplaceable documents
- consider installing a home and/or auto alarm system
- do not leave keys, garage door openers, change or other valuables in your vehicle
- close the gate to your home when you leave your property, as well as when you are at home
- if you are away from home in the winter, have someone drive in and out of your driveway in the snow so tracks are visible
- if you are away from home in the spring or summer, have someone maintain your lawn
- do not post on social media sites that you are away from home



**Don't risk your life.
Electricity doesn't discriminate.**

We work hard to operate our facilities responsibly and deliver energy to our communities. Tampering with electrical equipment poses significant safety risks. Please report any suspicious activity at or near the Genesee Mine, Genesee Generating Station or any power generation infrastructure. Call Thorsby RCMP at 780-789-3950 or Crime Stoppers at 1-800-222-TIPS (8477).



Security at Genesee

Safety and security are a top priority for Capital Power, and we diligently monitor and patrol our property at Genesee, as well as collaborate with the local RCMP detachment to report any issues or unusual activity.



With an increase in rural crime in Alberta, we can all do our part to help prevent crime in the area.

If you see any suspicious activity on Capital Power property, contact our Genesee Security Office: 780-969-8505 or RCMP.

Manager, Reclamation & Land

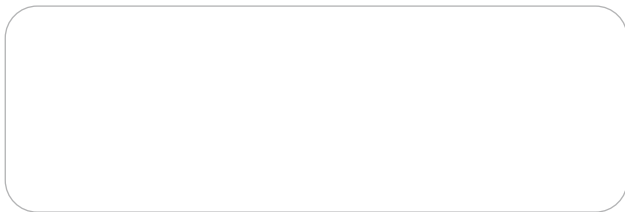


Megan Hill joined the Capital Power team in May 2022 as Manager, Reclamation & Land at the Genesee Generating Station. Megan brings 15 years of experience in environment and regulatory management in the Mining sector, including reclamation and closure, water management, regulatory compliance and environmental monitoring and reporting. In her off-time, you can find her checking out new restaurants, hitting the local walking trails or with her nose in a good book.

Welcome Megan!

Megan can be reached at mhill@capitalpower.com or 780-392-5836.

12th Floor EPCOR Tower
1200 – 10423 101 Street NW
Edmonton, Alberta T5H 0E9



What is important to you?

If you have an idea or suggestion for the Genesee Connection Newsletter, contact Community Engagement and help us continue to provide relevant information of interest to you.

Genesee Contact Information

If you have questions or comments about our operations, community engagement or our land management practices, contact us.

Generating Station Reception

780-848-8300

Community Engagement

780-848-8474

PublicConsultation@capitalpower.com

Manager, Reclamation & Land

Megan Hill 780-392-5836

Genesee Guardhouse (24-hour Security)

780-969-8505

Careers

For more information or starting a career with Capital Power and to view current job opportunities, visit our website at capitalpower.com/careers. Capital Power is an equal opportunity employer.

Newsletter

Get this newsletter by email: If you prefer to receive your copy of the Genesee Connection by email instead of hard copy, or if you no longer wish to receive this newsletter, please contact us at **Community Consultation** and we will remove you from our mailing list.

www.capitalpower.com

