



Socio-Economic Impact Study

Final Report



Approach and Methodology

Phase 1: Project Design and Management

Project Launch Meeting

Project Charter (workplan, engagement plan, report outline)

Identification of Key Stakeholders and Businesses for Interviews



Phase 2: Information Gathering

Economic Projections

Municipal Finance Model and Impact

Key Stakeholder and Business Interviews



Phase 3: Reporting and Support

Economic Impact Conference Call

Draft Final Study

Presentation of Findings

Final Economic Study



Background Review

- Estevan has:
 - A large proportion of the population working in Oil & Gas and Power Generation
 - Relatively high wages compared to the rest of Saskatchewan
 - Lower levels of education compared to rest of province
 - Many advantages including infrastructure and geographic location



Background Review

- Business incentives are available to attract industry to the area
- Energy production is a key strategic priority
 - Coal, CCS
 - Solar/Wind
 - Natural Gas
 - Geothermal
 - Nuclear
- New production
 - Fly Ash
 - Value-Added Agriculture Manufacturing
 - Greenhouse Agriculture

Economic Impact Model

Economic Impact Model

The Impact of the Pending Facility Closures on the Estevan Study Area

This report assesses the socio-economic impact of the pending closures of Units 4 and 5 at the Boundary Dam Power Plant and the Westmoreland Coal Mine on the businesses and communities within a 100 km radius of these facilities. The closures are expected to occur over the span from 2021 to 2024. When they occur it has been reported they will affect 100 workers directly in mining and 50 directly in utilities plus a number of other workers in other industries indirectly.

Firms Affected and Current Employment Levels

- Westmoreland Coal Company: 360
- SaskPower - Boundary Dam Station: 300
- SaskPower - Shand Power Station: 100

Source: City of Estevan Investment Profile

Source: Press Release Global News

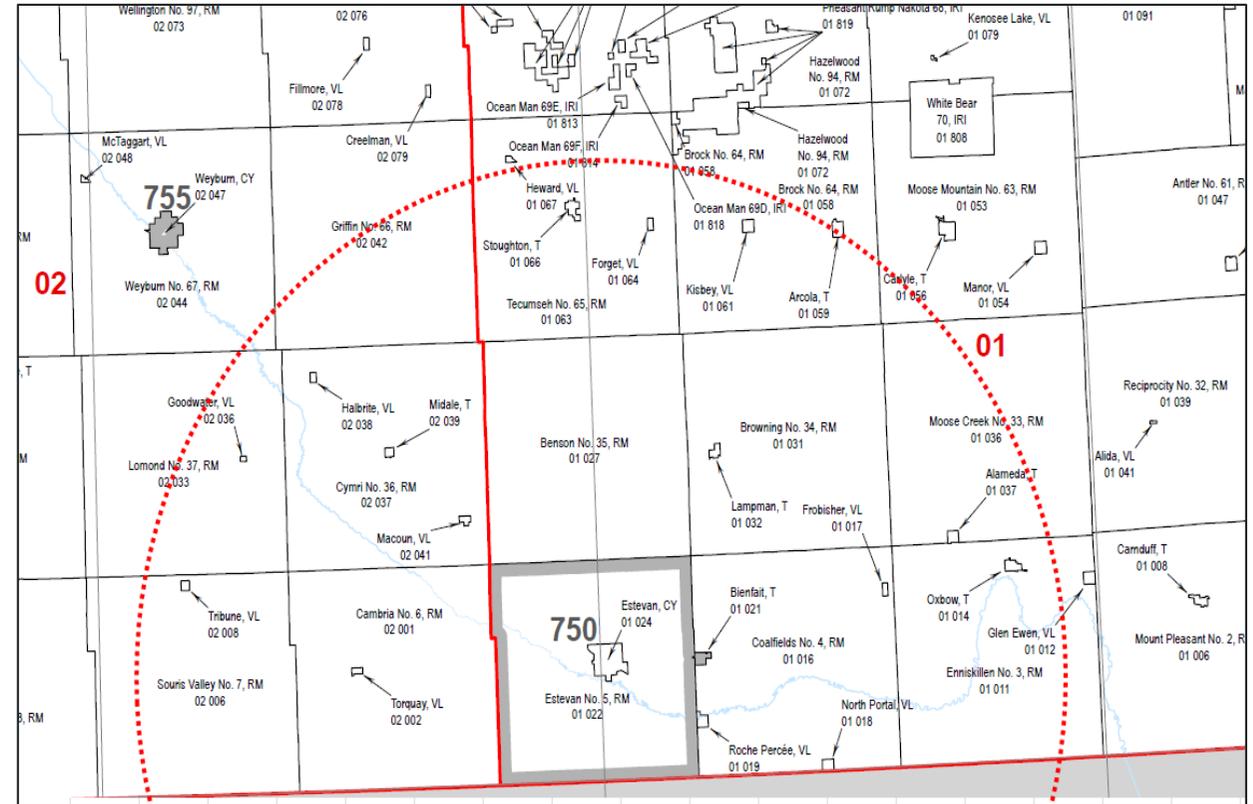
Economic Impact Model

The Study Area has been divided in two sections:

Primary Study Area: the City of Estevan, the Town of Bienfait and the Township of Estevan No. 5 which collectively define the Estevan Census Agglomeration (CA).

Secondary Study Area: the other 30 municipalities within a 100 km radius of Estevan. The populations of these 30 ranged from as many as 1,328 in Obow to as few as 108 in Storthoaks.

Map of the Estevan Study Area



Economic Impact Model

The reduction in mining and utilities jobs being considered here will occur only in the Primary Area. Most of the Primary Area's mining and utilities jobs are held by Primary Area residents. Thus the job reductions stemming from the closure of Units 4 and 5 at the Boundary Dam Power Plant and the coincident job reductions at the Westmoreland Coal Mine will only impact the population and employment base of the Primary Area.

- Migrants – people who move – tend to be relatively young people aged 20 to 39 often with youngsters in tow. That description defines the residents of the Primary Area relative to those in the Secondary Area in 2016. As people age beyond 40 years they are significantly less likely to move than those under 40. That description defines the residents of the Secondary Area compared to those in the Primary Area in 2016.
- The relative age profiles of the two areas suggest the closure impacts, to the extent that they affect both areas, would likely result in relatively more in the out-migration of people from the Primary Area than from the Secondary Area.

Coal Mining and Electricity Inputs (% of Revenues)

Coal mining province-wide:

- Major contributors to the input costs are repair construction services, equipment purchases, electricity, other fuels and other support services
- Taxes on production account for less than 1 percent of coal industry revenues
- 30 percent falls to the bottom line representing the industry’s gross operating surplus

Electricity activities province-wide:

- Half of input costs are accounted for by natural gas or coal
- Other major contributors to input costs are repair construction services, head office services and computer services
- Taxes on production account for 4 percent of electricity activity revenues
- 41 percent falls to the bottom line representing the industry’s gross operating surplus

	Coal Mining	Electricity
Total Revenues	100	100
Inputs	40	40
Wage and Salaries	30	15
Taxes on Production	0	4
Gross Operating Surplus	30	41

Economic Impacts on the Primary Area

Impacts annually from 2024 and beyond

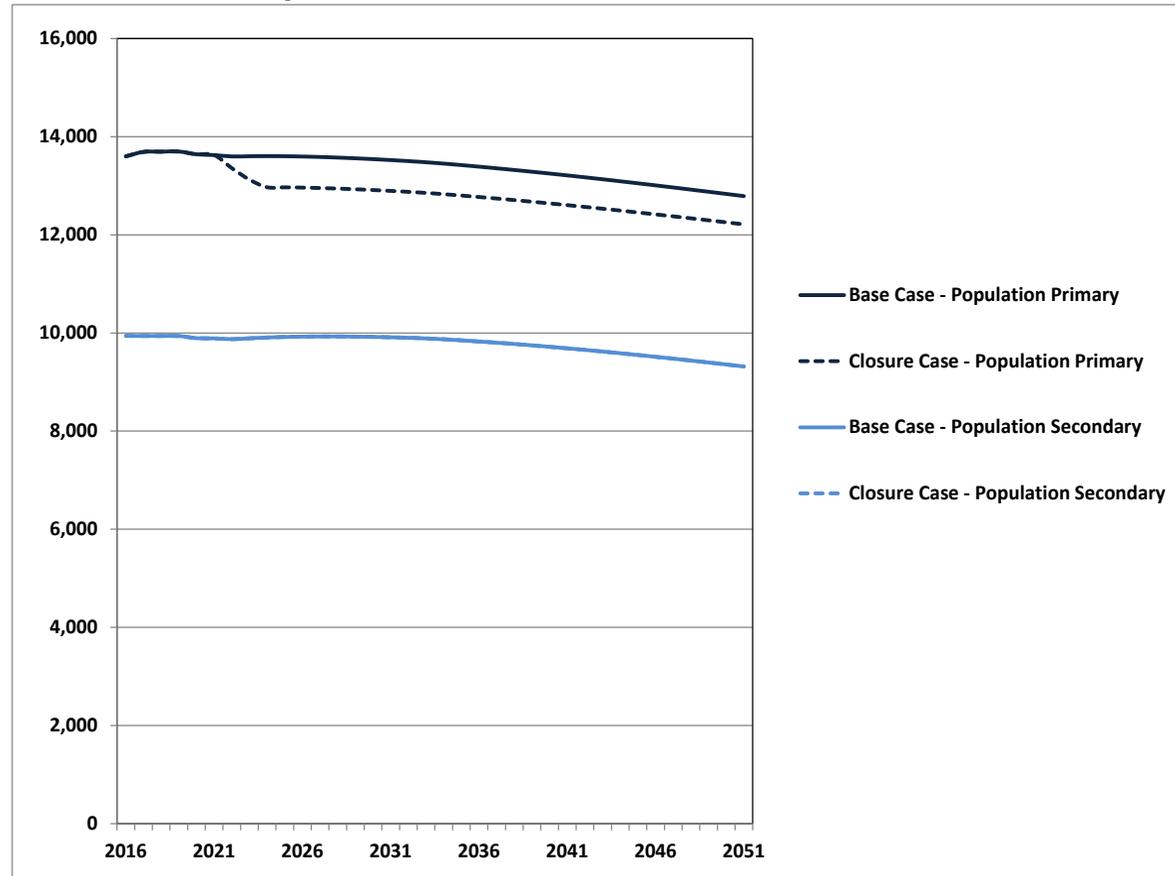
- Population of PA reduced by about 635 (4 to 5 percent)
- Total jobs in the PA reduced by about 350 (4 to 5 percent)
- Household income reduced by \$65 million (\$2012) (8 percent)
- GDP reduced by \$200 million (\$2012) (8 percent)
- These GDP losses translate into a per capita GDP loss that increase over time:

Primary Area Per Capita GDP Loss 2026-2051

2026	2031	2036	2041	2046	2051
-\$6,739	-\$7,480	-\$8,302	-\$9,222	-\$10,247	-\$11,389

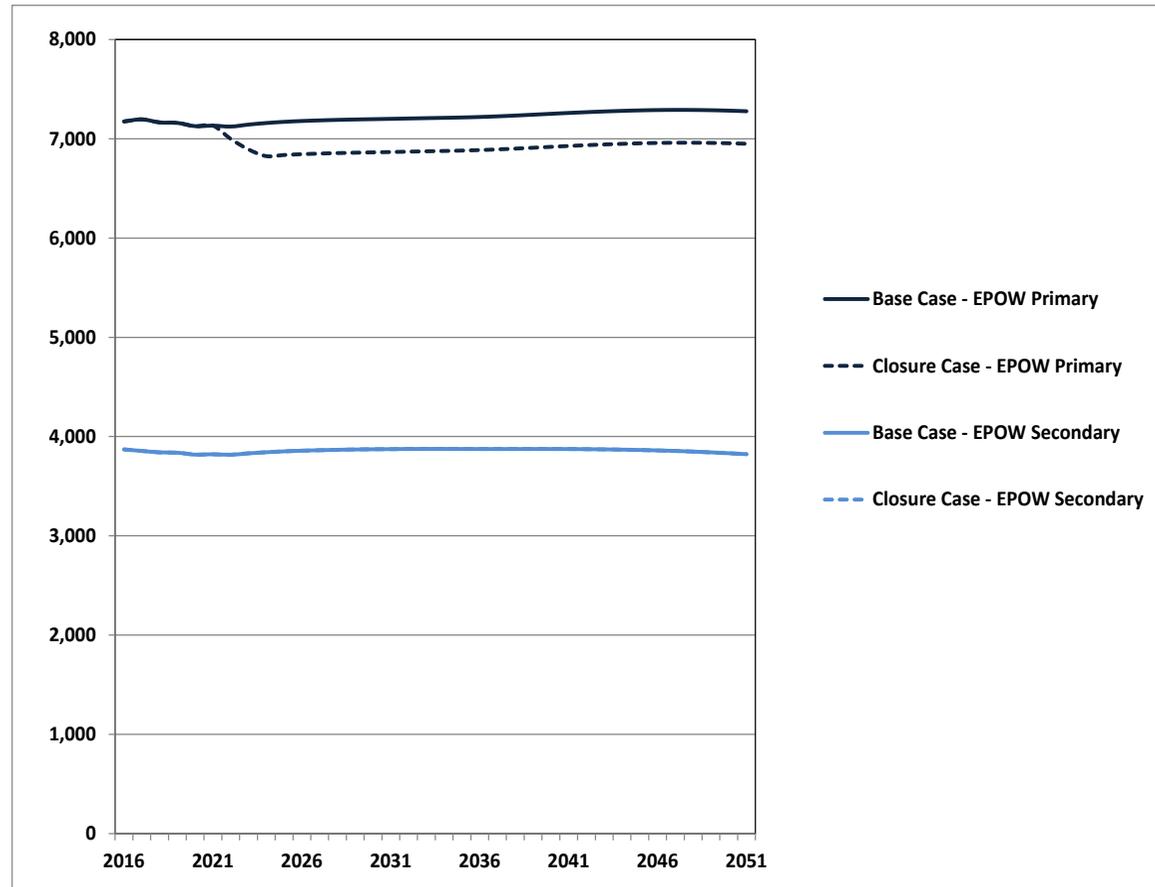
Economic Impact Model

Total Population, Annual Data 2016 to 2051



Economic Impact Model

Total Employed by Place of Work, Annual Data 2016 to 2051



Job Multipliers and Job Impacts

According to Statistics Canada’s input-output multipliers for Saskatchewan the direct, indirect and induced impacts of a 100 job gain or loss in each of coal mining and electric power would be as indicated in the table below. (metro economics assumed direct impacts of 100 for coal mining and 50 for electric power based on news media reports.)

	Job Impacts				Ratio Total to Direct
	Direct	Indirect	Induced	Total	
Coal Mining	100	78	51	229	2.29
Electric Power*	100	218	272	590	5.90

The induced impacts represent the impacts on local businesses (retail, entertainment, restaurants, health care, etc.) stemming from the impacts of the direct job losses on the amount of local income that can now be spent.

The coal mining multiplier suggests the 100 direct loss in coal mining jobs would induce 51 job losses locally.

The electric power multiplier suggests the 50 direct loss in electric power jobs would induce 136 job losses locally.

The multipliers therefore suggest the following:

- 100 direct coal mining jobs lost and 51 losses induced locally
- 50 direct electric power jobs lost and 136 losses induced locally

Thus 150 direct losses in total for both industries result in about 330 local losses in total (150 direct, 180 induced) which implies a multiplier of 2.2.

Household Income

- The estimates for 2029 for the Primary Area in the Base Case to the Closure Case in order to illustrate what is happening here:
- Jobs by place of work are lower by 335, or by 4.7 percent (6,860 down from 7,195)
- The population is lower by 631, also by 4.7 percent (12,929 down from 13,560)
- The number of households is lower by 243, or by 4.1 percent (5,649 down from 5,892)
- The average household income is lower by \$5,738, or by 3.9 percent (\$142,581 down from \$148,319 both in constant 2012 dollars)
- Thus total household income is lower by \$68 million, or by 7.8 percent
- Each of the 335 job losses means a loss of up to \$148,000 of household income (a drop of about \$50 million in household income). Furthermore, many of those who continue to work will receive less pay than they would otherwise in the weaker economy. This accounts for the other \$18 million lost in household income which works out to about \$3,200 per household across all households.

Impacts on Municipal Finance

In 2017 the Town of Estevan collected:

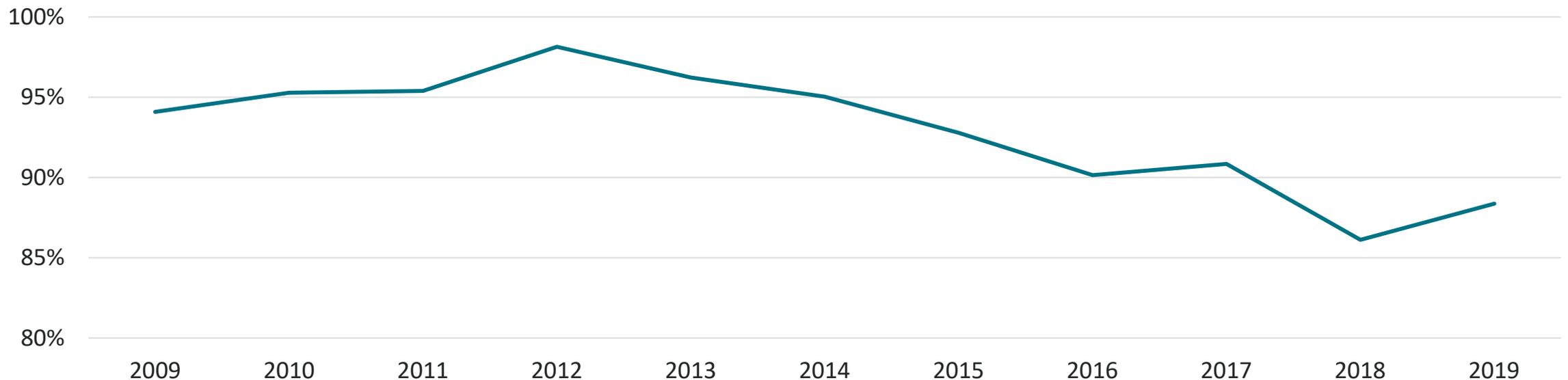
- \$22.5 million in taxes and grants
- \$5.6 million in fees and charges
- \$0.1 million in land sales and offsite levies

None of the affected facilities (Westmoreland Coal Mine, Boundary Dam Station, Shand Power Station) pay taxes to the City of Estevan, therefore the impacts on municipal finance will be through the indirect GDP costs of losing jobs in the City as detailed in the previous sections.

Housing Trends 2009-2019

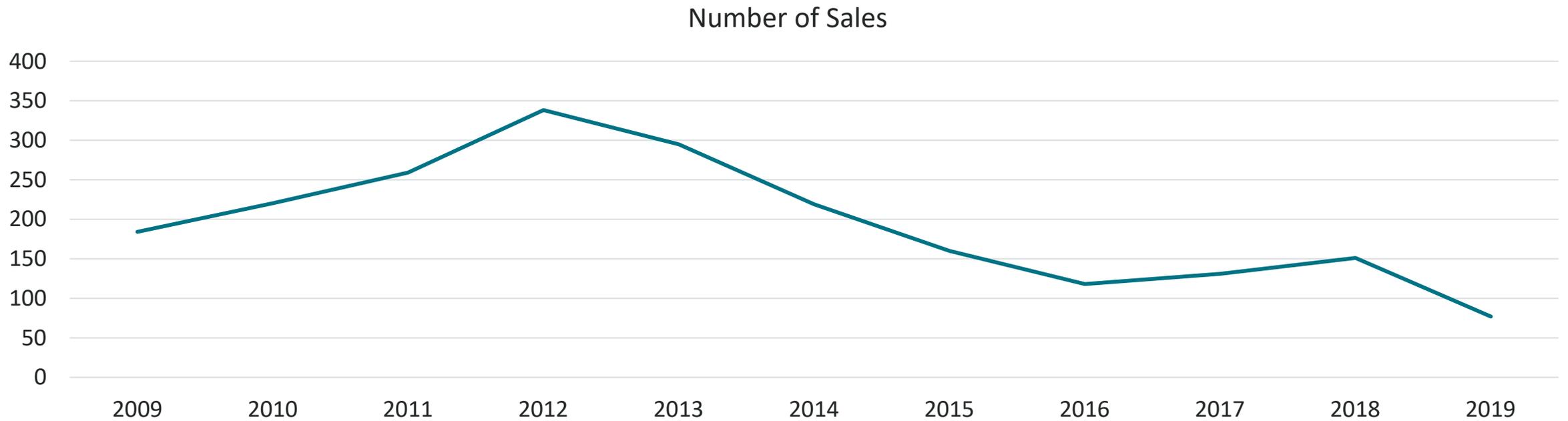
- Housing in Estevan has been affected by the downturn in the Oil and Gas Sector, it is reasonable to assume this negative trend will be exacerbated by the impending closures.
- The figure below illustrates the average close price to original price ratio average in Estevan, indicating that over time sellers have been able to recoup less of their original list price.

Close Price to Original Price Ratio Average



Housing Trends 2009-2019

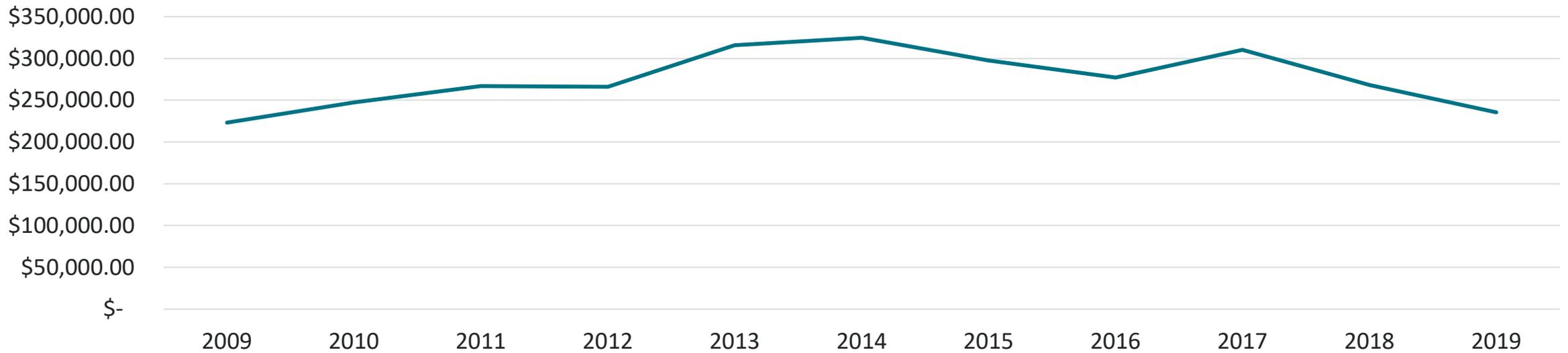
- Housing in Estevan has been affected by the downturn in the Oil and Gas Sector, it is reasonable to assume this negative trend will be exacerbated by the impending closures.
- The figure below illustrates the number of sales in Estevan 2009-2019, indicating that over time after the downtown fewer homes have been sold.



Housing Trends 2009-2019

- Housing in Estevan has been affected by the downturn in the Oil and Gas Sector, it is reasonable to assume this negative trend will be exacerbated by the impending closures.
- The figure below illustrates the average sale price in Estevan 2009-2019, indicating that over time after the downtown average sale prices have been dropping.

Average Sale Price



Stakeholder Engagement



Stakeholder Engagement - Sept 18th – Oct 1st, 2019

- Total – 21 individuals
- Businesses – 11 individuals
- Key Stakeholders – 10 individuals

- Affected Businesses: Excavators, Co-ops, Parts Suppliers, Tradespeople...
- Key Stakeholders: SaskPower, Workforce Diversification Canada, United Coal Workers, Real Estate Agents...



Stakeholder Engagement Key Themes: Business

- Most individuals cautiously optimistic about outlook in Estevan
- Important to minimize uncertainty to retain workers and encourage investment
- Infrastructure lends itself to electricity generation, many possible projects on horizon
- Transportation options for value-added agriculture, alternative coal products
- Retirement can minimize layoffs, retirees should be encouraged to settle there



How do you anticipate the local economy, and labour force, may be affected by the downsizing of the Boundary Dam Power Plant's operations?

Stakeholder Engagement Key Themes: Business

- Potentially large effect on overall economy

Key Stakeholders

- SaskPower doesn't expect lay-offs as many of the employees will retire or relocate within SaskPower
- There is some economic diversity with agriculture and oil
- Downturn in housing market, difficulty selling homes decreased prices

Affected Businesses

- Suppliers to power plant and mine will lose revenue
- Impact on expectations and optimism may drive people away, discourage investment



How do you anticipate the downsizing to impact your organization?

Stakeholder Engagement Key Themes: Business

Key Stakeholders

- At SaskPower with units 4 and 5, no layoffs anticipated but creates uncertainty:
 - Increased difficulty attracting and retaining individuals in roles – particularly coal plant operators
- Will impact the spouses as well

Affected Businesses

- Many feel that the closure would have a big impact on their business
- Coal miners affected directly, as the coal mines production goes predominantly to the Power Plant



In what way do you anticipate you will need to adapt to minimize this impact?

Stakeholder Engagement Key Themes: Business

Key Stakeholders

- Prioritize increasing market share in other industries
 - Oil industries down, coal going to be taken away, agriculture (all sensitive to commodity markets)
- For SaskPower, one concern is that if oilfields pick up, could draw some of employees in critical positions away from Coal Plants too early, so doing some work to retain employees in the positions they have is important
- Address uncertainty, much of the impact driven by regulation

Affected Businesses

- Adjust expenses to accommodate the loss of income
 - Downsizing employees
- Some tradespeople cited bidding on less commercial projects, more residential
- Real Estate agents work more in rental/foreclosure
- Some cited pulling out of Estevan if they necessary, but also noted it would be hard to sell the building



Do you think that the affected labour force has skills that are transferable to your industry sector? Other industry sectors?

Stakeholder Engagement Key Themes: Stakeholders

Key Stakeholders

- Estevan well-suited and situated for power generation
- Not many other jobs currently, would need new industry to come in
- Federal government through 'Just Transitions', is opening up centres in the Estevan and in Coronach to help with:
 - Retraining coal workers
 - Doing a skills audit, match making
- Federal government also funding a solar installation program at South East college
- Lots of movement within SaskPower, towards natural gas
- Coal workers have a strong union with high wages, may not find a comparable wage with their level of education

Affected Businesses

- Electricians, contractors, many trades are transferrable
 - Some operators have steam tickets that are specific to coal
- May have to move to bigger cities



Aside from employment opportunities, what keeps individuals in the Estevan area?

Stakeholder Engagement Key Themes: Stakeholders

- Most common response was that family roots is the primary thing keeping people there
- Lots of services, recreation (many mentioned sports teams) and amenities for a small city
- Small town feel, great sense of community
- Community involvement is good, lots of volunteers
- Difficult to sell houses in the current market
- Some people stay here after retirement, but people don't necessarily come here to retire



What assets or opportunities can be leveraged to ensure the individuals that have been affected by the downsizing can continue to lead happy, prosperous lives in

the area?

Stakeholder Engagement Key Themes: Stakeholders

- Infrastructure (power generation/transmission) and transportation (roads, rail, air)
- Alternative power generation
 - Solar program at South East College, opportunity for solar power
 - Natural Gas plant could be scalable, and is easy to integrate power from wind/solar
 - Carbon Capture and Storage -Could be a leader in CCS technology and sell technologies to other countries with similar infrastructure
 - Geothermal test facility near Coronach, it could be scaled up in the area
- Coal Adaptations
 - Coal mine produces activated carbon, useable in filtration processes
 - Greenhouse agriculture is a possibility with coal plants, already used at Shand
- Lots of hotels/housing to accommodate large amount of people
- Value-added agricultural manufacturing is a possibility
- Looking at Chinook plant, natural gas 350 MW uses 24 people to run, Shand coal facility is 300 MW and employs 100 people (gas less labour intensive)
 - Chinook plant adjustable up and down in energy generation, particularly to integrate solar and wind, coal much less flexible



What can municipal governments do to minimize the local impact of the downsizing on the business community and broader community?

Stakeholder Engagement Key Themes: Stakeholders

- Help to identify new opportunities within the community
- South East College is only 10 years old, could be more utilized to retrain people
- Adapt spending to ensure taxes don't drive away businesses
- Need to prioritize attracting new industry with incentives and promotion to industry across Canada
- Lots of agreements with SaskPower in places, road maintenance, weed control, sewage treatment
 - Shand power right now covers the sewage costs for the area



What can municipal governments do to minimize the local impact of the downsizing on the business community and broader community?

Stakeholder Engagement Key Themes: Stakeholders

Federal Government Projects

- Environment & Climate Change Canada funds Deep Earth geothermal project
 - Has money available for other clean energy projects
- Canada Coal Transition Initiative Fund
 - 25 Million in Western Canada from 2018-2023
- Budget 2020 to include an additional \$150 million Canada-wide
 - 2020-2025 for coal transition infrastructure (still pending approval)
- Western Diversification Canada offers funding for Clean Tech projects
 - Municipalities can apply

THANK YOU!

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