

## COVER SHEET

3.5 Fast Tracking Escea Wood Fireplaces into Manufacturing	For: Approval
<b>Background &amp; context:</b>	<b>Recommendation:</b>
<p><b>Applicant Organisation:</b></p> <ul style="list-style-type: none"> <li>Escea limited</li> </ul> <p><b>Location:</b></p> <ul style="list-style-type: none"> <li>Dunedin, Otago</li> </ul> <p><b>Proposal:</b></p> <ul style="list-style-type: none"> <li>Escea is one of Australasia's largest manufacturers of fireplaces and employs <sup>Commercial</sup> staff in Dunedin. This application is to rapidly develop and commercialise design-led high efficiency electronically controlled wood fires; a World-first. Escea had planned to move into wood from around <sup>Commercial Information</sup> (with production from <sup>Commercial Information</sup>). PGF support will advance this to <sup>Commercial</sup> with production likely from the winter of <sup>Commercial</sup>. Consultation with <sup>Commercial Information</sup> has been favourable and MFAT confirms no trade implications. This project falls outside of Escea's <sup>Commercial Information</sup> approved R&amp;D programme, which is fully committed to its electric and gas range. If production does follow in the winter of <sup>Commercial</sup>, Escea forecasts <sup>Comme</sup> roles growing to at least <sup>Comm</sup> within <sup>Commer</sup> years; an expansion of existing staffing levels by about one-third. <sup>Commercial Information</sup></li> </ul> <p><b>Funding Sought:</b></p> <ul style="list-style-type: none"> <li>PGF (grant) - \$96,000 <sup>Comm</sup>%)</li> <li>Applicant- \$ <sup>Commercial Inform</sup> (<sup>Comm</sup>%)</li> <li>TOTAL - \$ <sup>Commercial Inform</sup></li> </ul> <p><b>Background:</b></p> <p>Dunedin-based Escea was founded in 2002 by Garth Milmine (CFO) and mechanical engineers Nigel Bamford and Alan McGregor. It is a design-led company manufacturer focussed on high efficiency value-add designer gas and electric fireplaces <sup>Commercial Information</sup></p>	<p><b>We recommend that the SRCs:</b></p> <p>a) <b>Approve</b> this application as meeting the PGFs investment criteria for Tier One feasibility studies that will lead directly to production.</p> <p>b) <b>Note</b> PGF grant funding is for the rapid commercialisation of wood fires, which does not form part of Escea's work programme with <sup>Commercial Information</sup> (but is in Escea's medium term business the PGF will advance).</p> <p>c) <b>Note</b> consideration was given to treating this as a loan but the size (\$96,000) means a grant is more appropriate noting (d) below. The grant will be subject to the completion of due diligence in respect of wood fireplaces.</p> <p>d) <b>Note</b> PGF grant funding will be capped at \$96,000 and any cost overrun on this project will be met by the applicant.</p> <p>e) <b>Note</b> <sup>Commercial Information</sup>, if this is needed to develop a wood fire production line.</p>

**Commercial Information**

While there is a feasibility dimension to this Tier 1 application, what sets it apart is a credible path and timeline to market of around [Commercial Information]. Escea believes production could start by the Winter of [Commercial Information] making it 'shovel ready.' This application is for rapid commercialisation of high-efficiency electronically controlled wood-fuel fireplaces. [Commercial Information]

[Commercial Information]

This project will involve the recruitment [Commercial Information] and testing prototypes to NZ/AU standards involving hard and soft woods. It is also likely to involve a regulatory element with councils; [Commercial Information]

While the applicant is working with [Commercial Information] this is not in relation to wood. Escea invests over \$ [Commercial Information] annually into R&D but this plan with [Commercial Information] is fully committed to gas and electrics. That said, wood is in Escea's medium term business plan so PGF support will advance a project by [Commercial Information] years, bringing forward [Commercial Information] new manufacturing jobs by the winter of [Commercial Information]. This number of manufacturing jobs related to wood could grow to at least [Commercial Information] as production ramps up and with it, exports and regional economic activity. This could help to offset manufacturing job losses from elsewhere in Dunedin.

Escea can undertake rapid commercialisation because it can draw on internal expertise augmented by recruitment. By leveraging its expertise in other fuels; the [Commercial Information] especially, Escea believes [Commercial Information]

Something it has done with gas. [Commercial Information]

flues. Escea believes it has the expertise to create this [Commercial Information], which will offer significant fuel efficiency improvements, cleaner burning fires reducing particulate emissions and with longer lasting heat from the same renewable wood source, reduced GHG emissions. In New Zealand over 500,000 homes (around 27% of all households) use wood as a fuel. Highlighting the export potential offered by smart wood fires, there are over 12 million households in the United States using wood fires for space heating.

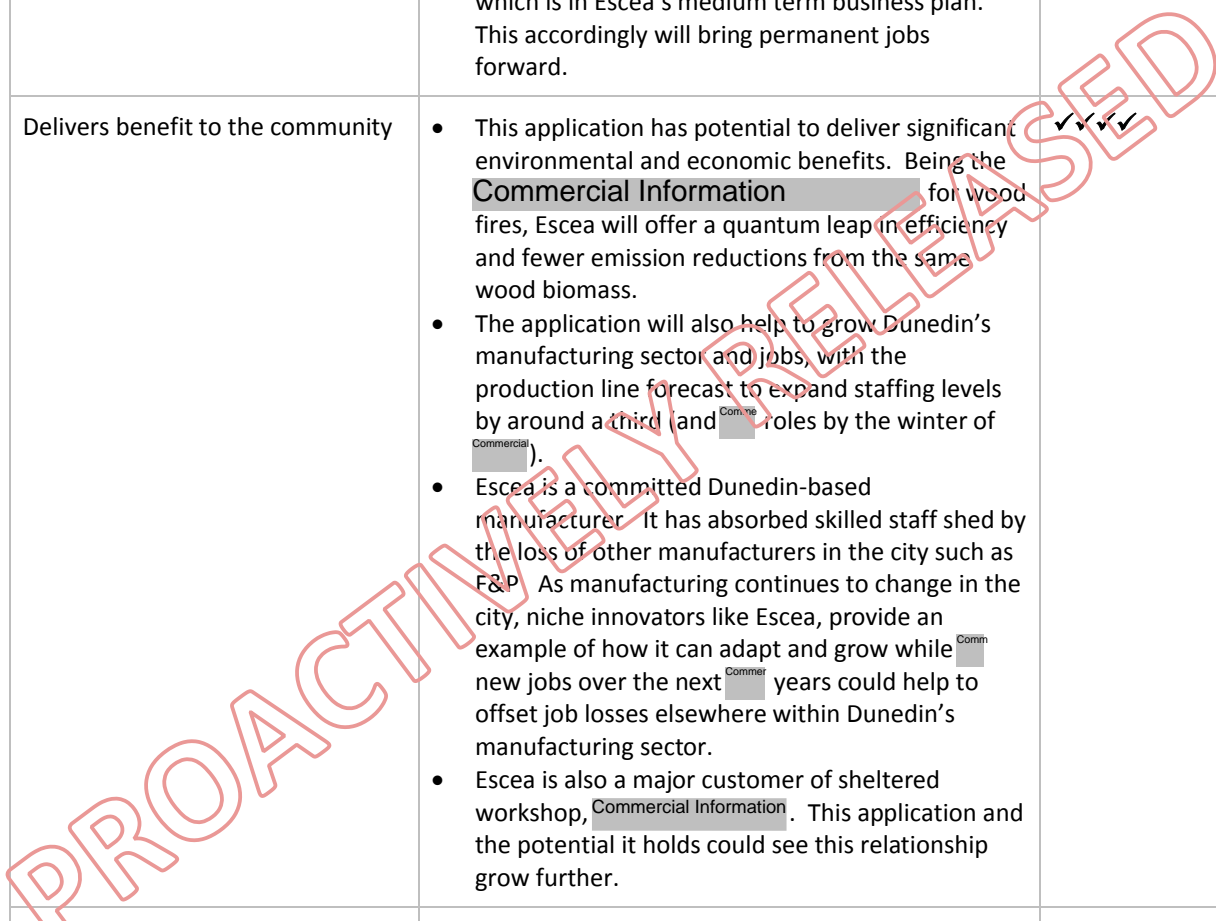
Escea operates a lean manufacturing model and has previously featured in the Deloitte Fast 50 for three consecutive years. It was the first manufacturer in the World to develop an app controlled fire and is focussed on innovation with that R&D programme agreed with [Commercial Information]. Today, it employs [Commercial Information] staff and is a major customer of sheltered workshop [Commercial Information]. It manufactures in Dunedin around 15 different fireplace models. Consumer Electronics 24's 2019 report on the [Global Contemporary Fireplace Market](#), further ranked Escea third in this market category.

Escea believes wood as a way to achieve scale in the North American market (wood is a universal fuel as opposed to differing pipe fittings as with gas). It is significant that [Commercial Information] notes: "Escea would present themselves, genuinely, as a low risk, high reward company deserving of PGF support. They are strongly supportive of their regional position and will deliver on the proposed R&D program through to the manufacturing completion". Consultation with MFAT does not indicate that this application will trigger WTO rules.

**PGF criteria that this proposal supports:**

PGF Criteria	Assessment Commentary	Rating (1✓ to 5✓)
<b>Link with fund and government outcomes</b>		
<i>Creates permanent jobs</i>	<ul style="list-style-type: none"> <li>The application relates to [Commercial Information] FTE [Commercial Information]</li> </ul>	✓✓✓

	<p>Commercial Information but has potential to number Commercial jobs by the winter of Commercial as low-rate production starts and Commercial roles within Commercial years.</p> <ul style="list-style-type: none"> <li>As such, PGF support is about accelerating a project into production by upwards of three years, which is in Escea’s medium term business plan. This accordingly will bring permanent jobs forward.</li> </ul>	
<p>Delivers benefit to the community</p>	<ul style="list-style-type: none"> <li>This application has potential to deliver significant environmental and economic benefits. Being the Commercial Information for wood fires, Escea will offer a quantum leap in efficiency and fewer emission reductions from the same wood biomass.</li> <li>The application will also help to grow Dunedin’s manufacturing sector and jobs, with the production line forecast to expand staffing levels by around a third (and Commercial roles by the winter of Commercial).</li> <li>Escea is a committed Dunedin-based manufacturer. It has absorbed skilled staff shed by the loss of other manufacturers in the city such as F&amp;P. As manufacturing continues to change in the city, niche innovators like Escea, provide an example of how it can adapt and grow while Commercial new jobs over the next Commercial years could help to offset job losses elsewhere within Dunedin’s manufacturing sector.</li> <li>Escea is also a major customer of sheltered workshop, Commercial Information. This application and the potential it holds could see this relationship grow further.</li> </ul>	<p>✓✓✓✓</p>
<p>Increased utilisation and returns of Maori asset base</p>	<ul style="list-style-type: none"> <li>Not applicable</li> </ul>	<p>✓</p>
<p>Enhanced sustainability of natural assets</p>	<ul style="list-style-type: none"> <li>As the project involves waste hard and soft woods as well as pellets from wood processing, these fires are designed to offer high levels of heating efficiency. This means less wood for heating but with high levels of thermal output and cleaner burning fire places.</li> <li>While the National Environmental Standards for Air Quality saw new fireplaces mandated, these still operate on the basis of natural draught flues; a technology almost as old as human induced fire itself. Even the latest high efficiency fires tend to burn through fuel far faster than what electronic control would offer. Commercial Information</li> </ul>	<p>✓✓✓</p>



	Commercial Information	
Mitigation of climate change effects	<ul style="list-style-type: none"> <li>Free and frank opinions</li> <li>Wood GHG emissions represent a flow pollutant coming from renewable wood and wood biomass (as opposed to coal and fossil fuels, which are a stock pollutant by reintroducing previously sequestered CO2). It should also be noted that 15% of New Zealand's electricity is generated by non-renewable means (e.g. coal and gas).</li> <li>The 2013 Census revealed that the number of houses in New Zealand using wood for heating numbered 546,000. In 2015 residential emissions, primarily burning wood for home heating, was responsible for 58% of particulate matter emissions smaller than 10 micrometres and carbon monoxide (38%).</li> <li>Improving this demands disruptive technologies, like what Escea has a track record in developing and producing for gas.</li> </ul>	✓✓✓✓
<b>Additionality</b>		
Adding value by building on what is already there	<ul style="list-style-type: none"> <li>Escea is already a leading Australasian manufacturer and exporter of gas fire places and globally, it is ranked number three for contemporary design fires. It further has a strong track record in manufacturing and exports. Commercial Information has high confidence in its ability to develop a new line of Commercial Information fire places. It also has the expansion ability to absorb a new line, Commercial Information</li> <li>Given Escea's work with Commercial Information on R&amp;D, this can be leveraged to reduce both time to market and risk of failure. As such, PGF support will bring forward production by several years.</li> <li>As was stated before, it offers the prospect of job growth in Dunedin, which could offset losses from other parts of the manufacturing sector.</li> </ul>	✓✓✓✓
Acts as a catalyst for productivity potential in the region	<ul style="list-style-type: none"> <li>The export opportunity for Escea is large as is the potential for downstream effects upon local education through to distribution to logistics.</li> <li>As an illustration of this, in a 2013 response to the Australian Parliament, the Australian Home</li> </ul>	✓✓✓✓

	<p>Heating Association stated that 900,000 Australian homes use wood for heating. The United States Energy Information Administration stated that in 2015, about 12.5 million U.S. households, or 11% of all U.S. households, used wood as an energy source, mainly for space heating, with 3.5 million of those households used wood as the main heating fuel.</p>	
<b>Connected to regional stakeholders and frameworks</b>		
Alignment with regional priorities	<ul style="list-style-type: none"> <li>• Dunedin City Council's economic strategy to 2023 aims to ensure that export growth exceeds the national average over 2013-2023. Escea is already contributing to this.</li> <li>• Dunedin City Council's economic strategy also strives to grow the value of exports. Escea is a design-led manufacturer of affordable to high-end gas and electric fires. Commercial Information [redacted] to this mix has potential to expand its staffing by a third and be a catalyst for direct and indirect growth.</li> <li>• Furthermore, Escea over the past 17-years, has demonstrated an ability to grow scale in export-facing sectors, for which Dunedin has advantages; niche manufacturing and engineering.</li> </ul>	✓✓✓✓
Support from local governance groups (inc. Councils, Iwi/Hapu)	<ul style="list-style-type: none"> <li>• Not applicable</li> </ul>	✓
<b>Governance, risk management and project execution</b>		
Robust project management and governance systems	<ul style="list-style-type: none"> <li>• Escea operates the lean manufacturing system and has an agreed R&amp;D programme with Commercial Information [redacted]</li> <li>• Since formation, Escea has featured in the Deloitte Fast 50 over three consecutive years.</li> <li>• CEO Nigel Bamford was a finalist in the Young Entrepreneur of the Year Award; Nigel has been admitted to the New Zealand Enterprise Hall of Talent and is Chair of Startup Dunedin.</li> <li>• There is high confidence in the ownership/management team that includes another engineer and CA as the CFO.</li> <li>• The product development team proposed has experience in electronics and with wood fire compliance too.</li> </ul>	✓✓✓
Risk management approach	<ul style="list-style-type: none"> <li>• Commercial Information [redacted] notes that Escea demonstrates a systematic, methodical and focused approach to R&amp;D and product</li> </ul>	✓✓✓

	<p>development.</p> <ul style="list-style-type: none"> <li>• Escea will leverage existing suppliers and laboratories off the back of 17-years industry leading experience in gas and later electric fires.</li> <li>• Escea will fund any cost overruns to the project, so the PGF's investment is about bringing forward investment that stands a good chance of commercialisation.</li> </ul>	
Future ownership / operational management	<ul style="list-style-type: none"> <li>• Escea is a privately held company and as such its future ownership is in the gist of its shareholders.</li> <li>• That said, the company has shown a strong commitment to Dunedin and the manufacturing in the city (as noted by Commercial Information).</li> </ul>	✓✓

### The purpose of this briefing is to consider approving PGF funds

#### Risk Issues:

**Prototype Failure:-** There is a risk that the technological challenges of developing the Commercial Information will be insurmountable. This creates logical go/no go points that will limit PGF and Escea exposure, further mitigated by the company's expertise with gas and senior staff members who have experience with compliance testing natural draught wood fires. It possesses the technological know-how to leverage its existing expertise to create Commercial Information with strong aesthetic qualities.

**Cost Overruns:-** As the Commercial Information fire represent an unknown, this could lead to a cost overrun. Escea has pledged to absorb this risk limiting PGF exposure to the sum applied for.

**Regulatory issues:-** Regional Councils will need to revisit bylaws given air quality is currently written for natural draught fires (as opposed to much higher efficiency, Commercial Information flues). This will be mitigated by Escea's market reputation and testing against NZ/AU standards.

**Market failure:-** There is a risk that the market may not be receptive but this is considered to be a low risk, given Escea's reputation with gas and of late, electric fires. Commercial Information proving a level of efficiency and control that the market should be receptive to while opening up a huge market in the United States especially.

#### Eligibility points of note:

- *Due diligence:-* Full due diligence has not been completed.
- *Conflict(s) of interest:-* Based on the information provided there are no conflicts of interest.
- *Illegal Activity:-* Based on the application information provided and feedback from other agencies there is no indication that the applicant or project has been involved in, or associated with illegal activity.
- *Alignment with regional development plans:-* The Otago Regional Economic Development Strategy is currently in development but it accords with the Dunedin City Council's economic strategy 2013-2023
- *Commercial funding availability:-* As a pilot, commercial funding is not a feasible option.

#### Consultation undertaken or implications:

Legal	N/A	HR	N/A	Finance	N/A	MBIE	N/A	Other	- Supported by
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						<b>policy</b>			Commercial Information - MFAT does not see any WTO issues.
<b>Supporting proposal:</b>									
Yes									
<b>Appendices:</b>									
Yes – Applicant feedback from Commercial Information and MFAT									
<b>Sponsor(s):</b>									
N/A									
<b>Manager/Author of paper:</b>									
Privacy of natural persons, Investment Director David Broome, Senior Regional Advisor									

PROACTIVELY RELEASED