

To: CAO for the Regional and Corporate Services Committee

Date: 2019-06-11

From: Alison Stewart, Manager of Strategic Planning

File No: 6430-30-013

**Subject: Fraser Valley Regional District Clean Economy Study**

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### RECOMMENDATION

**THAT** the Fraser Valley Regional District Board receive the "*Fraser Valley Regional District Clean Economy Study*";

**AND THAT** staff be directed to create a companion resource guide for local governments, First Nations and stakeholders to serve as a tool to support clean economy opportunities.

### STRATEGIC AREA(S) OF FOCUS

Support Environmental Stewardship

Foster a Strong & Diverse Economy

Support Healthy & Sustainable Community

### BACKGROUND

A formal presentation of the findings will be provided to the Board at its June 25, 2019 meeting.

Goal 4 of the Fraser Valley Regional District's (FVRD) Regional Growth Strategy (RGS) is for the Region to be "a network of sustainable communities that will be developed by:

- strengthening transportation, economic, and social linkages between communities;
- maintaining the unique historic identities of communities;
- providing opportunities for residents to live and work in the same community or region; and
- creating economically, environmentally and socially sustainable communities."

The FVRD undertook this study to monitor the region's economy per the current RGS and to provide input to the RGS update process currently underway. The updated RGS will reflect a changing social and economic environment as well as new legislative requirements. As a long range vision with a 20-30 year scope, the RGS must recognize the changing economy and ensure that the region as a whole is working toward a common future.

The goals of this study are to:

- Better understand the existing clean economy in the region and its comparative strengths
- Identify clean economy growth opportunities

- Align with senior government policy priorities and leverage them into expanding the region's clean economy
- Identify the supporting hard and soft infrastructure required

The desired outcomes of this study are to:

- Develop strategies to grow the clean economy in the region
- Support the Regional Growth Strategy
- Identify opportunities for strategic partnerships within the region's clean economy

The *Clean Economy Study* is intended to provide the FVRD, local governments, First Nations and other regional stakeholders with an understanding of clean economy sector opportunities that build upon the region's existing economic strengths. It also identifies opportunities for alignment with federal and provincial policy priorities including the province's recently announced *CleanBC Climate Plan*.

It is hoped that the outcomes from this project will be used to grow the Fraser Valley's clean economy sectors, to support the Fraser Valley Regional District's RGS process with relevant information, and to encourage the development of strategic partnerships that will help position the Fraser Valley as a growing clean economy leader.

## DISCUSSION

In this study, the "clean economy" is an economy that aims at reducing environmental risks and ecological scarcities, and that aims for sustainable development without degrading the environment.

The study takes into account Federal and Provincial policy drivers, as well as regional policies embodied in the RGS and the FVRD's Solid Waste Management Plan (SWMP). Waste-to-energy initiatives discussed in this report are consistent with the SWMP's rejection of incineration as a tool in the zero waste strategy.

Delphi Group was engaged in the Fall of 2018 to undertake high level research and analysis designed to better understand the existing capacity and competitive strengths related to the Fraser Valley region's clean economy. Consultation was undertaken through a series of 13 key informant interviews with industry leaders, economic development agencies, and a focus group that brought together stakeholders from business, academia, and government to discuss the local opportunities and challenges for growing the Fraser Valley's clean economy.

Secondary and primary research for this study included a review of major industry trends, policy drivers, and growth opportunities. Sector profiles were developed based on data collection and an analysis of statistical sources in order to estimate clean economy sector employment and gross domestic product (GDP); compiling lists of relevant companies, projects, investments, and research activities; and undertaking an assessment of existing strengths, weaknesses, and gaps.

## Findings

For the purposes of this study, the clean economy in the FVRD can be grouped into the following five sectors:



Figure 2: Framework for the Clean Economy in the Fraser Valley

These are defined as:

- 1) **Sustainable Resource and Ecosystem Management:** Including a focus on the region's sustainable industry practices and clean technologies for the agriculture and other resource sectors (e.g., food processing, etc.), waste management / recycling, waste-to-resource / circular economy opportunities, and the restoration of air, water, and land ecosystems (e.g., water monitoring and treatment, natural asset management, carbon capture, sequestration, and utilization, etc.).
- 2) **Green and Sustainable Transportation:** Including electric and autonomous vehicles, public transit, alternative fuels (e.g., biofuels, hydrogen, renewable natural gas), smart transportation systems and technologies, and related integrated land use planning.
- 3) **Green and High-Performance Buildings:** Including products, services, and building materials related to energy efficient and high-performance building design, construction, renovation, and operations such as building envelope products (pre-fabricated walls and building components, windows / doors, insulation), mechanical systems (e.g., HVAC, hot water), lighting and control systems, and other products (engineered wood, etc.).
- 4) **Renewable Energy Supply and Storage:** Including wind, solar, geothermal, hydro, biomass, district energy, waste heat to power, anaerobic digestion, as well as energy storage / battery technology, smart grid, and related energy management technologies.

- 5) **Knowledge and Innovation:** In particular, educational institutions for workforce skills development, investment, research and development, and centers of excellence that build on the knowledge base of the clean economy.

While tourism can be considered part of the clean economy, it was not considered in this study as the FVRD is currently engaged in a much more detailed economic study of outdoor recreation and tourism in the region.

The study found that the Fraser Valley's clean economy was responsible for generating \$2.45 billion in gross output<sup>1</sup>, \$1.17 billion in gross domestic product (GDP), and employed approximately 11,100 people (equal to 7.4% of the Fraser Valley's workforce) in 2016.

The study states that the Fraser Valley's clean economy value chain has strengths across all five sectors. These strengths include research, design, engineering and technical services, construction and manufacturing, natural asset management, and broader ecosystem supports (such as finance and government policy).

**Table 1: Clean Economy Jobs and GDP by Sector in the Fraser Valley (2016)**

Clean Economy Jobs	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
Sustainable Resource & Ecosystem Management	5,813	4,060	1,900	11,774
Green & Sustainable Transportation Solutions	727	447	360	1,533
Green & High-Performance Buildings	3,522	1,459	1,057	6,038
Renewable Energy Supply & Storage	517	355	299	1,171
Knowledge & Innovation	532	170	186	888
<b>Total</b>	<b>11,111</b>	<b>6,492</b>	<b>3,801</b>	<b>21,404</b>
Clean Economy GDP (thousands \$)	Direct GDP	Indirect GDP	Induced GDP	Total GDP
Sustainable Resource & Ecosystem Management	\$467,666	\$368,955	\$198,616	\$1,035,236
Green & Sustainable Transportation Solutions	\$163,352	\$44,024	\$37,751	\$245,127
Green & High-Performance Buildings	\$297,455	\$127,334	\$110,889	\$535,678
Renewable Energy Supply & Storage	\$188,922	\$64,528	\$57,941	\$311,391
Knowledge & Innovation	\$50,559	\$14,414	\$19,491	\$84,463
<b>Total Clean Economy (thousands \$)</b>	<b>\$1,167,954</b>	<b>\$619,254</b>	<b>\$424,687</b>	<b>\$2,211,895</b>

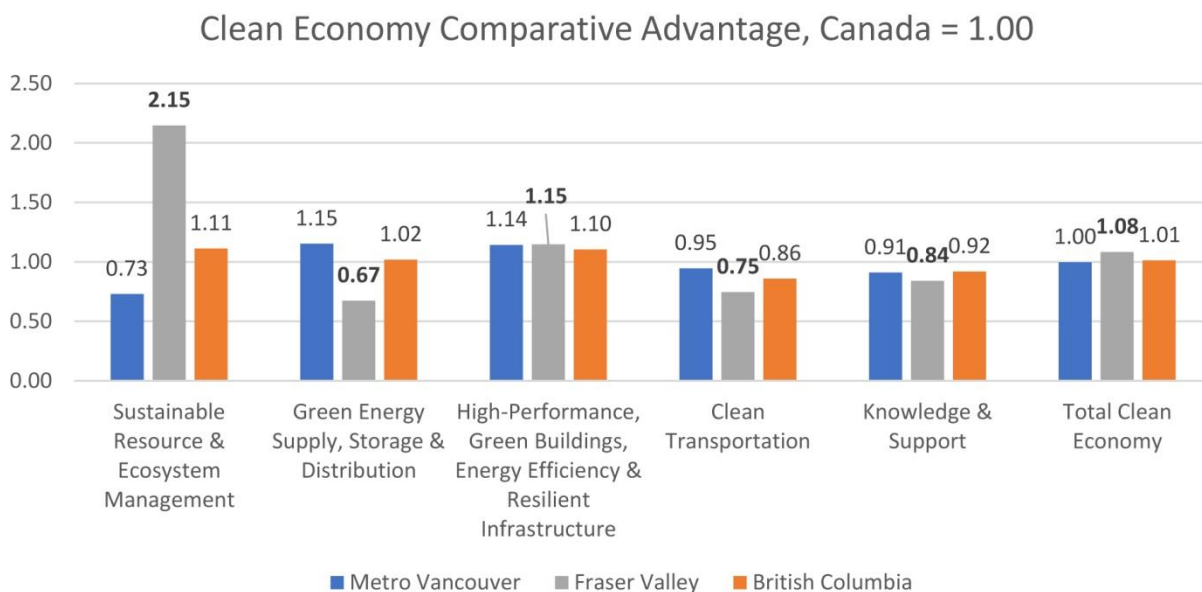
Source: The Delphi Group

From a comparative advantage perspective the FVRD region, not surprisingly, performs best in the Sustainable Resource and Ecosystem Management sector which includes agriculture. The following

<sup>1</sup> Gross output measures total economic activity in the production of new goods and services in an accounting period. It is more representative of 'revenues' and is a much broader measure of the economy than GDP, which is limited mainly to final output (finished goods and services).

Figure illustrates the clean economy comparative advantage of the Fraser Valley, Metro Vancouver, and province of British Columbia when compared to Canada as a whole (where Canada = 1.00).

The study finds that opportunities exist to further diversify and strengthen the Fraser Valley's clean economy by developing transferable skills and knowledge within the existing workforce. Careers in management, professional services, engineering, science, project management, information and communications technologies (ICT), construction, trades, and manufacturing all have elements that can be applied to strengthen the Fraser Valley's clean economy and its key sectors.



While this research highlights many sector-specific opportunities for growing the Fraser Valley's clean economy, some common themes and cross-sector opportunities emerged as well. These include:

- Advancing partnerships between governments, business, and educational institutions to promote information sharing, both in terms of open data portals and local expertise on clean economy solutions.
- New opportunities for green building and transportation solutions through enhanced land use planning practices that encourage transit-oriented development and energy-efficient multi-unit residential and mixed-use commercial / light industrial buildings.
- Continuing to build the critical underlying infrastructure in telecommunications and information technology, as well as water and energy distribution, in order to support modernization and clustering of industrial and commercial activities across the clean economy sectors.
- Industrial and commercial activities that can be further supported by facilitating waste-to-resource and circular economy partnerships, linked closely to the region's agricultural-based feedstocks.

- Fostering partnerships with local First Nations and building a broader understanding of Indigenous worldviews that can lead to innovation in the management of ecosystem health and natural assets.

This study confirms that the Fraser Valley has a solid foundation and set of underlying strengths to grow the region's clean economy. While there are numerous opportunities, there are challenges related to workforce capacity, industrial land supply (a clean economy still requires an industrial land base), education, internet connectivity and transportation that need to be addressed. The summary of strengths, weaknesses, opportunities, and threats (SWOT) analysis in *Appendix A* provides more detailed information and is based on secondary research, feedback obtained from industry stakeholders during consultation, as well as a review of current industry and market trends, government policy, and investment priorities.

## **COST**

As allocated in the 2018 budget for a cost of \$38,000.

## **CONCLUSION**

The *Clean Economy Study* is intended to provide the FVRD, local governments, First Nations and other regional stakeholders with an understanding of clean economy sector opportunities that build upon the region's existing economic strengths. It also identifies opportunities for alignment with federal and provincial policy priorities including the province's recently announced CleanBC Climate Plan. The creation of a resource guide on the contents of this report for local governments, First Nations and stakeholders would serve as a valuable tool in supporting the opportunities highlighted in the report.

A formal presentation of the findings will be provided to the Board at its June 25, 2019 meeting.

## **COMMENTS BY:**

### **Stacey Barker, Director of Regional Services**

Reviewed and supported.

### **Mike Veenbaas, Director of Financial Services**

No further financial comments.

### **Jennifer Kinneman, Acting Chief Administrative Officer**

Reviewed and supported.