

Myths¹ vs. Facts²

Albertans Concerned

Myth: Albertans are not concerned about the negative impacts of above ground high voltage lines.

Fact: A Leger Marketing public opinion poll conducted in 2009 of 900 randomly-selected Albertans indicates that 83% of those polled are concerned about the safety, 70% about health, 71% about noise and appearance, and 79% about property devaluation associated with overhead power lines. As well, about 11,000 concerned Albertans in the Capital Region have attended town hall meetings, community meetings and rallies sponsored by RETA over the past two years. Dozens of community meetings around Alberta during the past year to discuss private landowner rights in relation to high voltage lines have also attracted thousands of concerned Albertans. RETA currently has over 8,000 registered members.

Health Concerns

Myth: Above ground high voltage power lines have no effects on human health.

Fact: The majority of peer-reviewed studies in scientific and medical journals indicate anywhere from minor to major increased risks of dozens of health problems causally correlated with prolonged exposure to overhead high voltage line electromagnetic fields (EMFs) and corona-ion-charged aerial pollutants (corona effect).

Myth: Transmission facility operators (TFOs) have accurately represented EMF levels anticipated for their respective overhead transmission projects.

Fact: Anticipated EMF levels provided by TFOs for proposed projects are lower than those recorded for existing overhead transmission lines.

Myth: Health effects from overhead high voltage lines decrease very rapidly as distance from lines increases.

Fact: Health effects from overhead lines have been reported as far as 600m from lines (EMFs) and up to 7km downwind of lines (corona effect).

Myth: In the absence of a mechanism or explanation for how high voltage line EMFs can negatively impact health, studies are inconclusive.

Fact: Scientists have identified reduced melatonin production as a mechanism for documented negative effects of EMFs on human health. Melatonin, produced by the pineal gland, is one of the body's most powerful natural defenses against disease and other health problems.

Myth: National and international health institutions that state there is inconclusive evidence linking high voltage power lines to health problems are credible.

Fact: The two institutions that Alberta TFOs consistently cite are Health Canada and the World Health Organization (WHO). Both of these institutions have major credibility problems within the scientific and medical communities, and are often criticized for being off-side and out-of-touch with the research on health effects of high voltage lines and numerous other harmful agents, products and pollutants. On the other hand, the International Commission for Electromagnetic Safety, comprised of reputable and neutral scientists and engineers, warns that governments and health institutions can no

longer ignore the well-documented causal correlations between high voltage line EMFs and health problems.

Myth: Overhead high voltage lines have no negative health effects on livestock and pets.

Fact: Prolonged exposure to EMFs emanating from overhead high voltage lines is causally correlated with reduced milk production in dairy cattle; birth and other reproductive problems in cattle, pigs, dogs and cats; and cancers in dogs.

Safety Concerns

Myth: Above ground high voltage power lines are safe.

Fact: Overhead high voltage lines fall over in tornadoes and ice storms and deteriorate under normal weather conditions. They also cause electrocutions which can only be mitigated by grounding of all metal objects and structures near these lines.

Pipeline Concerns

Myth: Overhead high voltage lines have no impacts on nearby buried pipelines.

Fact: Above ground high voltage lines corrode pipelines and cause induced electrical currents in pipelines, resulting in explosion hazards.

Property Value Concerns

Myth: Overhead high voltage power lines do not affect property values.

Fact: Reputable studies indicate property devaluation up to 38% for homes located next to overhead lines, with devaluation felt as far way as 2.5km from lines. Agricultural property devaluation due to overhead lines varies from 16% to 29%.

Myth: TFOs have no obligations to compensate property owners for property devaluation caused by the building of high voltage power lines.

Fact: Although unfortunately there is no legislation in Alberta to force TFOs to compensate property owners in this regard, there are examples of litigation and political pressure in North America that have resulted in fair compensation awards to property owners.

Environmental Concerns

Myth: Overhead high voltage lines do not negatively impact the environment.

Fact: Birds are killed through collision with above ground high voltage lines. For example, about 174 million birds are killed annually in the United States colliding with high voltage lines and towers. Bird reproduction is negatively affected by overhead power lines. The health of nearby wildlife is negatively affected by high voltage line EMFs and the corona effect. Wildlife habitat is permanently destroyed because vegetation within overhead line rights-of-way must be managed (cut or killed).

Aesthetic Concerns

Myth: Overhead high voltage lines do not affect landscape views.

Fact: Above ground lines are ugly and a blight on the landscape. They negatively affect tourism.

Myth: There is minimal noise associated with overhead high voltage lines.

Fact: Overhead high voltage lines emit a constant hum, buzz, hiss or crackle, the volume of which depends on the weather. This noise causes many people to have headaches and hearing problems.

Concerns about Legislation

Myth: Bill 50, the *Electric Statutes Amendment Act, 2009*, does not affect Albertans' input into electricity transmission decisions in Alberta.

Fact: Bill 50, passed in 2009, takes away any opportunity by members of the public to question the need for new high voltage power lines deemed "critical transmission infrastructure" by the Alberta Government.

Myth: Bill 19, the *Land Assembly Project Area Act*, does not affect Albertans' private landowner rights in relation to electricity transmission line siting.

Fact: Bill 19, passed in 2009, gives the Alberta Government unilateral rights to designate private land as a transmission line corridor. This private land remains sterilized until the government determines whether a power line would actually be built in the designated corridor.

Myth: New high voltage power lines must undergo Environmental Impact Assessments before they are built.

Fact: Since the Alberta Government amended the *Environmental Assessment (Mandatory and Exempted Activities) Regulation* in 2008, all high voltage lines are exempt from the requirement for Environmental Impact Assessments under the *Environmental Protection and Enhancement Act*.

Need for New Lines

Myth: The lights will go out in Alberta if all of these new high voltage lines are not built immediately.

Fact: Electricity demand forecasts by the Alberta Electric System Operator (AESO) and Alberta Energy are unrealistic, as pointed out by ADC and IPCAA. TransAlta was very easily able to discontinue production of 26% of its Sundance coal-fired operations earlier this year without any negative effects on Alberta's electricity supply.

Myth: The new high voltage lines dubiously labelled "critical transmission infrastructure" by the Alberta Government are necessary.

Fact: Economic realities have changed significantly since the province's electricity transmission plan was conceived, and the perceived need for many of these lines no longer exists. Arguably, the need did not ever exist to the point suggested by Alberta Energy and the AESO. The oil sands upgrading industry does not need coal-fired electricity from Wabamun because they co-generate their own electricity on site. Organizations such as ADC and IPCAA have clearly stated that industry does not require these new lines and in fact their high cost to industry will render Alberta uncompetitive in relation to our neighbours.

Myth: The high voltage lines currently planned by Alberta Energy and the AESO are necessary at the transmission capacities proposed.

Fact: The transmission capacities planned by government and the AESO are unrealistic based on industry data. For example, in the case of the Heartland line, a 500kV line with

a double circuit capacity of 6,000 megawatts is planned; however, the line will be energized to only 15% of its capacity until 2027 and then to only 30% of its capacity thereafter. This is just one example of a significant over-build.

Export of Electricity

Myth: The current high voltage lines planned in Alberta are not for the export of electricity to the United States.

Fact: The Alberta Government, the AESO and Alberta transmission companies are active members of associations planning projects to export electricity generated in Alberta to the United States. The Northern Lights proposal is one such example.

Public Consultation

Myth: TFOs make residents and landowners aware of the facts surrounding potential impacts of their proposed transmission projects.

Fact: TFOs intentionally mislead landowners, keep information from them, and ask leading questions in an attempt to receive minimal concerns from landowners. TFOs also spend millions of dollars on advertising in an attempt to convince Albertans that they are responsive to their concerns about health, safety, environmental, property value and aesthetic impacts of overhead high voltage lines.

Myth: TFOs accurately represent to the public the transmission infrastructure they are proposing.

Fact: Throughout public consultation processes, TFOs change their minds about the infrastructure they propose to build. For example, in the case of the Heartland line, TFOs initially proposed 75m-tall towers, then when public consultation commenced they proposed 60m-tall towers. Following one-on-one landowner consultations, the TFOs then proposed 73m-tall towers and in their facility application they again propose 75m-tall towers. As well, TFOs have proposed varying distances between towers throughout the public consultation process. These inconsistencies make it difficult for those consulted to know what exactly is being proposed.

Myth: TFOs keep directly impacted property owners accurately informed of progress regarding public consultation.

Facts: Through errors in mailing, TFOs misinformed hundreds, perhaps thousands, of directly impacted property owners that the route by their properties was eliminated as a potential route under consideration for the proposed Heartland line.

Myth: TFOs utilize information gathered during public consultation to influence and change their power line siting and technology recommendations.

Fact: TFOs record the number of individuals consulted and the number of public meetings held, but use very little of the data gathered during the public consultation process to influence or change any of their plans for given projects.

Route Selection

Myth: TFOs have accurately represented statistical data during route selection processes for their respective transmission projects.

Fact: TFOs have not correctly counted the number of homes, environmentally sensitive areas, and recreation facilities along proposed routes, thereby leading to ill-informed route selections.

Myth: TFOs fairly weigh the pros and cons of the various potential routes for given transmission projects.

Fact: TFOs, often together with the AESO and the Alberta Government, have preferred options before public consultation commences, and then proceed to skew their consultation and comparative analyses to suit their pre-determined preferred options.

Myth: The South Edmonton and Sherwood Park Greenbelts or Restricted Development Areas were always meant to be for high voltage power lines.

Fact: When the land was purchased by the Alberta Government in the 1970s and when the Restricted Development Area legislation was passed, the land was meant to serve as a buffer zone or greenbelt between urban Edmonton and surrounding rural lands. It was much later that the Alberta Government unilaterally started calling these greenbelts Transportation Utility Corridors (TUCs).

Burying High Voltage Lines

Myth: The technology for burying high voltage power lines has not been sufficiently developed.

Fact: High voltage power lines have been buried for decades – 138kV, 240kV, 400kV and 500kV. Undergrounding technologies have been utilized and improved by many companies in many countries.

Myth: Burying high voltage power lines is too expensive. Opponents continue to cite capital costs 4 to 20 times those of building overhead lines.

Fact: An underground study commissioned by the AESO indicates a partially buried Heartland line can be buried for 1.7 times that of an entirely above ground line. RETA experts will be testifying at the upcoming Alberta Utilities Commission (AUC) hearing that a partially buried Heartland line can be built for only 8.9% more than an entirely above ground line. And, when you combine capital, maintenance, transmission loss, property value and health costs over the life of a line, buried lines are significantly less costly than overhead lines. However, TFOs continue to intentionally inflate the costs of burying power lines in an attempt to make this technology appear unattractive.

Myth: Alberta Energy responded fairly and openly to the Alberta Legislature's unanimously-supported Private Members Motion for the Alberta Government to study the feasibility of underground transmission lines.

Fact: Alberta Energy quietly commissioned Stantec to conduct a very cursory study that was quietly posted on Alberta Energy's website with no comment from the Alberta Government. This may well have been because the Stantec report was so poorly researched and written, and openly biased against the undergrounding technology. The Stantec report is full of conjecture and opinion with little factual back-up.

Myth: Albertans do not support burying high voltage power lines.

Fact: A Leger Marketing public opinion poll conducted in 2009 of 900 randomly-selected Albertans indicates that 70% of those polled support high voltage lines being buried when they are built near homes and schools. Albertans would be willing to pay an average of \$3.55 more on their monthly electricity bills to get new lines buried.

No Competitive Bidding

Myth: High voltage power lines are built at reasonable costs to Albertans.

Fact: High voltage power line projects have been handed out on silver platters by the Alberta Government and the AESO to companies without any competitive bidding. This has resulted in highly inflated costs of new lines which are paid for entirely by Alberta electricity consumers.

Alberta Electric System Operator

Myth: The AESO is an independent body that plans electricity transmission needs for Alberta.

Fact: Many, if not most, AESO staff are previous employees of transmission companies.

Role of Alberta Government MLAs

Myth: Alberta Government MLAs have no role to play with respect to the newly-planned high voltage lines.

Fact: Legislation passed and amended during the past three years by the Alberta Government has: identified specific high voltage lines as “critical transmission infrastructure” with little or no justification; excluded Albertans from being consulted on the need for all of these new power lines; given the Alberta Government carte blanche to designate private land as electricity transmission corridors; and, exempted all high voltage lines from the requirement for an Environmental Impact Assessment. The fact is the Alberta Government has the primary legal and political responsibility for electricity transmission in Alberta.

Myth: Alberta Progressive Conservative MLAs are permitted to speak out on behalf of their constituents’ concerns about overhead high voltage power lines.

Fact: With a few exceptions, P.C. MLAs respond in writing or verbally to constituents’ concerns about all the newly-planned overhead high voltage lines with standardized responses prepared by Alberta Energy.

Alberta’s Role in Electricity Generation and Transmission

Myth: Alberta is a leader in electricity generation and transmission.

Fact: Alberta continues to produce more dirty coal-fired electricity than any other province, which by necessity includes long transmission lines from where coal sources exist to where the electricity is required. The federal government has recently ordered electricity generators to transition to cleaner and more efficient generation; however, new coal-fired generators and accompanying long transmission lines continue to be built in our province. Alberta is not a leader in the electricity generation and transmission industries – it is very regressive. Other jurisdictions around the world, especially in Europe, are much more concerned about health, safety, the environment, property values, and aesthetics in relation to electricity generation and transmission. Accordingly, they have adopted superior technologies, legislation and policies.

¹ As perpetuated by Alberta Energy, the Alberta Electric System Operator (AESO), AltaLink, EPCOR, and/or ATCO Electric.

² As determined through conducting research and speaking with experts.