



Sundance Power Plant



Keephills Power Plant



Coal to Gas Conversions Project May 2018

Clean, Reliable and Affordable Electricity

As part of TransAlta's transition to clean power, we intend to convert up to seven of our coal-fired generating units to natural gas at the Keephills (units 1 - 3) and Sundance (units 3 - 6) power plants. Part of the conversion process includes submitting amendment applications to the Alberta Utilities Commission and Alberta Environment and Parks for approval to initiate the conversions, starting with preparatory work in 2019, and unit conversions as early as 2020. This project will help us achieve provincial and federal emission targets while using TransAlta's existing plant sites that power our province.

Why do we need this project?

In Alberta, by 2030, one-third of the electricity currently provided by coal-fired generators is to come from renewable energy sources such as wind, solar and hydro while transitioning the remaining two-thirds of generation to natural gas. As a leader in clean energy, TransAlta is making that transition by converting the fuel source for our generators and using the sites to continue to provide Albertans with clean, reliable and affordable electricity.

Public Open House

To learn more about the project and to provide your feedback, please join us at our community open house:

Wednesday, May 30, 2018 4:30 - 8:00 p.m.

Keephills Community Hall
51515 Range Road 32A
Parkland County, Alberta

All are welcome to attend. Light refreshments will be served.

Alberta has a commitment to end emissions from coal-fired electricity by 2030 to achieve emission reduction targets.

How does coal-to-gas conversion work?

The existing generation units at Keephills and Sundance use both coal and natural gas to produce electricity. Natural gas is already used to start up the units and can be used to produce up to approximately, 30 per cent of the generation at each facility.

Currently, the generating units produce heat by burning coal in a steam boiler that drives the turbine and generator to produce electricity. To convert the units to natural gas, existing equipment will need to be modified, such as the boilers, fans and control systems. In addition, new equipment will be installed including: natural-gas burners, igniters, scanners, piping and valves while coal-handling equipment will be retired, cleaned and stored in place, unless the space is needed for the new equipment.

Most of the conversion work will be within the existing power facilities, with secondary construction activities at each plant site for the installation of pipelines to supply natural gas to the power plants.

Anticipated timelines

TransAlta intends to file amendment applications with the Alberta Utilities Commission (AUC) and Alberta Environment and Parks (AEP) in the summer of 2018. Once submitted, there will be a period of regulatory review of the project which includes public notification. If the applications are approved, TransAlta could begin preparatory installation work in 2019. The ordering, fabrication and delivery of the main components is expected to take approximately 14 months and once the required equipment arrives, the conversion for each unit is expected to take two months to complete.

Application Development	Regulatory Review	Equipment Acquisition	Construction
<ul style="list-style-type: none"> ✓ Public engagement ✓ Environmental studies ✓ Engineering / Design 	<ul style="list-style-type: none"> ✓ Review of application ✓ Information requests ✓ Stakeholder participation 	<ul style="list-style-type: none"> ✓ Order, fabrication and delivery of required equipment 	<ul style="list-style-type: none"> ✓ Preparatory work ✓ Install and modify equipment
Q1 - Q2 2018	Q3 2018 - Q1 2019	2018 - 2019	2019 - 2022

When will each of the generating units be converted?

The intent is to stage the proposed conversions over a two to three year period, starting as early as 2020 and ending in 2022. This is pending approval of the applications by the AUC and AEP and market conditions.

	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1/2	2019 Q3/4	2020	2021	2022
Public Engagement									
Environmental Studies									
Submit Regulatory Applications									
Regulatory Review									
Unit Conversions / Construction (pending regulatory & Board of Director approvals)									



Preparatory Work



NG Conversion

Why natural gas?

Alberta has a world-class natural resource base and accounts for almost 80 per cent of the natural gas produced in Canada, making Alberta one of the world's largest suppliers of natural gas. The conversion from coal to natural gas will help Canada and Alberta meet its emissions reduction targets. The gas conversions will be designed to meet new Clean Air Strategic Alliance (CASA) guidelines for emissions of nitrogen oxides for converted coal to gas units, which is equal to a 50 per cent reduction from the baseline for Sundance units 3 - 6 and Keephills units 1 and 2.

A Cleaner Future

- Sulphur dioxide reduced to negligible levels
- Particulate matter reduced to negligible levels
- Mercury emissions reduced to negligible levels
- Nitrogen oxides reduced (meeting new CASA guidelines)
- Greenhouse gas emissions reduced by 30 to 45 per cent



» **Transition to a clean energy future.**

Converting the coal units starting as early as 2020 creates an efficient and reliable source of energy for Albertans while achieving provincial and federal emission targets.

» **Value for Albertans. Protection for consumers.**

Converted plants will help to maintain a reliable supply of electricity and maintain stable pricing for consumers.

» **Re-purposing existing coal plants.**

Converting the coal-fired units using the existing facilities and transmission infrastructure provides the same generating capacity and helps to reduce costs for customers.

How will this affect my community?

TransAlta has been a part of Keephills and the Wabamun Lake area for decades and our operations are part of the social fabric in these communities. With the transition from coal power to natural gas, there will be fewer jobs at our facilities (including the Highvale Mine), however, the gas conversions provide an opportunity for ongoing employment - throughout the construction phase and generation operations.

Through this process, we are working with government and educational institutions to provide our employees with information on re-employment and training programs and offering career counselling supports.

TransAlta is committed to maintaining the strong relationships we have built with communities in the region and we will continue to support the projects, the local economy and activities that keep these communities healthy and vibrant.

What else should I know?

What will happen with operations at the Highvale Mine?

As the units transition to natural gas, the demand for coal will decline. Production at the Highvale Mine will decrease and the extraction and delivery of coal will end once the last unit is converted. Operations will shift to reclamation as coal deliveries decrease.

Will the noise from Sundance and Keephills change?

Noise from the power plants is expected to remain the same and noise from mining operations will decline as the conversions progress. Environmental experts are conducting a noise impact assessment, which will be part of the Alberta Utilities Commission (AUC) application.

TransAlta uses noise monitoring equipment at both power plants, providing real-time information to ensure our operations comply with the AUC regulations.

Will traffic increase during the conversions?

There will be additional traffic on area roads during construction. Each unit conversion will be similar in scale to a maintenance turnaround, lasting about two months. The conversions will be planned to coincide with planned turnarounds. TransAlta will supply buses for construction workers to minimize the amount of additional traffic on neighbouring highways and roads.

How will project information be shared?

TransAlta will share information about the project through regular newsletters, website updates, our upcoming public open house and meetings with community organizations and groups.

About TransAlta

TransAlta is committed to a clean power future.

For more than 100 years we have produced reliable power for Albertans. We produce the electricity our customers need and want. Today, the demand for low-cost and reliable energy is greater than ever – and it must be clean and available at the flip of a switch, 24/7.

With a mix of hydro, wind, gas, and solar power, TransAlta has the assets and expertise to help meet the demand for clean power, without compromising on reliability.

Questions? Comments? Contact us

If you have any questions about the Sundance and Keephills Coal to Gas Conversions, please contact us at:

Email: albertacoaltogas@transalta.ca

Toll-free: 1-855-339-3052

For more project information, please visit:

<https://www.transalta.com/coal-to-gas>

TransAlta is committed to protecting your privacy. Collected personal information will be protected under the Freedom of Information and Protection of Privacy Act. As part of the regulatory permitting process, TransAlta may provide your personal information to provincial regulators and public responses may be reported in our regulatory application, which becomes part of the public record. Personal information we collect may be used to contact you in the future.