

## **FAQ: The Coal Transition**

### **Who regulates coal?**

Both federal and provincial governments have a role to play in regulating coal. Provincial governments have jurisdiction over the exploration, development, conservation and management of non-renewable resources, as well as the generation and production of electricity. Federal jurisdiction in energy is primarily concerned with regulation of inter-provincial and international trade and commerce, the management of non-renewable resources on federal lands and interprovincial and international transport of emissions—including carbon.

### **How much electricity in Canada is supplied by coal?**

Coal generates about 15 per cent of Canada's electricity supply. Nationally, carbon emissions from coal have been reduced by 25 per cent since 2005.

### **What is the timeline for phasing out coal?**

In most cases, the transition will be measured in years rather than decades. The federal government requires coal plants retire at the end of their useful-life; generally 50 years from the unit's commissioning date. Units that were commissioned before 1975 will reach their end-of-life after 50 years of operation or at the end of 2019, whichever comes earlier. Our current coal plants range in ages from the 1970s to a brand-new coal facility that we just started up in 2011. This means by 2030, Canada will have only a handful of coal plants.

Phasing out coal will require a delicate balance between the demand for electricity in Alberta and the need to keep consumer rates competitive. If the transition is too fast, and there is a shortage of supply, electricity prices will rise.

### **Why do we use coal in Alberta?**

Alberta has developed its economy since the 1950s largely with the benefit of low-cost electricity supplied by taking advantage of our vast resources of low-sulphur coal. Power from existing coal-fired plants is by far the lowest cost supply of electricity we have. Shifting to other forms of supply may be appropriate in some circumstances, but it will inevitably lead to higher costs to consumers and the economy.

### **What will replace coal?**

The transition from coal to renewables is already underway and has been for many years. The creation of TransAlta Renewables underscores that commitment: the supply mix tomorrow will be much different than the supply mix today. In 1990, renewables made up eight per cent of our portfolio and now it is around 25 per cent. TransAlta is already the largest wind-powered electricity generator in Canada, with sites in Alberta, Ontario, Quebec and New Brunswick. We operate hydro sites in Alberta and Ontario, and recently expanded our hydro capacity in British Columbia with the Bone Creek facility.

### **What is TransAlta's plan for phasing out coal?**

All of the companies in Alberta that use coal to generate electricity are working with the government on making the transition as quickly as possible. Our oldest coal plants are

being decommissioned while our existing coal plants are the most technologically advanced in the country and are part of the transition. We are transitioning our new plants to be gas-fired and we are adding renewable energy sources. We already have natural gas facilities in Alberta and Ontario, with plans to develop a natural gas plant at our Sundance, Alberta facility and a highly efficient gas-fired power plant in Australia.

### **How much does coal-fired generation contribute to Alberta's air emissions?**

The electricity sector contributes 13 per cent of the total oxides of nitrogen emissions in Alberta, with the bulk coming from transportation and oil and gas production. For sulphur-dioxide, the contribution is 33 per cent with the remainder coming from other industry.

By 2020, Alberta's program of transitioning from old to new will be well underway as a number of plants shut down. By 2030, the CO<sub>2</sub> emissions from today's Alberta coal fleet will be reduced by over 70 per cent. This will all be done under the current legislation and in a market for electricity that has already attracted investments to 1000 MW of wind across the province—without government subsidy and without adding debt to the government's balance sheet.

### **How does TransAlta monitor the air quality?**

TransAlta takes great care with monitoring the air quality in the vicinity of its coal-fired power plants. There have been no air quality issues around our plants. This is proven through years of continuous monitoring. Since 2002, TransAlta has led one of Canada's most extensive biomonitoring programs in Alberta's Wabamun-Genesee region. The integrated biomonitoring program was designed to create a scientific baseline and detect potential changes in the environment from power generation. More information on this program is available in TransAlta's 2013 Report on Sustainability at: <http://www.transalta.com/sustainability/report-sustainability>

### **What is the air quality in the vicinity of coal fired plants?**

Around the Wabamun area where there are three large coal plants, there have been zero exceedances of air quality standards for years and typical concentrations of NO<sub>x</sub> and SO<sub>2</sub> are continually below the standards.

### **What is TransAlta doing to control emissions?**

Coal in Alberta is cleaner because it is low sulphur. TransAlta works hard to control emissions.

We have invested \$400 million into technologies that have resulted in further significant reductions in emissions of sulphur dioxide, nitrogen oxides, mercury and particulate matter from facilities in Canada and the United States.

We monitor emissions of mercury in real-time at each of our coal-fired power facilities. TransAlta installed advanced activated carbon-injection equipment on each of its coal-fired generating units to comply with Alberta Government legislation for mercury capture. This legislation mandates that 70 per cent of mercury emissions must be removed: we are working to achieve a mercury capture rate between 70 to 80 per cent.