

## Appendix 1: Business overview



1. Registered name:

Silaca Glass Crushers Ltd

2. Introduction to Silaca's business/clean tech concept:

The Clean Technology Centre purpose cites the world economy is faced with challenges from global environmental problems and resource shortages. Silaca Glass Crushers meet these issues head on with unique and innovative closed loop processing of waste glass into value added commodity items.

3. Legal structure:

Limited Liability Company (Privately Owned)

4. Year start trading/operations/activities:

Operation end/2010

Trading early/2011

5. Number of staff employed in the Kapiti district:

Up to 3.5 FTE

6. Staff growth strategy:

As our growth strategy into mass production of our core products is well underway, we will need to up to 5-fold increase our current crushing capacity and this will require an increase of up to 3 positions.

7. Positioning statement:

Silaca Glass Crushers supports NZ's love of the environment by turning waste glass into products that are innovative, marketable, usable and profitable. We do this by providing our customers with unique low cost / high value product offerings that fill a gap in the sustainability market.

8. Main customer segments and percentage of revenue:

Local Government (Local) 5%  
Public Consumers (National) 30%  
Commercial Landscape Industry (Regional) 30%  
Commercial Building / Contracting Services Industry (Regional) 20%  
Commercial Waste Management Industry (Regional) 10%  
Waste Management Plant & Machinery Importers (International) 5%

9. Main products and services:

Paving Slabs (Commercial peak grade / Standard budget market / Design niche)  
Abrasive Blast Media  
Water Filter Media  
Landscape Applications  
Glass Crushing Services  
Plant & Machinery

10. Why does Silaca Glass Crushers exist?

With reference to the local government segment we exist to allow local authorities to help meet their economic, financial and waste compliance obligations. For the other main customer segments we fill a gap in the ever increasing and growing sustainability market by providing products that are unique, locally sourced, and sustainable and offer good value for money.

11. Market opportunity:

NZers use 242,300 tonnes of glass containers a year equating to 945 million units\*.

Silaca Glass Crushers identified that this is a huge environmental problem facing the country. In doing so we developed our own registered design glass crushing plant that produces an output that can be processed into products that are demanded but not supplied.

Our ability to supply now goes a way towards matching, with potential for more, a demanding problem and a demanding market.

(\* source: Glass Packaging Forum NZ)

12. Key staff and team qualities:

Over 30 years in contracting and manufacturing business coupled with business management acumen.

Silaca's key internal business principles are empowerment by delegation and open communication.

13. Business vulnerabilities and risks to success:

We have identified three main risks:

1. Reverse engineering of our plant and processes
2. Market penetration
3. Capital raising

Strategies to address these risks are underway. We are looking to strengthen our design registration, entered into joint venture to increase market penetration and investigating capital raising opportunities with interested parties.

14. Business uniqueness:

Silaca Glass Crushers is not aware that the full suite of services, processing and products are replicated elsewhere globally. That said however, we are convinced that our operation is unique in New Zealand, Australia and the Pacific.

We understand this from our own research and the level and direction of enquiry from within and outside New Zealand and recently completed export orders of our plant into Australia and a Pacific Island.

15. Growth expectations:

We currently have a step-by-step / side-by-side growth strategy.

Creative Invention - achieved

Local Customers - achieved

Local Investment - initiated

Product Mass Production - commenced

Increase Market Penetration - initiated and steps from mass production strategy

Plant, Machinery & Model Exporting - inaugural achieved

16. Current and projected funding/finance needs and plans:

Silaca Glass Crushers is seeking to secure \$25,000 to complete the full automation of our existing crushing plant to enable us to meet the requirements of our mass production strategy and meet projected demand for crushing services.

While in discussion with a number of interested local parties regarding partnering and/or shareholdings, Silaca is contributing a substantial investment in the form of existing plant, paid-in capital and retained earnings.

17. Snapshot statement (November 2013):

*“Silaca impressed the judges with their enthusiasm and vision, showing that world-leading technology can be technically and commercially developed here in Otaki”*

This company has taken Kiwi ingenuity to a new commercial level adding value to one of our main waste streams – glass – and producing recycled glass into a range of crushed and graded products for a variety of uses. Not only is Silaca diverting this waste stream into environmentally friendly products, it has also established an export market for their machinery and will expand their processing of glass waste to the whole Kapiti region and beyond.

(Source: Judges comments Kapiti Horowhenua Business Awards 2013 Most Promising Clean Technology Achievement awarded to Silaca Glass Crushers)

#### 18. Five-year plan roadmap:

##### Year 1:

- Secure funding to add plant to existing assets held (underway).
- Secure and contract waste glass feedstock from existing collection operators (agreement in principle achieved).
- Complete product design registration to secure competitive advantage.
- Launch core product (“Vetro” paver) into the national market in association with JV partner (launched).
- Expand our secondary products into local markets (achieved includes standard and design pavers, filtration and abrasive media).
- Upgrade current sales position from part-time to full-time.
- In the community, position KCDC as a leading authority in clean technology, waste minimisation and business development through partnership, future proofing and building on existing strengths (ongoing).
- ❖ Primary Success Factors:
  - market penetration
  - functioning plant
  - community awareness
  - increased crushing capacity to a minimum 1500 tonne/pa

##### Years 2-5:

- Explore opportunities that increase waste glass feedstock.
- Research and development programme in association with the Clean Technology Centre with a view to diversifying product range.
- Complete asset management plan including re-investment into plant and machinery.
- Conduct annual reviews of strategic goals and financial targets.
- Consolidate business structure that includes staffing and advisory board.
- ❖ Primary Success Factors:
  - product and sales growth
  - financial stability and capability to reinvest

employer of choice  
increased crushing capacity

Contact:

Malcolm Mason

Silaca Glass Crushers Ltd

T: +64 (0)275 881 970

E: [malcolmcrushedglass@gmail.com](mailto:malcolmcrushedglass@gmail.com)

W: [www.crushedglass.co.nz](http://www.crushedglass.co.nz)



**Purpose:**

The purpose of this proposal is to apply to the KCDC for allocation from the Clean Technology Innovation Fund to assist Silaca Glass Crushers with expansion to fuller automation of our existing crushing plant to:

- face local environmental problems and resource shortages by processing all recycled glass within Otaki with the potential to expand across the Kapiti district
- continued commercialisation of niche manufacturing of products with a strong innovative clean technology, environmental and sustainability focus

**Fund Criteria and Assessment:**

Silaca's proposal meets the following over-arching criteria of the fund;

- reduced demand for resources
  - reduced waste discharge
  - increased system resilience
  - raised district profile as a base for innovation and clean technology
  - increase employment and business growth
  - scale-up of an existing technology

**Other Considerations:**

- The technology is sound?  
Yes – proven business process that has products to market.
- Viability has been independently reviewed?  
Yes – refer to assessors and judges comment leading to Silaca winning the most promising clean technology achievement award Business Kapiti Horowhenua 2013.
- Risks identified?  
Yes – refer to business overview.

- Access to necessary resources identified?  
Yes – increase feedstock agreed in principle and lease with KCDC for idle land adjacent to current site under offer.
- Cost assumptions defined?  
Yes – refer financial details in this proposal.
- End-use markets considered?  
Yes – refer market segment information in business overview.
- Need for contingencies considered?  
Yes – moderated due to quotes valid for period of project timeline.

**District Plan Outcomes:**

Supports district plan objective 2.16 Economic Vitality by creating local employment, broadening the range of jobs available in the district and being a creative and innovative industry with new and emerging clean technology.

**Schedule:**

Itemised schedule of plant & machinery from fund application required to upgrade existing operation (excludes GST).

Collection Plant	Receiving bins/units	\$12,000
	Feed belt	\$2,500
	Operating motor	\$3,000
Screening Plant	Rotary drum screen	\$2,500
	Feed conveyor	\$3,000
	Operating Motor	<u>\$2,000</u>
		\$25,000

The following business valuation statement shows where a grant would apply within the wider business:

Current Assets	\$120,000
Paid-in Capital	<u>\$30,000</u>
Net Assets	\$90,000
Goodwill	<u>\$50,000</u>
	\$140,000

Business Profit	\$100,000
Retained Earnings	<u>\$40,000</u>
	\$60,000

**Project Costs:**

Items per Schedule	\$25,000
Storage containers	\$10,000
Shelter station	\$10,000
Power	\$10,000
Installation	\$5,000
Site Works	<u>\$5,000</u>
Total	\$65,000
less fund	<u>\$25,000</u>
Balance from retained earnings	\$40,000

**Project Timeline:**

November 2013	Clean Technology Innovation Fund application
December 2013	Secure lease for adjoining land
January 2014	Relocate static plant and equipment
February 2014	Relocate crushing plant to upgraded specification
March 2014	Secure additional feedstock supply and fully operational



### Appendix 3: Clean Technology Innovation Fund Criteria applied to the application from Silaca

Clean Technology Innovation Fund – criteria for investment	Key categories for consideration				
	Reduction of demand for resources	Reduction of resource throughputs	Reduction of waste and emissions discharges to the environment	Reduction of reliance on fossil fuels	Increased system resilience
<b>Direct technologies:</b>					
- New science/technology					
- Existing science/technology at a new scale					
- Existing product/science with changed economics					
- New or replacement contributory technology					
- Ability to scale up or down			<b>X</b>		<b>X</b>
- Improves ease of use (installation)					
- Improves ease of use (end user)					
- Cross discipline (e.g. waste minimisation and energy by-product)					
<b>Support technologies</b>					
- Increased efficiency (process)					
- Increased efficiency (take-up)					
- Increased knowledge					
<b>Technology take-up</b>					
- Enables take-up					
- Education/technology integration					

<b>Silaca application</b>	<b>Yes/No</b>	<b>Comment</b>
<ul style="list-style-type: none"> <li>the science/ technology is sound</li> </ul>	Yes	Technology is proven in that company is already supplying the market and has existing customers
<ul style="list-style-type: none"> <li>the technical viability of proposal has been independently verified by an appropriately qualified third party</li> </ul>	No	However, Company has advised it will be able to provide more information at the Committee meeting.
<ul style="list-style-type: none"> <li>the need for a risk analysis framework has been identified</li> </ul>	Yes	Company has provided a high level risk analysis for the company in its business overview
<ul style="list-style-type: none"> <li>a path for access to necessary resources is identified</li> </ul>	Yes	Company has advised that it has agreements in principle concerning access to glass resources and provided some evidence
<ul style="list-style-type: none"> <li>assumptions around costs, revenue, have been defined</li> </ul>	Yes	Assumptions around costs and revenue are set out in the business overview
<ul style="list-style-type: none"> <li>potential end-use markets or end users have been considered</li> </ul>	Yes	See business overview
<ul style="list-style-type: none"> <li>consideration of the need for contingencies and structured response to rising costs and/or end-use market failure</li> </ul>	No	Application indicates that costs in terms of equipment to be purchased are being managed. However, Company has advised it will be able to provide more information at the Committee meeting.