

2018-2022

# REGIONAL SNAPSHOT



SOUTH OKANAGAN REGIONAL GROWTH STRATEGY. VOL. 10, 2018-2022



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## *Introduction*

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The *Local Government Act* requires a regional district to measure its progress on an RGS. Performance indicators selected for the South Okanagan RGS will allow the RDOS to monitor its implementation and progress towards the vision articulated by the community.

An original set of indicators was established in 2008, and a selection of ten key indicators was chosen to start monitoring the RGS once it was adopted in 2010. The selected indicators were based on the seven goals of the RGS. A long list of indicators, derived from a literature review of existing or proposed regional growth strategy monitoring programs from regional districts in British Columbia and other indicator programs, was refined based on how well they suited RGS goals, data availability, and reliability. Since 2010, some indicators have proven to be difficult to track, suffer from data challenges, or poorly represent the goal with which they are associated. These were updated and replaced as necessary as part of the 2016 revisions. The 2015 Snapshot update was the first report to incorporate the 2016 revisions.

There are currently 16 indicators tracking the performance of the goals of the seven policy areas. Two additional context indicators show population growth trends against which change in other indicators can be made more meaningful. Indicators have been selected to balance fidelity to the goals with pragmatic concerns of data collection and reporting frequency. Data for all the indicators is available freely from trusted sources (including internal regional district processes), at least every two years.

This is the fourth volume of indicators produced since the 2016 revisions. The 2018-2022 Snapshot will show any additional data available since Volume 9, 2017 was produced.

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# CONTEXT



## POPULATION GROWTH

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### INDICATOR

### WHAT'S GOING ON: Change since last period

*% change in population*

The estimated population growth rate for the RGS area was approximately 4.58% from 2016 to 2021.

*Total regional population for 2021*

The estimated total population in the South Okanagan is 73,825

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### CONTEXT

When the Regional Growth Strategy (RGS) was adopted in 2010, it anticipated “a moderate population increase of more than 1.5% per year”, and a resultant total population of 101,188 by 2022. In hindsight, this estimate was overly optimistic as the average annual growth rate for the RDOS was 0.69% between the 1996 and 2021 Census’, while the area covered by the Regional Growth Strategy experienced an even lower average annual growth rate of 0.63% over this same period.

BC Stats provides population increase estimates for municipalities and for the RDOS as a whole. At present, BC Stats is projecting an anticipated average annual growth for the broader Thompson-Okanagan region of 0.9% between 2020 and 2041. This would result in a population of 95,250 in the RGS Area by 2046, or an increase of approximately 19,000 new residents.<sup>1</sup> These figures do not include population numbers for on-reserve First Nations in the RGS area (Penticton Indian Band, Osoyoos Indian Band).

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<sup>1</sup> Population projections from BC Stats P.E.O.P.L.E. are only available at certain scales; projections for the RDOS have been used to develop projections for the RGS study area.



SECTION

1



HOUSING AND DEVELOPMENT

GOAL

Focus development in serviced areas in designated Primary Growth Areas and Rural Growth Areas.

INDICATOR

HOW ARE WE DOING: Change since last period

1.1) Percent of housing starts in primary growth/ rural areas



Well: the proportion of housing starts in primary growth areas increased 1.5% since the 2021 Snapshot

1.2) Hectares change (inclusions/exclusions) to ALR



Well: 5.6 ha of agricultural lands were included into the ALR

1.3) Median home prices



Poor: Median home price increased by 43.4% between 2018 and 2022

1.4) Affordability ratio



Well: The proportion of households spending 30% or more of their income on shelter (Core Housing Need) has decreased since the 2016 Census

The affordability ratio remained at 5.3, but is still beyond common thresholds of 3.0 or 3.5

1.5) Number of housing starts by type



Well: only 56.6% of new dwelling were single family, which represents a decrease from 43% from the 2017 Snapshot report, but still represents a reduction in comparison to the historic average of approximately 67%

### 1.1) Percent of housing starts in primary areas / rural areas

This indicator measures the number of new housing units built<sup>2</sup> in the RGS Area. This is important as a means of understanding growth within the RDOS to ensure residential areas can be effectively and efficiently serviced, as well as protecting important areas for agriculture and biodiversity. The RGS strongly encourages the development of compact communities. In 2022, approximately 81.5% of housing starts occurred in the primary growth areas. On average, between 2018 and 2022 approximately 79.8% of housing starts occurred in primary growth areas.

### 1.2) Hectares change to ALR

This indicator tracks the success of protecting agricultural land by measuring the amount of land that has been added or removed annually from the Agricultural Land Reserve (ALR), within the RGS study area. This is determined through changes to ALR boundaries in Agricultural Land Commission (ALC) mapping each year.

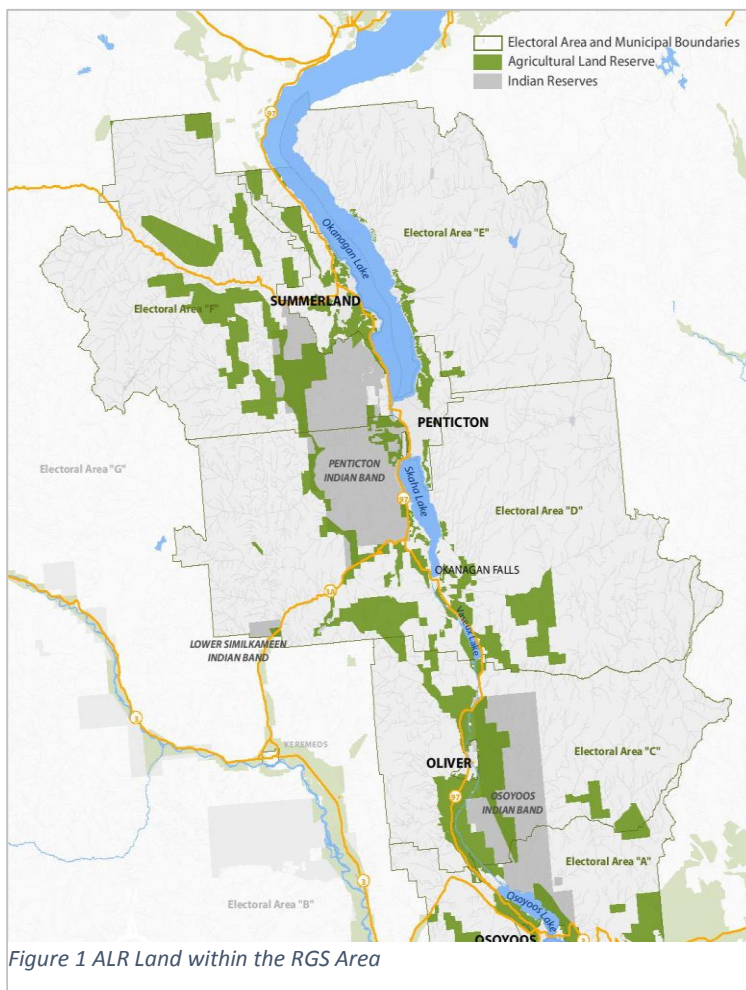


Figure 1 ALR Land within the RGS Area

Protection of this land is important as only 5% of BC's land is suitable for farming, making farmland a valuable commodity. With the goal of protecting agricultural land, the ALR recognizes the importance of agriculture as an economic driver, and important local food source. Within the south Okanagan, agriculture also forms an integral part of the local and regional history.

One of the key directives in the RGS is the protection of farmland and the agriculture industry in the south Okanagan by promoting retention of farmland and directing development to established growth areas<sup>3</sup>.

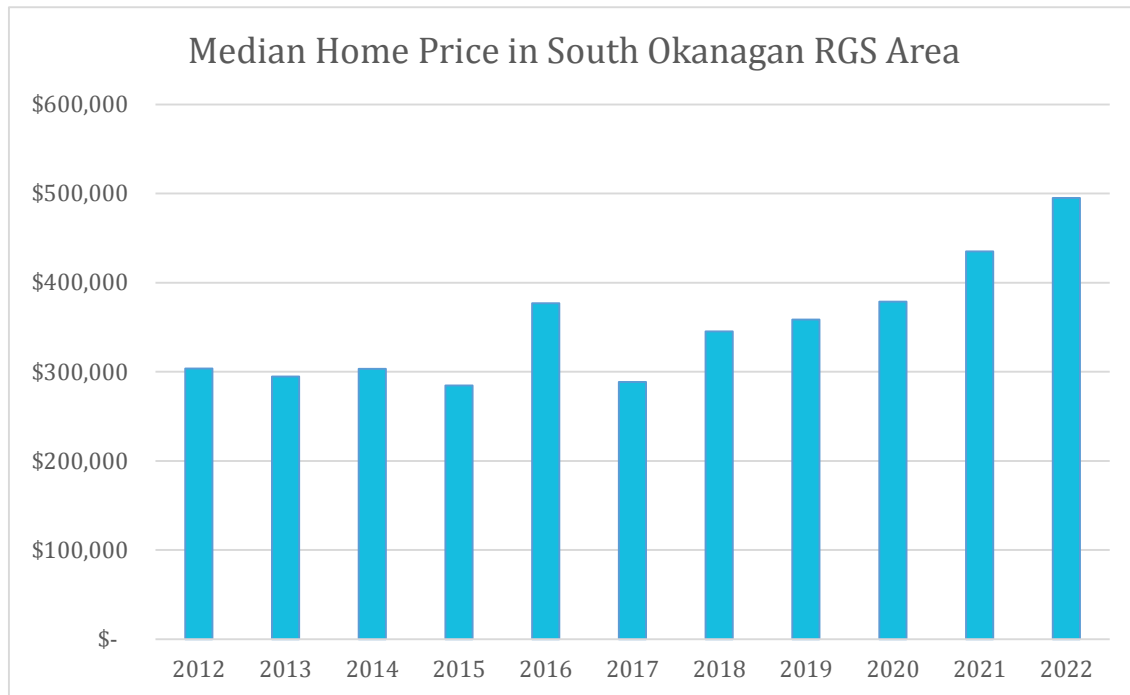
Between 2018 and 2022 there were 3 approved ALC exclusion applications and 3 approved ALC inclusion applications. Overall, the total change to the ALR land between 2018 and 2022 is an increase of 5.6 ha.

<sup>2</sup> Based on residential building permits issued.

<sup>3</sup> Farming activities also occur on agricultural land that is not in the ALR, and land in the ALR may not be actively farmed.

### 1.3) Median home price

Taken as a general measure of affordability, the RGS Area experienced on average a 9.6% increase in median house prices per year between 2018 and 2022 which is seen to be a negative change in terms of affordability. This indicator uses home values from BC Assessment.



*Figure 3 Median Home Price in South Okanagan RGS Area*

Figure 3 below shows that Electoral Area “D” has experienced the greatest increase in median home price since 2018. As of March 2022 Electoral Area “E” has the highest median home price in the South Okanagan RGS Area.

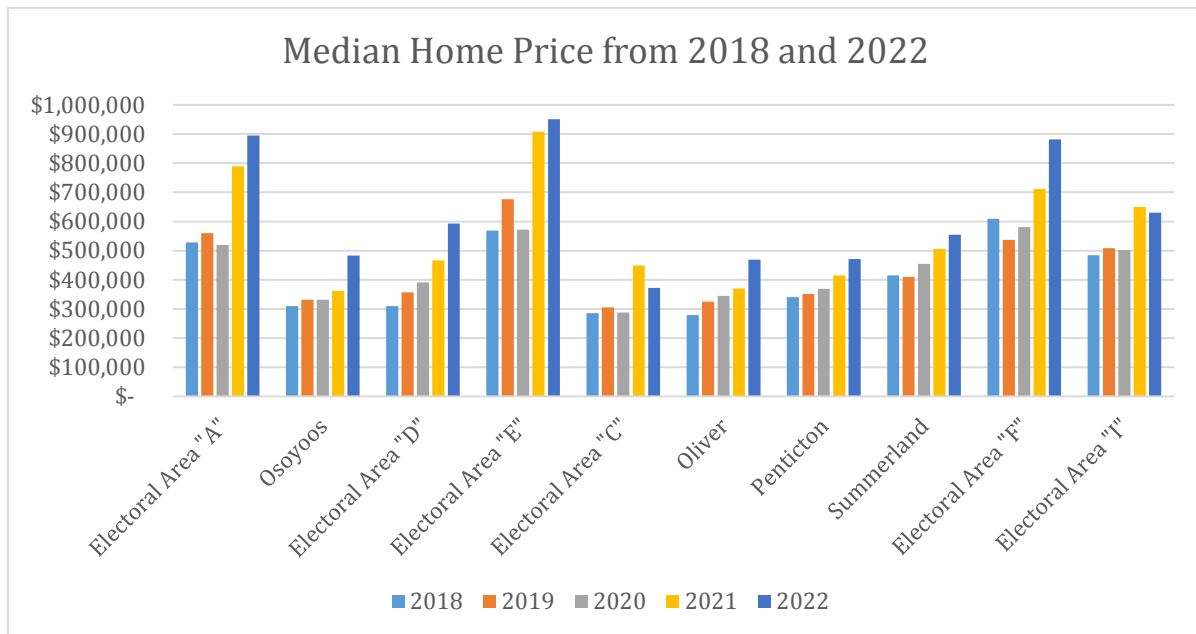


Figure 4 Median Home Price in Electoral Areas and Member Municipalities from 2018 to 2022<sup>4</sup>

#### 1.4) Affordability ratio: Median home price to median household income

By comparing home prices to income, this indicator gives an idea as to how accessible housing is to residents of the RGS. Typically, a ratio of approximately 3.0 to 3.5 is considered a threshold for affordability, i.e., three to three and a half times the average household income is needed to purchase an average home (this is the inverse of another common metric – the “shelter-to-income” ratio - which assumes 30% of a household income should be enough to cover housing costs).

In the RGS study area, the affordability ratio has remained steady at 5.3 since the 2017 snapshot. A ratio of 5.3 indicates that it will take approximately five times the median household salary to purchase a home – is still well above the threshold for affordability.

#### Core Housing Need: Households Spending 30%+ of Income on Shelter

Looking at the wider Region, this portion of this indicator will speak to the incidence of households in Core Housing Need in the RDOS as a whole including the Similkameen Electoral Areas and Member Municipalities. Data is collected during each federal census, with the last data collection year being 2021.

A household is considered to be in the Core Housing Need category if their current dwelling is unaffordable, inadequate, and/or in poor repair, and acceptable alternative housing in the community would cost 30% or more of the household’s before-tax income. Measuring the ratio of household

<sup>4</sup> Based on BC Assessment – Assessed value



income in relation to shelter costs is an important and widely accepted measure of housing affordability.

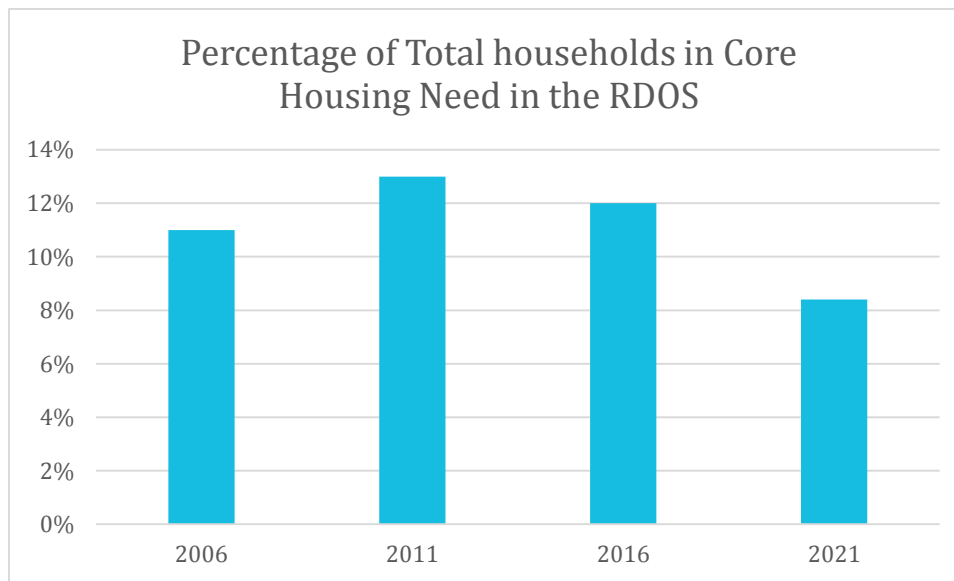


Figure 5 Proportion of households in the RDOS (including the Similkameen) that are in Core Housing Need

Approximately 8.4% of people in the RDOS as a whole are in Core Housing need. This represents a reduction from the 2016 census. In comparison, in the Province of British Columbia approximately 12.59% of people are considered in Core Housing need. The majority of households in the Core Housing Need category in the RDOS were renter households (22%).

### 1.5) Housing Diversity/Choice: Number of homes by structural type

This indicator measures the percentage mix of new housing by structural type; that is, the number of units that are single family homes, row houses, and apartment units. The range of housing types found within the total number has the potential of indicating overall community sustainability.

The RGS strongly encourages the development of compact, complete communities in the South Okanagan. Specifically, developing complete communities that are accessible to their residents requires a mix of housing types. Generally, multi-unit dwellings are more affordable than single detached dwellings.

Of the approximately 34,490 homes available in the South Okanagan RGS Area, 19,530 were single family homes and represented about 56.6% of all dwelling units. This figure, which is updated every five years, and last updated in 2021, has been trending downward, from 63% in 2006, 61% in 2011 and 59% in 2016. The proportion of semi-detached homes and duplexes has remained at 7% of the available housing stock since 2016 and represents an increase since 2011. Row houses held steady at 8% whereas apartments have seen a slight increase to 22.6%, from 21% in 2016. The overall trend appears to indicate an increasing variety of housing types over the long term.

## ECOSYSTEMS, NATURAL AREAS AND PARKS

**GOAL**

*Protect the health and biodiversity of ecosystems in the south Okanagan.*

**INDICATOR**

**2.1)** *Percent of land base that is parkland and protected areas*

**2.2)** *Average daily water consumption per person*

**2.3)** *Average kilograms of daily waste landfilled per person*

**HOW ARE WE DOING: Change since last period**

**Well:** As of 2022, protected land in the RGS Area has increased by a total of 1073.3 ha since 2017



**Poorly:** consumption of 563 m<sup>3</sup> / person / year represents a 51 m<sup>3</sup> increase per person from the 2017 snapshot report



**Poorly:** total annual waste landfilled at Campbell Mountain increased by 6%

**2.1) Percent of land base that is parkland and protected areas**

This indicator measures the percentage of total land area of parks and protected natural areas in the South Okanagan. It includes lands zoned as a park and lands owned by The Nature Trust of BC, the Nature Conservancy, Ducks Unlimited and the Land Conservancy.

The Okanagan valley supports some of the rarest flora and fauna in Canada. The policies of the RGS strongly support the conservation, protection and enhancement of ecologically sensitive lands and the retention of open spaces, parks and large rural holdings.

Data was only available for 2021 and 2022 for Penticton and Summerland. Summerland data does not take into account BC Parks data. Between 2017 and 2022 Penticton saw an increase from 620 ha to 709.3 ha of parkland and protected area. Summerland saw an increase from 345 ha to 619 ha over that same time period.

In the South Okanagan Electoral Areas, Oliver and Osoyoos, the area of parkland and protected natural areas increased 1.6% between 2018 and 2022 (43369 ha to 44079ha).

Conservation organizations have continued to purchase land or acquire land through donation for conservation throughout the region. Below are some examples of lands that have been acquired for conservation between 2018 and 2022. This list is not comprehensive.

In 2018, The Nature Trust of British Columbia (NTBC) completed the purchase of the 32.2 ha Park Rill Creek property in the White Lake Basin. In 2021 they purchased an additional 61 ha of land for inclusion in the White Lake Basin Biodiversity Ranch complex. In March of 2022, NTBC purchased a further 102 ha of land and in August purchased an additional 65 ha of land for inclusion in the White Lake Basin. This area is rich with vegetation, including aromatic gray sagebrush, desert grasslands and broadleaf woodlands and provides important habitat for some of the most endangered and rare species in the province.

Further, In 2022 NTBC also purchased 29.2 ha of land adjacent to the McTaggart-Cowan/nsək'niw't Wildlife Management Area to add to the Skaha Lake Eastside conservation complex which is important habitat for many sensitive ecosystems, namely Bighorn Sheep.

The Nature Conservancy of Canada added 126 ha of land to the Sage and Sparrow Conservation Area near Osoyoos in December 2020.

The Southern Interior Land Trust (SILT) succeeded in purchasing the 16.6-hectare (41 acres) Bourguiba Spring property on Highway 3, three kilometres southeast of Osoyoos in November 2022.

### **2.2) Average daily water consumption per person**

Water availability is a concern in the South Okanagan. As the region grows in population, water supply will continue to be an issue. The RGS includes eight policies for communities, organizations and governments to work together to ensure future water sustainability.

This indicator uses combined residential and irrigation usage data collected from ten water utilities of the South Okanagan. Since the 2017 Snapshot report the RDOS has taken over two water systems (Sun Valley in Electoral Area "D" and Willowbrook in Electoral Area "C"). 2022 water consumption numbers were only available from 4 utilities at time of printing. 2021 numbers have been used for the remaining 6 utilities.

Note annual per person consumption of 562 m<sup>3</sup> equals 1540 litres/day/person.

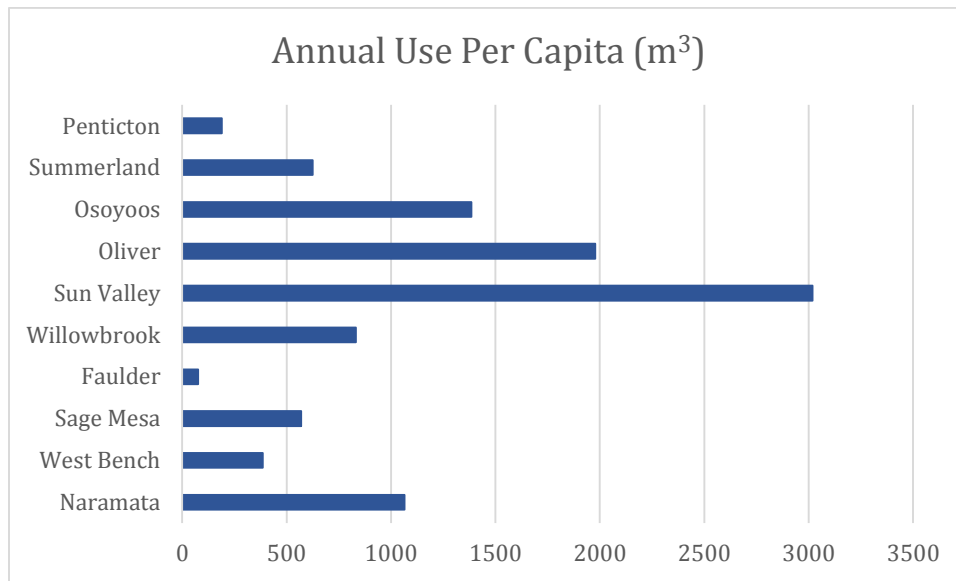


Figure 6 Annual Water Use per person

### 2.3) Average kilograms of daily waste landfilled per person (kg/day/capita)

This indicator consists of measurements taken from the Campbell Mountain landfill, not including diverted waste (i.e., recycled).

The RGS speaks directly to reducing solid waste production by promoting and encouraging waste reduction, through best practices, public awareness and actions.

Between 2017 and 2022 the total tonnage disposed at the Campbell Mountain landfill increased by 6%.

Data fluctuations can be expected as the service area population is assumed constant and is estimated for the population both within the City’s boundaries and those customers within the Regional District.

Further, fluctuations between 2017 and 2022 may be attributed to climate related events which can result in increased waste. For example, there was significant fires and flooding in 2018 which resulted in a notable increase in waste disposed at Campbell Mountain Landfill.



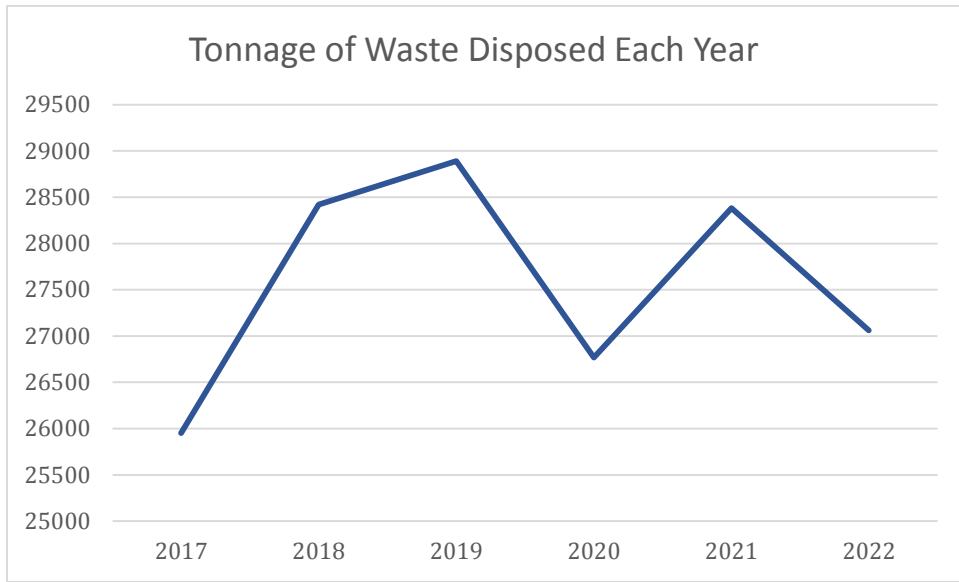


Figure 7 Tonnage of Waster and Diverted Materials Disposed of at Campbell Mountain Landfill Each Year

SECTION

3



New Okanagan Falls Wastewater Treatment Plant. © RDOS

INFRASTRUCTURE AND TRANSPORTATION

GOAL

Support efficient and effective infrastructure services and an accessible multi-modal transportation network.

INDICATOR

HOW ARE WE DOING: Change since last period

3.1) Total annual regional bus ridership



Well: Overall ridership in the Region increased 16% since 2016.

3.1) Total annual regional bus ridership

This indicator measures the number of trips taken on BC Transit buses within each BC Transit business unit of the RGS area. South Okanagan residents depend on a municipal and provincial transportation network and services for work, recreation and day-to-day travel.

Ridership dropped abruptly in March 2020 due to the COVID-19 Pandemic and guidance from British Columbia’s Provincial Health Officer to limit non-essential travel. As of April 2022, ridership has recovered to approximately 90% of pre-COVID levels.

Despite the impact of COVID on transit use, overall, the South Okanagan-Similkameen Transit System has seen conventional ridership grow 16% since 2016.

The South Okanagan-Similkameen Transit system consists of 16 routes, 15 of which service the RGS Area. BC Transit often reports data by “business units”, areas that can consist of single bus routes or multiple routes. The three business units presented below include the following routes:

- **Osoyoos business unit 747:** Routes 41 Osoyoos Local, 40 Osoyoos/Penticton
- **Summerland business unit 764:** Route 30 Summerland/Penticton
- **Okanagan-Similkameen business unit 745:** Routes 10 Naramata/Penticton, 20 Ok Falls/Penticton, 21 Ok Falls Local

- **Penticton business unit 847:** 1 Okanagan Lake/Wiltse, 2 West Side/Penticton Ave, 3 Uplands/Skaha Lake, 4 West Side/Duncan East, 5 Main Street, 11 West Bench/Penticton, 15 Night Route, 16 Lake to Lake, 70 Kelowna/Penticton

Since the 2017 snapshot, old route 90 Osoyoos has been removed and new routes 70 Kelowna/Penticton (added 2020) and 11 West Bench (added January 2022) have been added.

This indicator only looks at “conventional” routes, and does not include rides taken by specialty services (e.g. handyDART).

The 2021 Census shows that only 1.1% of commuters, commute by public transit with the majority of commuters in the RDOS (78.1%) travelling by automobile<sup>5</sup>.

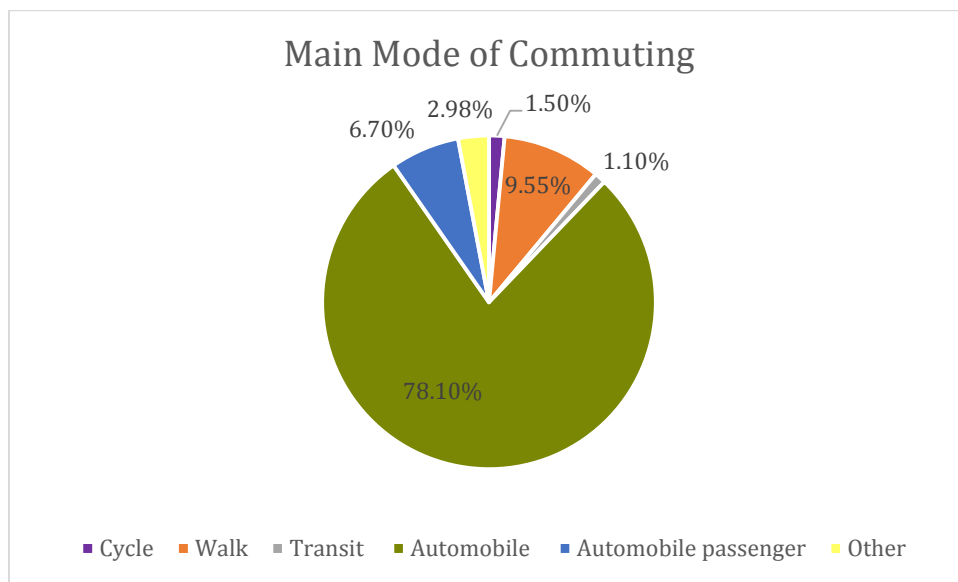
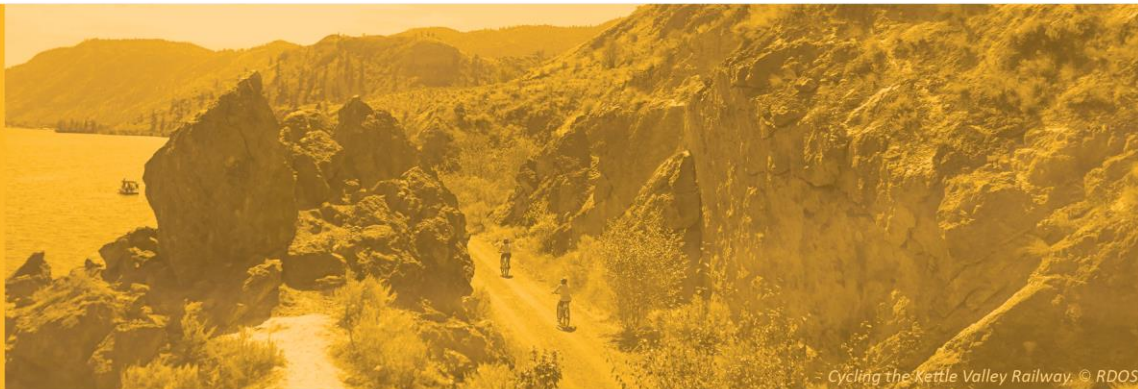


Figure 8 Mode Share for commuters in the RDOS

<sup>5</sup> 2021 Census, NHS - RDOS



## COMMUNITY HEALTH AND WELLBEING

**GOAL**

*Foster healthy, safe communities that provide accessible recreational, educational and cultural opportunities.*

**INDICATOR**

**4.1)** Annual crime rates per 1000 residents



**Poorly:** average crime rates overall between 2018 and 2021 increased by 0.9 /1,000 population

**4.2)** Regional health outcomes



**NA:** This is a sample of health outcome data from Interior Health

**4.1) Annual crime rates per 1000 residents**

This indicator measures the number of Criminal Code offences (excluding traffic offences) per 1000 population. Jurisdictions included are Penticton Municipal, Penticton Provincial, Osoyoos Municipal, Osoyoos Provincial, and Summerland Municipal<sup>6</sup>.

Penticton Municipal showed the greatest rate of 205.2/ 1000 population, while Penticton Provincial was the least at 68.5 per 1000 population.

Crime rates for BC overall were up to 86.3/ 1000 population in 2019 but have gone down to 74.9/ 1000 population in 2021. Overall, between 2018 and 2021 crime rates for BC rose 0.93% per 1,000 persons.

<sup>6</sup> Statistics from policing jurisdictions do include several areas outside of the South Okanagan RGS area. Crime rate statistics are obtained from Ministry of Justice Police Services Division that includes a qualifier that crime data from previous years are revised to reflect any updates, therefore crime statistics may vary for year to year.



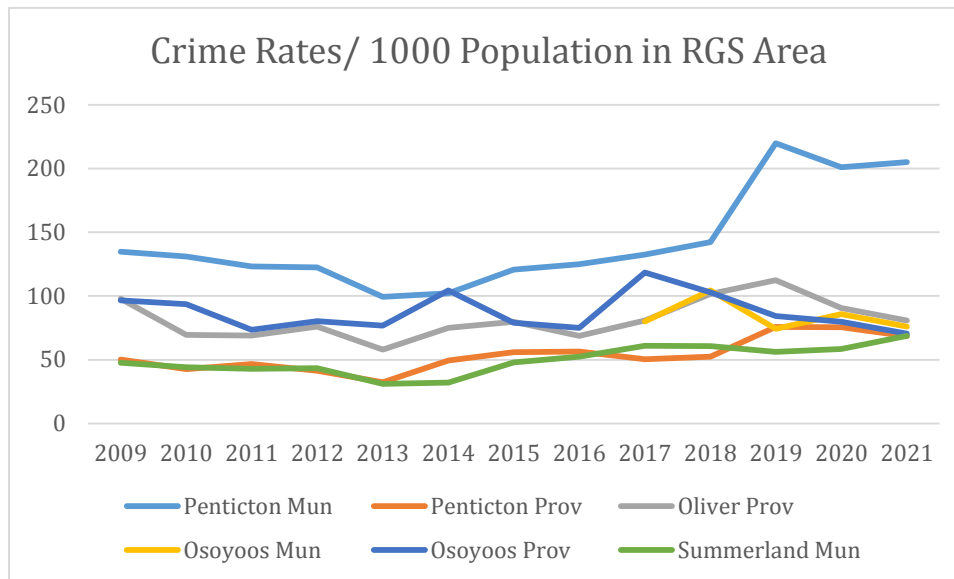
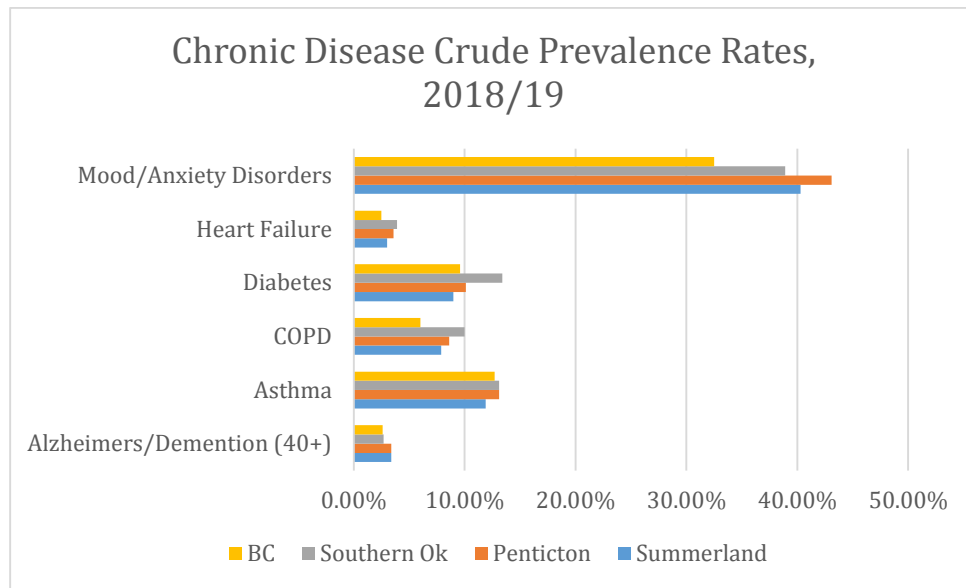


Figure 9 Crime rates per 1,000 population in the RGS Study Area

## 4.2) Regional Health Outcomes

BC Centre for Disease Control has a large amount of health related data for BC communities in an online dashboard called the Chronic Disease Dashboard. The Public Health Services Authority (PHSA) has aggregated this data by Community Health Service Areas (CHSAs) and created health profiles for individual communities which contain information about the community's demographics, socio-economic and health/disease status as represented through various community health indicators. The RGS area is roughly contiguous with three CHSAs which include Penticton, Summerland, and Southern Okanagan (an area that includes Oliver and Osoyoos). The following are a selection of health outcomes indicators.

Interior Health published Local Health Area Profiles. This data has been aggregated by Local Health Area (LHA). The Health Profile provides an overview of the Southern Okanagan Local Health Area population in the areas of Population Health, Health and Social Status, Acute Care Home and Community Care, Mental Health and Substance Use and Health Characteristics. The RGS area is roughly contiguous with three LHAs which include Penticton, Summerland, and Southern Okanagan (an area that includes Oliver and Osoyoos). The following are a selection of health outcomes indicators.



*Figure 10 Chronic Disease Crude Prevalence Rates for 2018/2019 by Local Health Area*

Crude prevalence rates are not adjusted to the standard population, and represent the number of cases in a specific geographic region divided by the population/population-at-risk in that region. Crude rates are representative of the burden of disease in the population.

As the figure above shows, the RGS Area has in general higher Crude Prevalence Rates than BC as a whole. The incidence of chronic diseases typically increases with an older population. On average, the three RGS Area LHAs have a median age 13 years higher than the provincial median age (55 vs 42) which may be one factor which contributes to the higher prevalence rates of chronic disease seen in Figure 4.



Construction in Penticton, cc-by-sa, Darren Kirby, flickr.com

## REGIONAL ECONOMIC DEVELOPMENT

### GOAL

*Achieve a sustainable, resilient and prosperous South Okanagan regional economy.*

#### INDICATOR

**5.1)** % growth in # of businesses with employees



**Well:** number of businesses with employees increased from 2018 to 2022 but has decreased since the 2017 Snapshot.

**5.2)** Total value of building permits issued for residential, commercial, industrial and institutional



**Well:** total value of building permits increased between 2018-2022

### 5.1) Percent growth in number of businesses with employees

This indicator measures the number of businesses within the RGS area that have employees (i.e.; employ more than just the business owner). A healthy, diverse regional economy is one of the cornerstones of more sustainable, resilient communities. The RGS provides an opportunity to encourage and support the development of a more diverse and healthier regional economy, which in turn will help support the South Okanagan on its journey to become a more sustainable region.

Between 2018 and 2022, the number of businesses with employees in the RGS Area increased by 136 (4%). However, this represents a 2% decrease since 2017 (3534 businesses vs. 3154 businesses)<sup>7</sup>. However, as Figure 5 shows, 2017 appears to have experienced an unusually high increase in the number of businesses with employees from previous years. For context when comparing the number of businesses with employees in 2016 and in 2022 the data shows a 6% increase.

<sup>7</sup> BC Stats – Business Counts – RGS Study Area

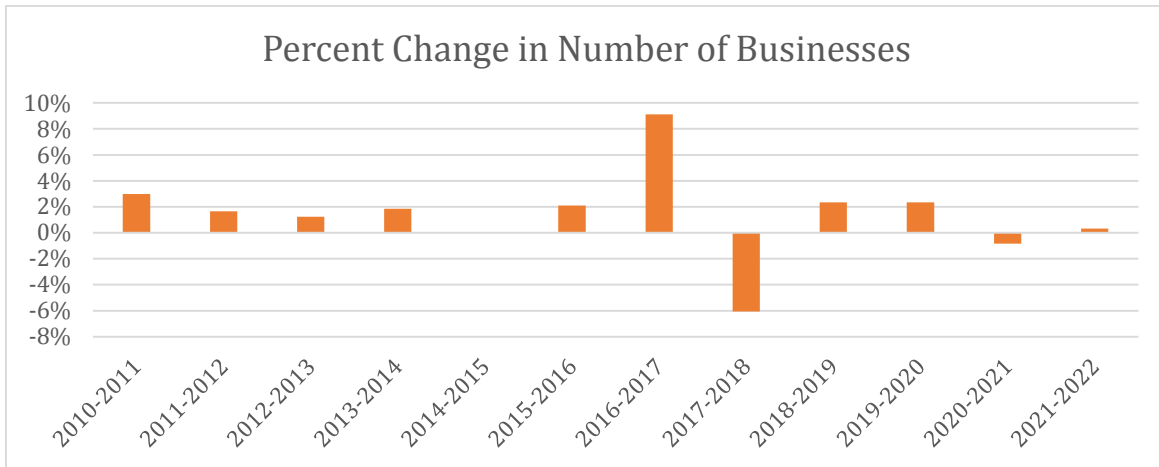


Figure 11 Percent Change in Number of Businesses with Employees in RGS Study Area

### 5.2) Total value of building permits issued for residential, commercial, industrial, and institutional

As an indicator, the total value of building permits gives some idea as to the amount of development and investment in building within the RDOS (including the Similkameen). This measure includes permits for residential, commercial, industrial and institutional developments.

The total value of building permits issued within the RDOS (as a whole) peaked in 2022 at \$382,164<sup>8</sup>. Overall, the total value of building permits between 2018 and 2022 saw a 28.5% increase in value and a 9.9% increase since the 2017 Snapshot Report.

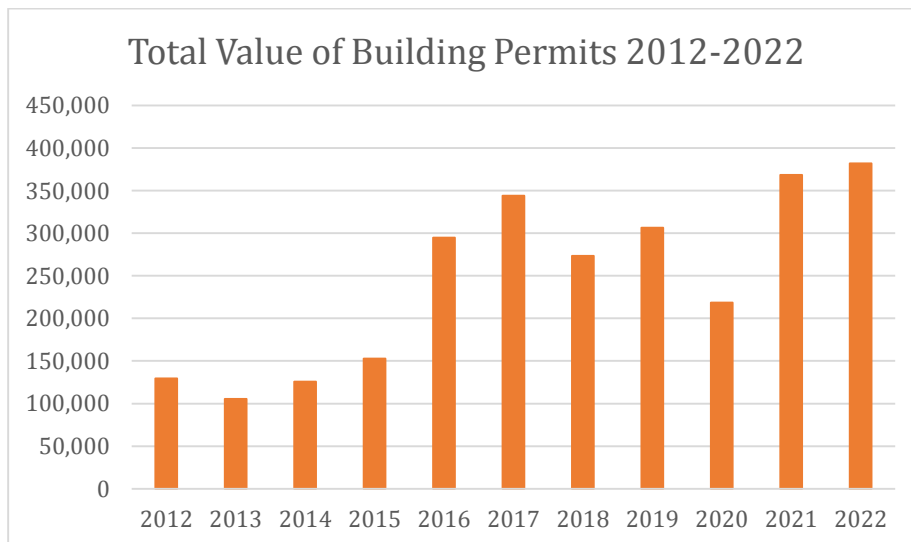


Figure 12 Total value of building permits (residential, commercial, industrial, and institutional) in the RDOS

<sup>8</sup> BC Stats – Building Permits, Housing Starts & Sales - RDOS



SECTION

# 6



RDOS Open House. © EcoPlan

## ENGAGEMENT AND COLLABORATION

### GOAL

*Foster and support regional cooperation, collaboration and civic engagement.*

### INDICATOR

**6.1) Regional survey on engagement and collaboration for member communities and Regional Directors.**



### HOW ARE WE DOING: Change since last period

**NA:** this is a newer indicator (2016) and requires development and distribution of survey to member communities.

### 6.1) Regional survey on engagement and collaboration

This indicator was not tracked between 2018 and 2022.

Ongoing coordination, collaboration, and communication remain critical ingredients to RGS implementation and planning. Inclusive, transparent regional planning and governance also supports and facilitates community engagement and involvement, another critical ingredient to effective, accountable regional planning and development. In 2018, an Okanagan wide floodplain mapping project is being coordinated amongst the three Regional Districts in partnership with Okanagan Basin Water Board (OBWB).

Ongoing collaborative activities and partnerships includes the OBWB, Okanagan Regional Library, Sterile Insect release Program, Starling Control Program, Regional Transit, and the South Okanagan Similkameen Conservation Program.

This indicator will measure regional engagement and collaboration activity through a self-reporting annual survey for member communities and Regional Directors on collaborative planning and projects, including servicing agreements, protocol agreement activities with First Nations, and regional planning initiatives.

SECTION

# 7



Penticton, cc-by, Jeff Turner flickr.com

## ENERGY EMISSIONS AND CLIMATE CHANGE

### GOAL

*Reduce energy emissions and ensure the South Okanagan is prepared for a changing climate.*

### INDICATOR

### HOW ARE WE DOING: Change since last period

*7.1) Tonnes of GHGs (tCO<sub>2</sub>e) by source type (residential/ commercial buildings, vehicles)*



GHG emissions decreased by 2.39% between 2018 and 2020, likely due to COVID. However, between 2010 and 2020 the GHG emissions have increased by 3.66%

*7.2) Average residential energy consumption/resident*



**Poor:** Consumption appears to have increased from 2016-2021

### 7.1) Tons of greenhouse gases (GHGs) by source type (residential/ commercial buildings, vehicles)

This indicator measures the amount of GHGs produced by different sectors in the RGS Area. The global scientific community has reached consensus that the increasing emissions of human caused GHGs are rapidly changing the earth’s climate. With more extreme weather conditions, including more intense drought years and heavier rainfalls, the South Okanagan is particularly vulnerable to the anticipated impacts a warming climate will have.

As one of 187 local governments that are signatory to the B.C. Climate Action Charter, the RDOS along with the City of Penticton, District of Summerland, Town of Osoyoos and Town of Oliver are committed to reducing GHGs and has agreed to take actions to achieve certain goals. Under the Climate Change Accountability Act, B.C.'s GHG emissions are to be reduced by at least 40% below 2007 levels by 2030, at least 60% below 2007 levels by 2040 and by at least 80% by 2050.

Each Municipality and RDOS Electoral Area also has its own targets set to reach the overall goal of a 40 percent reduction per person by 2030 across the region.

Data for this indicator was obtained from the Regional District of Okanagan-Similkameen Community GHG Inventory which was informed by Provincial Community Energy Emissions Inventory (CEEI) data. The RDOS Community GHG Inventory was developed by RDOS Community Services Staff in order to have baseline GHG inventory data against which to compare future performance and efficiency of actions. The inventory encompasses GHG emissions from residential, commercial buildings (including business and government), small/medium industrial buildings, passenger vehicles, commercial vehicles, and solid waste within the Regional District's geographical boundaries (including the five member Municipalities).<sup>9</sup>

The last complete inventory year dataset available is from 2020. Due to COVID, 2019 data was used as representative of a non-pandemic year and compared to 2020 data to demonstrate the effects of the pandemic. RDOS Community Services Staff used RDOS GHG Inventory data alongside provincial utility and waste data and local transportation data (from retail gas stations within the RDOS geographical boundary) to describe the current energy consumption and emission levels in the region.

In 2019, the majority of emissions in the RDOS were due to the use of mobility fuels (gasoline & diesel from both passenger and commercial vehicles) (50.8%) and natural gas (28.4%). Waste contributed a moderate proportion at 12.8%, while electricity, propane, and heating oil emissions were more minor, with a combined proportion of 8%. Proportions by emission source are similar between 2019 and 2020. Notably, between 2019 and 2020 the RDOS saw a reduction in mobility fuels consumption of about 20,500 GJ or approximately 6%. This reduction may be attributed to COVID and the guidance from British Columbia's Provincial Health Officer to limit non-essential travel.

### 7.2) Average residential energy consumption per resident

Residential energy consumption shows how much energy residents of the South Okanagan consume, on average. This indicator takes the total annual consumption of energy (Fortis Gas, Fortis Electric, and BC Hydro) and divides that number by the population. In the South Okanagan, the two primary sources for energy are electricity and natural gas. Data is calculated in Giga Joules (Gj).<sup>10</sup>

The RGS supports that efficient management of community energy use and carbon emissions is one aspect of building sustainable communities. The generation of energy is associated with environmental impacts to land, air and water resources. However, different sources of energy have different environmental impacts. For instance, natural gas results in significant GHG emissions and other air emissions, while hydroelectric power generation may cause harm to water resources and to habitat. The reliance on non-renewable fossil fuels poses serious challenges to our long-term sustainability.

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<sup>9</sup> The full RDOS GHG inventory report will be made available in 2024.

<sup>10</sup> One GJ is equal to 277.8 kWh of electricity or 26.1 m<sup>3</sup> of natural gas, or 25.8 litres of heating oil. One Gigajoule (GJ) of gas will cook over 2500 burgers, or, keep a 60-watt bulb lit continuously for 6 months.

Data for this indicator was obtained from the Regional District of Okanagan-Similkameen Community GHG Inventory. Between 2016 and 2021, average residential energy use increased by 7.19 GJ per dwelling unit.