

Socio-Economic Impact Assessment of the Shell Waterton Complex

Executive Summary

Background

The Shell Waterton Complex is a sour gas plant and field located approximately 30 km southwest of the Town of Pincher Creek, Alberta. With a total operational workforce of 95 persons, and a design capacity of 3,500 thousand cubic metres per day, the facility produces methane, natural gas liquids (propane, butane, ethane), condensate, and sulphur.

In 2015, Shell publicly announced that, regardless of changes in economic conditions, the facility, which has been in continuous operation for over 60 years, is facing a likely decline in production and possible closure in the next 10 to 15 years (Pincher Creek Voice 2015, Pincher Creek Echo 2015). Recognizing the socio-economic value of the Waterton Complex to local communities, the Southwest Alberta Sustainable Community Initiative (SASCI), a not-for-profit multi-stakeholder community-driven group, engaged Nichols Applied Management Inc. (Nichols) to:

- carry out a socio-economic impact assessment related to current facility operations, and
- consider the potential effect of the facility's eventual closure on communities and residents in the Pincher Creek area.

Following standard socio-economic assessment practice in Alberta and elsewhere in Canada, Nichols set about determining the socio-economic effects using a variety of methods, ranging from extensive quantitative analysis (e.g., economic and demographic modeling) to qualitative approaches (e.g., stakeholder interviews). The following is a summary of the assessment results.

Current Operations

Shell's Waterton Complex is an important contributor to local communities. It supports local employment and business opportunities, contributes municipal taxes, and assists with local infrastructure and community initiatives. Specifically:

- Approximately three-quarters (72 persons) of the total operational workforce at the Waterton Complex (95 persons, including Shell employees and contractors), live in the study region. The facility supports an additional 193 full-time equivalent positions (FTEs) among regional suppliers and in the broader regional economy.
- Employment associated with the facility affects an estimated 350 households in the region. Approximately 820 people (485 adults and 335 children) reside in these households, representing roughly 12% of the total study regional population. These individuals are primarily located in the Town of Pincher Creek.
- Nearly half (40%) of the facility's annual operational budget is spent on labour and businesses in the region. The total economic effect of the Waterton Complex in terms of regional GDP and household income is estimated to be \$34 million and \$31 million annually, respectively. Facility operations are responsible for up to 10% of the estimated regional GDP.

- In 2016, the facility accounted for 22% of property taxes collected by the host municipality (M.D. of Pincher Creek), effectively meaning that the Waterton Complex contributed more than \$1 out of every \$5 in property taxes collected for municipal purposes (i.e., excluding education taxes).
- Shell annually donates approximately \$100,000 to local programs and facilities in the region each year. Shell also supports the volunteer efforts of its employees and retirees through its Community Service Fund by awarding grants of up to \$1,000 to non-profit organizations where Shell employees volunteer.

Closure

To enable a quantitative assessment of the potential effects of closure, it has been assumed that there will be a reduction in production, with an associated reduction in facility-related employment and expenditures, beginning in 2026, followed by complete closure of the facility in 2030.

Ultimately, there is considerable uncertainty surrounding the pace, nature, and timing of declining operations and closure. The remaining operational life of the Waterton Complex, and subsequent closure, is dependent on a number of factors including future technological advances, market activity, remaining reservoir capacity, cost of inputs, and prices for end-use products.

Based on the timing assumed above, the closure of the facility is expected to impact the surrounding region in a variety of ways, including:

- Loss of employment and business opportunities, both directly at the Waterton Complex (77 Shell employees and 18 contractors) and among suppliers to the facility and more broadly in the general economy (193 FTEs), representing roughly 8% of the study area's total labour force in 2016. Employment losses will be felt across the local economy, including in service-based industries, such as retail, accommodation and food services, which are more concentrated in the Town of Pincher Creek. Closure-related activities can only partially offset this loss locally and only for a short period of time.
- Loss of \$34 million of local GDP, including local labour income of \$31 million (not counting any partial short-term offset due to closure-related activities). As of 2017, this loss would represent a decrease of up to 10% of regional GDP.
- Reduced population, as many of those who lose their job will leave the region in search of employment opportunities elsewhere. For those who remain in the region, some will retire, some will work mobile or telecommute to jobs located outside the region, while others will take up employment opportunities that would otherwise have been filled by in-migrants to the region. Closure of the facility could reduce the regional population by roughly 650 residents in the years immediately following closure.
- Roughly 9% of the estimated total housing stock in the study region affected by the reduced population, which may have a dampening effect on local housing prices until the excess housing supply is addressed and the housing market returns to a more balanced state.
- Other effects on the community resulting from a reduced population, including:
 - reduced demand on most community infrastructure and services;
 - reduced volunteer base to support local organizations;
 - altered social relationships within the community; and

- an accelerated shift towards an overall older and aging population with consequential increased pressure on social and health services and reduced local wealth generation and spending.
- The potential for some services, such as childcare and education, to face financial pressures or underutilized infrastructure, leading to potential reductions in the quality and/or quantity of service offerings. As an example, closure of the Waterton Complex could lead to reduced school enrolment in the range of 200 students as compared to a scenario in which the facility remained open.
- Potential increased demand on some social and employment support services, as both workers and their families cope with the effects of changing employment status (e.g., unemployment, transitioning to other work arrangements).
- Loss of Shell community investment (i.e., donations), requiring service providers who typically receive these funds to seek out other public and private funding options.
- Loss of over 20% of municipal tax revenue following closure and decommissioning. This may result in increased tax rates and/or reduced services in the M.D. of Pincher Creek.

Despite these potential community effects, many service providers interviewed for this study felt confident in their ability, and that of the community, to adapt to the changing circumstances associated with facility closure. The community is believed to be well positioned to address closure-related effects based on:

- The region's relatively diverse economy and strong social cohesion, which has provided stability through past economic downturns. Although Shell is a sizeable contributor to the regional economy, there are a number of potential developments that could support future economic growth including provincial government investments in Castle Provincial Parks, installation of a fibre optic network, and continued investment in neighbouring regions in both renewable (e.g., wind, solar) and non-renewable (e.g., coal) energy that may benefit the Town or MD of Pincher Creek. This economic activity could drive population growth higher than projected in this study, thereby potentially buffering some of the potential adverse effects of the Shell closure.
- Reduced economic activity, and associated employment, from facility closure being at least partially offset in the short to medium term by closure-related employment. The closure-related workforce is expected to average between 85-120 FTEs annually for the first seven years following closure, before dropping to just 3-5 FTEs annually in less than 15 years after closure (i.e., after 2043).

Next Steps

SASCI's intention is to use the assessment findings to facilitate stakeholder dialogue to identify, assess, and select actions that can be taken for and by the community to ease the transition of the community from active facility operations to post-facility closure.

It is important that these discussions occur in the near-term in order to capitalize on the opportunity that the community currently has to pro-actively address potential adverse effects *before* they occur. Although it may appear that the community has considerable time to plan and act, this only holds true if the community moves forward in the near-term. The need for community action becomes even greater when considering that closure is inevitable and that depending on economic conditions and other factors, closure could, in fact, occur much sooner than the 10 to 15-year range previously stated by Shell.

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- Pincher Creek and District Chamber of Commerce
- Pincher Creek and District Family and Community Support Services (FCSS)
- Pincher Creek Emergency Services
- Re/Max Southwestern
- Town of Pincher Creek