



CITY OF HOBART

# **AGENDA**

## **Economic Development & Communications Committee Meeting**

### **Open Portion**

**Thursday, 3 March 2022**

**at 4.30 pm  
via Zoom**

## THE MISSION

**Working together to make Hobart a better place for the community.**

## THE VALUES

**The Council is:**

<b>People</b>	We care about people – our community, our customers and colleagues.
<b>Teamwork</b>	We collaborate both within the organisation and with external stakeholders drawing on skills and expertise for the benefit of our community.
<b>Focus and Direction</b>	We have clear goals and plans to achieve sustainable social, environmental and economic outcomes for the Hobart community.
<b>Creativity and Innovation</b>	We embrace new approaches and continuously improve to achieve better outcomes for our community.
<b>Accountability</b>	We are transparent, work to high ethical and professional standards and are accountable for delivering outcomes for our community.

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## **ORDER OF BUSINESS**

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**Business listed on the agenda is to be conducted in the order in which it is set out, unless the committee by simple majority determines otherwise.**

### **APOLOGIES AND LEAVE OF ABSENCE**

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**Economic Development & Communications Committee Meeting (Open Portion)  
held Thursday, 3 March 2022 at 4.30 pm via Zoom.**

**This meeting of the Economic Development & Communications Committee is held in accordance with a Notice issued by the Premier on 3 April 2020 under section 18 of the *COVID-19 Disease Emergency (Miscellaneous Provisions) Act 2020*.**

The title Chief Executive Officer is a term of reference for the General Manager as appointed by Council pursuant s.61 of the *Local Government Act 1993* (Tas).

**COMMITTEE MEMBERS**

Alderman D C Thomas (Chairman)  
Alderman M Zucco  
Alderman Dr P T Sexton  
Councillor M Dutta  
Councillor J Fox

**Apologies:**

**Leave of Absence:** Nil.

**NON-MEMBERS**

Lord Mayor Councillor A M Reynolds  
Deputy Lord Mayor Councillor H Burnet  
Alderman J R Briscoe  
Councillor W F Harvey  
Alderman S Behrakis  
Councillor Z Sherlock  
Councillor W Coats

**1. CO-OPTION OF A COMMITTEE MEMBER IN THE EVENT OF A VACANCY**

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**2. CONFIRMATION OF MINUTES**

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The minutes of the Open Portion of the Economic Development & Communications Committee meeting held on [Thursday, 3 February 2022](#), are submitted for confirming as an accurate record.

**3. CONSIDERATION OF SUPPLEMENTARY ITEMS**

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Ref: Part 2, Regulation 8(6) of the *Local Government (Meeting Procedures) Regulations 2015*.

**Recommendation**

That the Committee resolve to deal with any supplementary items not appearing on the agenda, as reported by the Chief Executive Officer.

#### **4. INDICATIONS OF PECUNIARY AND CONFLICTS OF INTEREST**

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Ref: Part 2, Regulation 8(7) of the *Local Government (Meeting Procedures) Regulations 2015*.

Members of the Committee are requested to indicate where they may have any pecuniary or conflict of interest in respect to any matter appearing on the agenda, or any supplementary item to the agenda, which the Committee has resolved to deal with.

#### **5. TRANSFER OF AGENDA ITEMS**

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Regulation 15 of the *Local Government (Meeting Procedures) Regulations 2015*.

A Committee may close a part of a meeting to the public where a matter to be discussed falls within 15(2) of the above regulations.

In the event that the Committee transfer an item to the closed portion, the reasons for doing so should be stated.

Are there any items which should be transferred from this agenda to the closed portion of the agenda, or from the closed to the open portion of the agenda?

## **6. REPORTS**

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### **6.1 The City of Hobart's Role in Supporting the Antarctic Sector File Ref: F21/116306**

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Report of the Senior Advisor Economic Development and the Director  
Community Life of 24 February 2022 and attachments.

Delegation: Council

**REPORT TITLE: THE CITY OF HOBART'S ROLE IN SUPPORTING THE ANTARCTIC SECTOR****REPORT PROVIDED BY:** Senior Advisor Economic Development  
Director Community Life**1. Report Purpose and Community Benefit**

- 1.1. This report examines the potential of a broader role for the City of Hobart in supporting the Antarctic sector, a role beyond providing civic celebration alone.
- 1.2. The benefit of this report to the community is that they will have an increased awareness of the City's current role in supporting this culturally and economically significant sector, as well as future plans.

**2. Report Summary**

- 2.1. The City of Hobart has historically supported the Antarctic sector in a civic fashion. This includes the staging of the Opening of the Antarctic Season Reception annually and displaying Antarctic branded street banners through the city at relevant times.
- 2.2. The City of Hobart was a project sponsor and key contributor to the Antarctic Cities Project (2016-2021), led by Western Sydney University and the University of Tasmania.
- 2.3. A number of recommendations were made in the Antarctic Cities Project report that would require the City to expand its support of the Antarctic sector in order to deliver.
  - 2.3.1. A report was taken to the Council on 11 October 2021 that summarised these recommendations as well as considered the City's role in the City Deal partnership that includes the delivery of an Antarctic and Science Precinct.
- 2.4. Council resolved inter alia:  
That:
  4. *A report will be brought back to the Council highlighting proposals to more strategically align the City's activities with respect to its link to Antarctica and the Antarctic industry in Tasmania.*
    - (i) *The report to also include the financial implications associated with the proposal.*
- 2.5. In order to more strategically align the City's Antarctic activities, this report proposes that:

- Discussions between the Mayors of Hobart and Christchurch take place in the first quarter of 2022 about how the Antarctic cities might collaborate further.
- The City of Hobart considers as part of its budget process an allocation of no more than \$20,000 p/a for a Hobart based Antarctic Youth Ambassador two years commencing in the 2022-2023 financial year (contingent on match funding from another stakeholder).
- The City continues to monitor what is needed to ensure meaningful participation in the City Deal and commits additional resources if required.
- Officers attend the TAG (the Tasmanian Antarctic Gateway Advisory Committee) meeting in March 2022 to discuss the concept of referring to Hobart as a 'custodian' rather than 'gateway'.
- Officers continue to engage with Antarctic Tasmania and Minister Jaensch to discuss potential membership for the City of Hobart at TAG.
- The City engages with the community and Antarctic stakeholders as part of the development of a new economic development strategy. The Antarctic Connectivity Index and two surveys developed by the Antarctic Cities Project may be used as engagement tools.
- Information arising from enacting the above actions are included in the discussions and engagement required to develop the Antarctic content for the City's new economic development strategy.

**Recommendation****That:**

1. ***The Council endorses the following actions to broaden its support for the Antarctic sector:***
  - (i) ***Discussions between the Mayors of Hobart and Christchurch take place in the first quarter of 2022 about how the Antarctic cities might collaborate further.***
  - (ii) ***The Council considers, as part of the budget process, an allocation of no more than \$20,000 per annum to part fund a Hobart based Antarctic Youth Ambassador for two years commencing in 2022-23 (contingent on match funding from***



***another stakeholder). Funding for this role to be included in the Economic Development Budget Function of the 2022-23 Annual Plan.***

- (iii) The City continues to monitor what is needed to ensure meaningful participation in the City Deal and commits additional resources if required.***
  - (iv) Officers attend the Tasmanian Antarctic Gateway Advisory Committee meeting in March 2022 to discuss the concept of referring to Hobart as a ‘custodian’ rather than ‘gateway’.***
  - (v) The City continues to engage with Antarctic Tasmania and the relevant State Minister to discuss potential membership for the City of Hobart at the Tasmanian Antarctic Gateway Advisory Committee.***
- 2. Information arising from enacting (i)-(v) above is included in the discussions and engagement required to develop the Antarctic content for the City’s new economic development strategy.**

### **3. Background**

- 3.1. The City of Hobart has historically supported the Antarctic sector in a civic fashion. This includes the staging of the Opening of the Antarctic Season Reception annually and displaying Antarctic branded street banners through the city at relevant times.
- 3.2. In 2016 the City decided to support the Antarctic Cities Project (2016-2021), led by Western Sydney University and the University of Tasmania. The project examined the connections of each of the five Antarctic gateway cities (Ushuaia, Punta Arenas, Christchurch, Cape Town and Hobart) with Antarctica.
- 3.3. The Antarctic Cities Project final report was launched in October 2021 and the full report is available on the [City of Hobart website](#).
- 3.4. The aims of the project most relevant to Hobart (pg. 11 of the report) were:
  - Assess how the five Antarctic gateway cities could work together as custodians of Antarctica rather than gateways.
  - Re-think the position of the gateway cities, ‘...not as five far-flung ports...’ but as interlinked members that could learn from and benefit each other.

- Generate impact and contribute directly to the Antarctic strategic planning and policy considerations of the cities of Hobart and Christchurch.
- 3.5. The Antarctic Project made 16 recommendations which are included in the full report (link above (pg. 27-29)). Those most relevant to the City of Hobart are:
- 1.3. Building upon cultural and political strengths in the five cities to develop a more publicly celebrated sensibility of Antarctic custodianship within each city.
  - 1.5. Developing an Antarctic Custodial Network with the five cities as core participants.
  - 2.1. An Antarctic Mayors Permanent Forum is held every two years in each of the cities. The forum would have a targeted agenda of fostering Antarctic custodianship with a sustainability focus linked to the UN Agenda 2030 and the Principles for Antarctic Connectivity.
  - 2.2. An ongoing mechanism of exchange is established between the Antarctic offices and city strategic planning departments in the five cities. This might also include ongoing spaces for dialogue and exchange between the Antarctic cities on the interrelated themes of urban sustainability practices and Antarctic custodianship.
  - 2.3. Continued formal support and expansion of the Antarctic Youth Coalition is confirmed, including through funding incentives and respect for its mandate of self-governance.
  - 2.5. An economic incubator fund is established, directed towards sustainable business initiatives led by young people (aged 18– 29), with advisory boards comprising industry, science, and government representatives.
  - 2.6. Each of the cities regularly revisits its urban sustainability profile and develops policy recommendations based in the sustainability challenges mapped by those profiles.
  - 3.1. The administration of Antarctic city surveys is continued beyond the two surveys already administered in 2018 and 2020.
  - 3.2. The Urban Sustainability Profiles are used to inform policy recommendations based in the sustainability challenges mapped by those profiles.
  - 3.4 The extended Principles for Antarctic Connectivity are used for public discussion and debate in each of the Antarctic cities and refined as guides for practice.
- 3.6. These recommendations were discussed in a report taken to the Council on 11 October 2021, resulting in the following resolution:

*That:*

1. *The Antarctic Cities Project Final Report as detailed in item 6.1 of the Open Economic Development and Communications Committee meeting of 23 September 2021 be noted.*
  2. *The City of Hobart recognises the need for its role in supporting the Antarctic sector to broaden, arising as a result of the City Deal and recommendations made in the Antarctic Cities Project Final Report.*
  3. *The City of Hobart commits to reconsidering and developing its strategic role in supporting Antarctica which may include:*
    - (i) *Leading and driving discussions with the other Antarctic Gateway Cities of Cape Town, Christchurch, Punta Arenas and Ushuaia about how the cities may collaborate.*
    - (ii) *Supporting the Antarctic Youth Coalition to become a sustainable member organisation for young people across the gateway cities.*
    - (iii) *Evaluating the changing nature of Hobart's relationship with Antarctica and whether the term 'custodian' is more representative of this relationship than 'gateway'.*
    - (iv) *How the City will fulfil its role as a partner in the City Deal in delivering an Antarctic and Science Precinct at Macquarie Point.*
    - (v) *How the City engages with other key stakeholders in the sector through bodies such as the Tasmanian Antarctic Gateway Advisory Committee.*
    - (vi) *Reconsidering how the City engages with the community on Antarctic matters based on feedback through the two surveys conducted as part of the Antarctic Cities Project.*
    - (vii) *Engage with the relevant State Government Minister to ascertain the government's further commitment to the Antarctic sector.*
  4. *A report will be brought back to the Council highlighting proposals to more strategically align the City's activities with respect to its link to Antarctica and the Antarctic industry in Tasmania.*
    - (i) *The report to also include the financial implications associated with the proposal.*
  - 3.7. This report is a response to the above Council resolution. Each aspect of the Council resolution will be discussed in turn, with financial implications noted.
- 3(i) Leading and driving discussions with the other Antarctic Gateway Cities of Cape Town, Christchurch, Punta Arenas and Ushuaia about how the cities may collaborate.**

- 3.8. In the months since the above Council decision, the City has commenced discussions with the Christchurch Antarctic Office and Chief Investigators of the Antarctic Cities Project about the most effective way in which collaboration could be initiated.

There is an already established connection between officers in Hobart and Christchurch, as well as at a political level. Given this connection, common language and close time zones, it is proposed that initial brainstorming takes place between Hobart and Christchurch about how the concept of collaboration is taken forward.

It is anticipated that a Mayoral discussion between Hobart and Christchurch will take place in the first quarter of 2022.

- 3.9. The Antarctic Cities Project generated a first draft of a charter of principles as a governing document for the relationship between the five cities. Following initial conversations with Christchurch to gauge the level and nature of interest in collaboration, refining the charter would be a meaningful next step for the group of five cities.

**3(ii) Supporting the Antarctic Youth Coalition to become a sustainable member organisation for young people across the gateway cities.**

- 3.10. The [Antarctic Youth Coalition](#) (AYC) was one of the most powerful community centric outputs of the Antarctic Cities Project. Through the project, a young person from each of the five cities was selected (via a competitive process) as a youth ambassador to visit the Antarctic Peninsula region.

- 3.11. The Antarctic ambassadors are introduced below:



3.12. Whilst in Antarctica, the ambassadors took part in a number of workshops that helped them to develop a [mission, vision and plan](#) for an Antarctic Youth Coalition.

The plan or [strategic overview document](#) identified three strategic goals:

- Build youth engagement networks in the five Antarctic gateway cities.
- Create new connections between these Antarctic cities.
- Foster a sense of Antarctic custodianship in these cities.

3.13. Following the expedition in 2020, the global impacts of COVID-19 quickly emerged. This derailed the plans for the ambassadors to meet later in the same year (in Hobart to coincide with [COMNAP](#) and [SCAR](#)). Despite this, the group has met virtually on a number of occasions and has been involved in a number of activities in their cities including:

- Chloe Power, the Hobart ambassador has been working with the City of Hobart and the AAD (Australian Antarctic Division) to progress the AYC's signpost to Antarctica project. The idea is that each of the five gateway cities will display a signpost of distance to Antarctica and the other gateway cities in a prominent place.

Chloe also appeared as a panel member in a [discussion](#) on Antarctica's future alongside the Mayor of Christchurch and Vice Chancellor of the University of Tasmania.

- The AYC team in Christchurch is running a day long climate summit at the International Antarctic Centre called 'Te Ao Hurihuri' (a changing world) on 6 March 2022. It is a youth-led event focused on increasing the awareness and understanding of climate change, and the role science and mātauranga (Māori knowledge) has in understanding these changes and their impacts in Antarctica, Aotearoa and the planet as a whole.

- 3.14. Although the ambassadors are working hard to maintain momentum, it is two years since they met, during which time competing priorities have arisen.

Given this reduced capacity, it is clear that support is required to ensure the future of the AYC. As highlighted in the results of the second survey in the Antarctic Cities Project, there is room for improvement in engagement and communication, particularly in the 18-29 age bracket. (see section 3.32). Engagement of a youth ambassador will help to address this issue.

To continue its impact, it is proposed that a funded part time position is created in each city for a young person with significant knowledge and interest in the sector to drive activities of the AYC in line with the strategic overview document.

It is further proposed that agreements between the AYC and key stakeholders such as the Christchurch Antarctic Office, INACH (Chilean Antarctic Institute), Australian Antarctic Division and TAG (Tasmanian Antarctic Gateway Advisory Group) are developed to guide how they will work together to help the AYC realise its strategic goals.

The City of Hobart will drive these discussions as part of action 1, highlighted above.

- 3.15. It is anticipated that funding for a part time youth ambassador in Hobart could be provided by the City of Hobart and other partners. It is proposed that funding contributions for this role be capped at \$20,000 p/a from the City of Hobart which would be approximately 50% of the total costs associated with employing someone for two days per week in an entry level position. Early conversations have been had with Antarctic Tasmania about contributing some funding and there is an appetite to discuss this in greater detail.

**3(iii) Evaluating the changing nature of Hobart's relationship with Antarctica and whether the term 'custodian' is more representative of this relationship than 'gateway'.**

- 3.16. As was noted by elected members in Economic Development and Communications Committee on 23 October 2021, there are stakeholders in the Antarctic sector who may have a stronger view on the proposed terminology and potential implications of such a change in language.

Evaluation of whether the term 'custodian' could better reflect Hobart's relationship with Antarctica should be done collaboratively with key Antarctic stakeholders. It is proposed that this discussion is taken to the Tasmanian Antarctic Gateway Advisory Committee (TAG).

3.17. TAG was established by the Tasmanian Government in 2018 with the aim of facilitating collaboration and policy alignment by Tasmania's Antarctic institutions on initiatives to grow the Antarctic sector. It is made up of senior representatives of the following organisations:

- University of Tasmania
- Industry (through the Tasmanian Polar Network)
- TasPorts
- Hobart International Airport
- Department of State Growth
- Australian Antarctic Division
- CSIRO
- IMAS

Enquiries (**Attachment A**) were made to Minister Jaensch in December 2021 about taking this discussion to TAG. Minister Jaensch is the Minister for State Growth whose department administers the group.

A response was received from Minister Jaensch on 16 February 2022 confirming that the next TAG meeting will take place on 17 March 2022 and that an invitation to attend will be extended to officers of the City of Hobart.

**3(iv) How the City will fulfil its role as a partner in the City Deal in delivering an Antarctic and Science Precinct at Macquarie Point.**

3.18. The Antarctic and Science Precinct as part of the City Deal is a vital part of the city's economy. In a time where the fragility of tourism and international education has never been so apparent, it is important that the City of Hobart strives to add balance to the economy by supporting growth in knowledge based sectors such as the Antarctic.

The latest research commissioned by the Department of State Growth in 2021 showed the Antarctic sector to be worth \$159M per year to the local economy, with the average wage in the sector approximately double the average Tasmanian wage. Not only does this sector have the potential to inspire our younger generations and provide meaningful work, it can also attract visitation from professionals and tourists alike.



- 3.19. The City of Hobart's involvement in the City Deal partnership is currently coordinated by the City of Hobart's Head of Intergovernmental Relations and Partnerships and supported by the Executive Officer of the Greater Hobart Strategic Partnership. These roles coordinate the participation of the four Greater Hobart local governments (Hobart, Clarence, Kingborough and Glenorchy).
- 3.20. The delivery of an Antarctic and Science Precinct is divided into two areas:
- i) The area of the precinct to be occupied by the anchor tenants and serving the needs of those organisations.
  - ii) The public facing elements.
- Currently the development of both elements is being examined via a second phase of business planning (detailed business case).
- 3.21. The City of Hobart is an active member of the Hobart City Deal Macquarie Point and Wharf Steering Committee which oversees both elements of the precinct at a strategic level, as well as the more operational Public Facing Elements Working Group. The City is also the regulatory planning body for the site.
- 3.22. As the project progresses from business case through to more detailed site planning, the City of Hobart's Head of Intergovernmental Relations and Partnerships and Executive Officer of the Greater Hobart Strategic Partnership will coordinate the input of the City of Hobart into the Public Facing Elements Working Group. Additional Council staff resources may be required to support the development of the precinct as momentum builds. This will be considered through the Council's budgetary processes as and when it becomes necessary.
- 3.23. It is likely that a broader role in supporting the Antarctic sector, particularly one that includes membership of TAG (see below) will afford the City greater visibility on both the steering committee and the working group which could influence the quality of outcomes for the community.

**3(v) How the City engages with other key stakeholders in the sector through bodies such as the Tasmanian Antarctic Gateway Advisory Committee (TAG).**

- 3.24. Officer level connections into stakeholder organisations such as the Australian Antarctic Division, Antarctic Tasmania, the Tasmanian Polar Network and the Institute of Marine and Antarctic Science are strong.
- 3.25. It is felt that connections between the City of Hobart and Antarctic stakeholders at senior decision maker level could be improved.

Given that TAG was formed to facilitate collaboration and policy alignment at a senior level, membership of this group would provide a



strong foundation for relationship building. Conversations are currently taking place with Antarctic Tasmania (Tasmanian Government) about how the City of Hobart (through CEO Kelly Grigsby) may become a member.

**3(vi) Reconsidering how the City engages with the community on Antarctic matters based on feedback through the two surveys conducted as part of the Antarctic Cities Project.**

- 3.26. The Antarctic Cities Project report explains the rationale for the community surveys, this being:

*“...to address a perceived gap. Citizens’ views have largely been overlooked in discussions of how Antarctic connections are perceived by, and how they impact upon, the cities’ residents.”*

- 3.27. The first survey (Circles of Social Life Survey 2018) asked 50 questions about residents’ perceptions and attitudes in relation to Antarctica. 300 people were surveyed via telephone in each of the three cities of Hobart, Christchurch and Punta Arenas.

- 3.28. The main findings from this survey can be found on [pg 76 of the final report](#).

- 3.29. The following results suggest that Hobart residents have a ‘...strong engagement with Antarctic issues...and a focus on environmental impact rather than economic and political issues’ (Leane et al 2020 *From gateway to custodian city: Understanding urban residents’ sense of connectedness to Antarctica*).

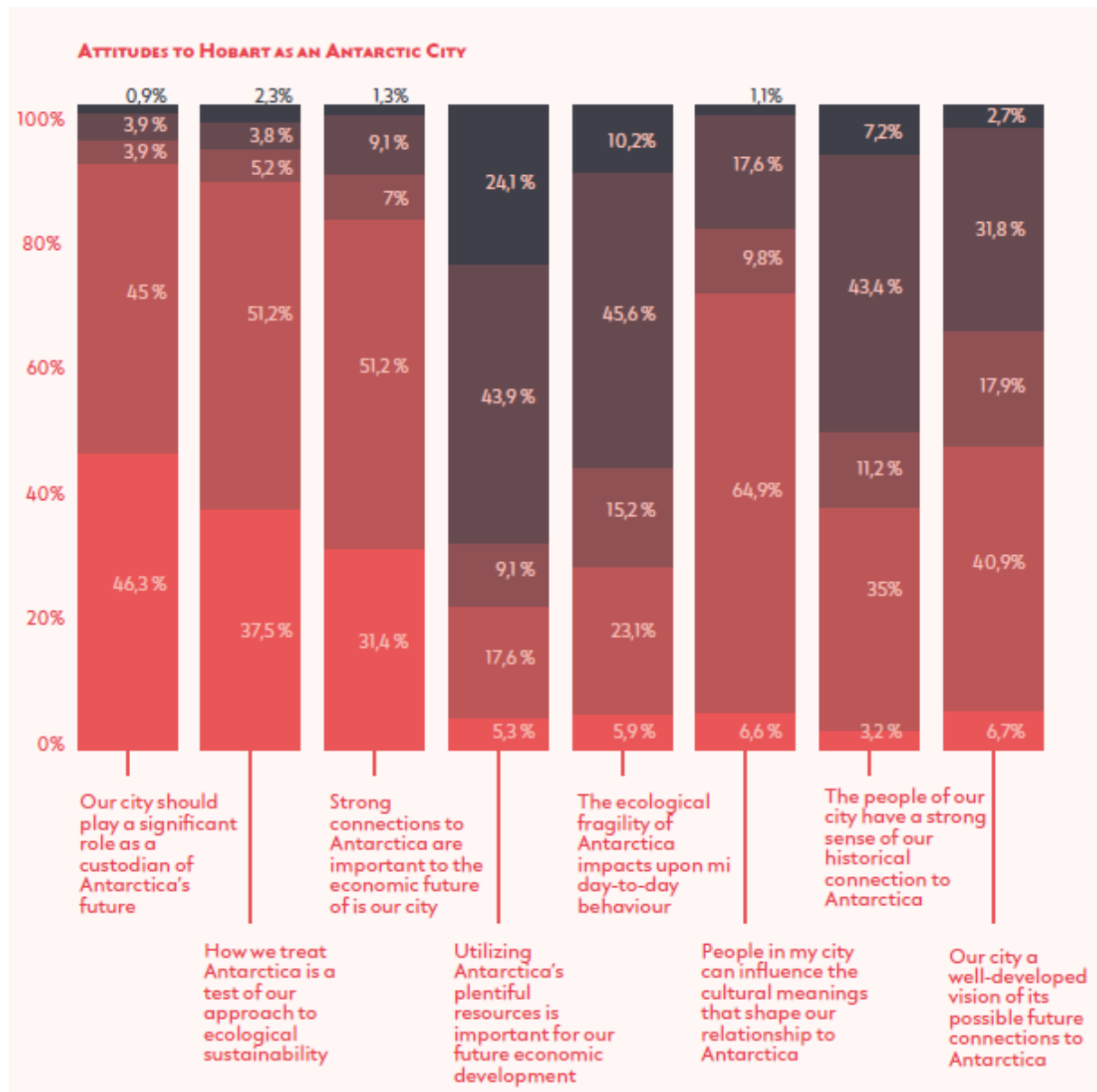
- 86% of Hobart residents are concerned, very concerned or passionately concerned about climate change.
- 85% of Hobart residents expressed more than a little concern about melting ice.
- 79% of participants were more than a little concerned about increasing commercial activities in the Southern Ocean and Antarctica.
- 71% said they were more than a little concerned about the political tensions over Antarctica between different nation states.

- 3.30. The most significant finding for the City of Hobart arose in the cluster of questions about Hobart as an Antarctic city (see chart below). The strongest response in this set of questions was to the statement:

*Our city should play a significant role as a custodian of Antarctica’s future.*

Over 90% of people agreed with this statement with nearly 50% strongly agreeing. This represented the highest level of agreement

with any of the questions asked in the survey. This finding is certainly something for TAG to consider when discussing the concept of Hobart as a gateway or custodian.



3.31. The second survey “Antarctic Urban Identities Online Survey 2020” focussed on residents of all five gateway cities over the age of 18. Topics of research in this survey are listed fully on [pg. 85 of the final report](#) and include detecting opportunities for the evaluation and design of public policies for local governments and identifying, strengthening and generating points of cooperation between cities.

3.32. 1,659 surveys were conducted across the five cities (276 in Hobart).

3.33. Some of the key themes to emerge in all of the cities were:

- Widespread agreement across the five cities that that Antarctic is ‘important’ or ‘very important’ for their respective cities.

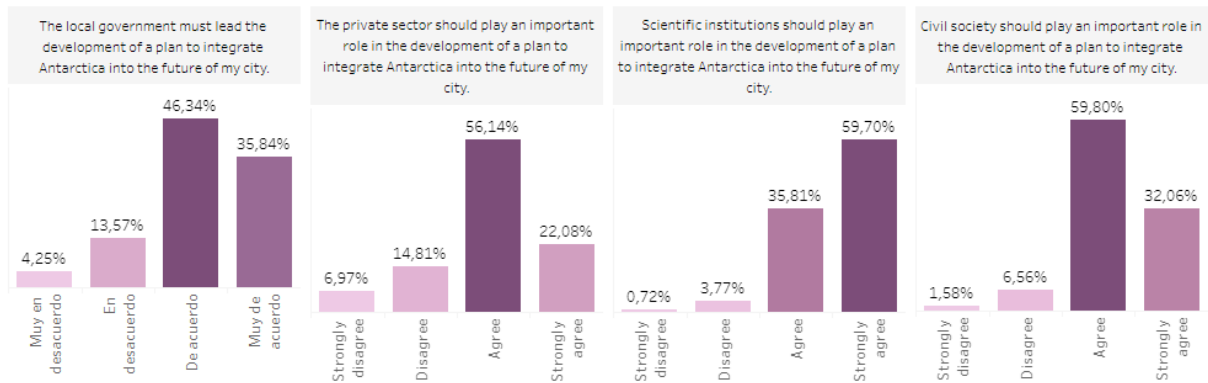
- High percentage of respondents expressing that they felt 'responsible' or 'very responsible' for the future of the Antarctic.
- Room for improvement in engagement and communication. 66% of respondents asked expressed feeling a 'little informed' or 'not at all informed' about the Antarctic, this figure jumps to 83% among people aged 18-29.
- When asked what might help the people of their city to identify with the Antarctic, the top answer in the 18-29 age bracket was 'increasing my city's engagement with Antarctic conservation.'
- There is a broad consensus that 'the local government must lead the development of a plan to integrate Antarctica into the future of my city'.

3.34. Specifically in Hobart the following was evident:

- Just under 70 % of people felt 'not at all informed' or 'a little informed' when it came to the relationship between Hobart and Antarctica.
- When asked what would help the people of Hobart to identify with Hobart, the following responses were captured:



- When asked what Hobart should prioritise in terms of Antarctic values, the largest group (35.67%) responded that Hobart should be an international scientific centre.
- In terms of roles when it comes to Antarctic connectivity, 82% of respondents agreed or strongly agreed that the local government must lead the development of a plan to integrate Antarctica into the future of Hobart. There was strong consensus that scientific institutions would have an important role in the development of this plan, followed by civil society and finally the private sector.

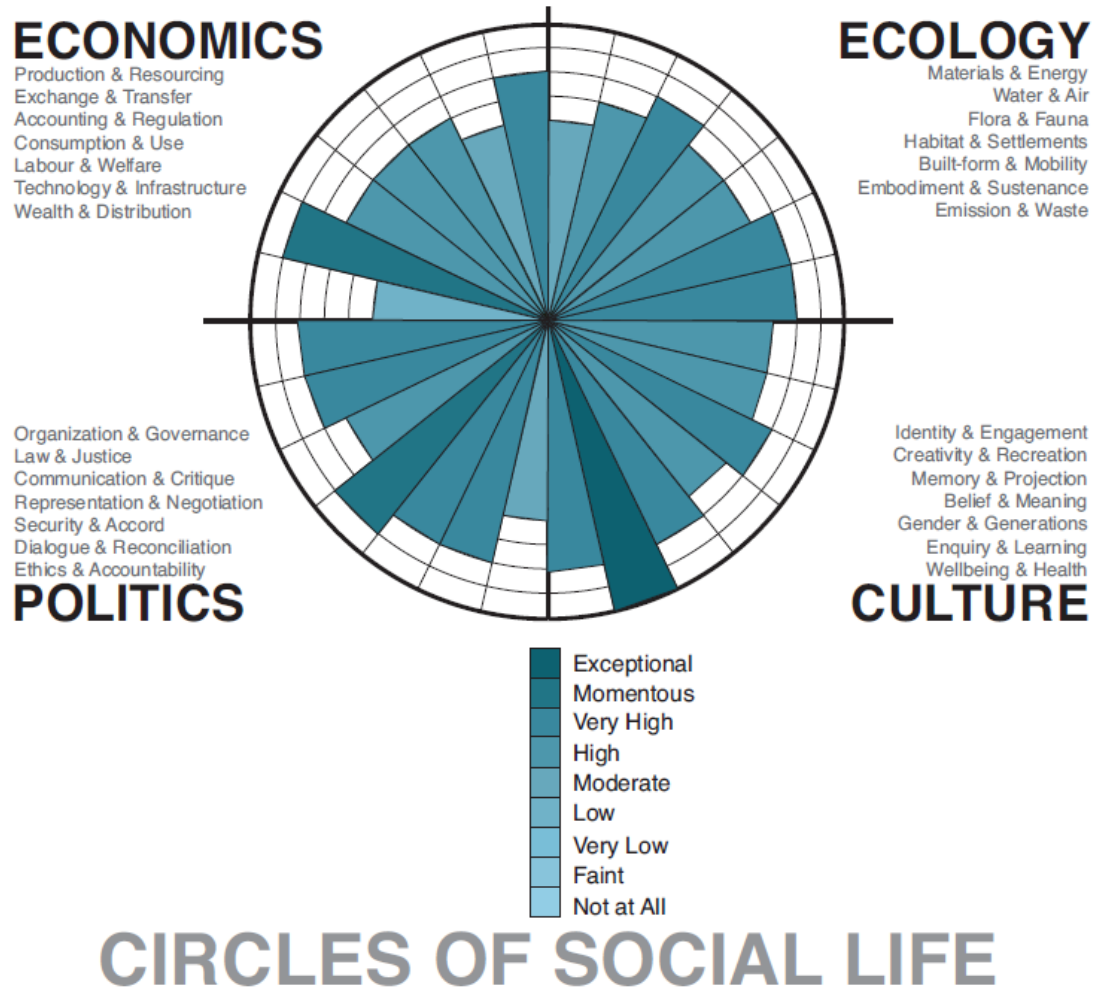


The people of Hobart felt that the most reliable source of information on what happened in Antarctica was the 'internet in general' (26.1%) followed by cultural institutions (23.9%) and the written press and their digital versions (22.46%).

- 3.35. Content and results from the two surveys can be used in future engagement with the community and stakeholders on Antarctic matters.
- 3.36. In addition to the two surveys, the project developed an **Antarctic connectivity index**.
- 3.37. As set out in Attachment B (Volume 3 – Antarctic Connectivity Index 2021 – pg. 1) in reference to the connectivity between the cities and Antarctica:
 

*There has been no previous way of assessing the level of this connectivity in more than a return-on-investment form.*
- 3.38. The index "...seeks to understand the level and nature of the connections across the world to the Antarctic region." (Attachment B pg. 1).
- 3.39. The index is a participatory tool that can be used to measure positive connectivity with Antarctica by city planners, businesses, cultural organisations, environmental NGOs and policy makers. Connectivity is measured across four domains of engagement: ecological, economic, political and cultural.
- 3.40. This is an innovative instrument developed through collaboration involving a number of Antarctic experts from universities, government agencies and the private sector. 116 experts in total across the cities were brought together to develop the key questions and critical issues upon which the indicators were developed.
- 3.41. The connectivity index tool was designed to a 'working draft' stage with the recommendation that the cities use it '...for public discussion and debate in each of the Antarctic cities and refined as guides for practice.'

Figure 2. A Connectivity Profile of the City of Hobart, 2021.



3.42. This tool is also helpful in providing the City of Hobart areas of weakness it may want to contemplate when considering a broader role in supporting the Antarctic sector.

3.43. As highlighted in the Antarctic Cities Project recommendations, this index could be used as a tool to aid in discussions with the community about their connections to and the future of Antarctica.

**3(vii) Engage with the relevant State Government Minister to ascertain the government's further commitment to the Antarctic sector.**

3.44. The Lord Mayor recently engaged with Minister Jaensch with regard to the Tasmanian Antarctic Gateway Advisory Group. Attendance at the March TAG meeting will be a good opportunity to discuss the concept of 'custodian vs gateway' but also as a first step towards engaging with the Minister to discuss the government's further commitment to the Antarctic sector.

#### 4. Proposal and Implementation

4.1. In response to the Council resolution of 11 October 2021, the following is proposed:

- Discussions between the Mayors of Hobart and Christchurch take place in the first quarter of 2022 about how the Antarctic cities might collaborate further.
- The City of Hobart considers as part of its budget process an allocation of no more than \$20,000 p/a for a Hobart based Antarctic Youth Ambassador two years commencing in the 2022-2023 financial year (contingent on match funding from another stakeholder).
- The City continues to monitor what is needed to ensure meaningful participation in the City Deal and commits additional resources if required.
- Officers attend the TAG (the Tasmanian Antarctic Gateway Advisory Committee) meeting in March 2022 to discuss the concept of referring to Hobart as a 'custodian' rather than 'gateway'.
- Officers continue to engage with Antarctic Tasmania and Minister Jaensch to discuss potential membership for the City of Hobart at TAG.
- The City engages with the community and Antarctic stakeholders as part of the development of a new economic development strategy. The Antarctic Connectivity Index and two surveys developed by the Antarctic Cities Project may be used as engagement tools.
- Information arising from enacting the above actions are included in the discussions and engagement required to develop the Antarctic content for the City's new economic development strategy.

#### 5. Strategic Planning and Policy Considerations

5.1. Council support for this project is in line with the *City of Hobart Capital City Strategic Plan 2019-29*.

4.5.3 *Acknowledge, celebrate and support Hobart's position as a gateway to the Antarctic and Southern Ocean.*

#### 6. Financial Implications

6.1. Funding Source and Impact on Current Year Operating Result

6.1.1. None

**6.2. Impact on Future Years' Financial Result**

- 6.2.1. Should the Council endorse the part funding of a youth ambassador based in Hobart at \$20,000 p/a, it would be included in the 2022/23 and 2023/24 budgets.
- 6.2.2. In developing the Antarctic content of the new Economic Development Strategy, costs implications of actions may arise. These will need to be factored into financial planning for the 2022/23 financial year and beyond.

**6.3. Asset Related Implications**

- 6.3.1. None

**7. Legal, Risk and Legislative Considerations**

- 7.1. The City's new economic development strategy will be non-binding.
- 7.2. Should a youth ambassador be employed by the City of Hobart or other stakeholder, a contract of employment will need to be developed.
- 7.3. Should the City's role remain to provide civic celebration only, there is a risk that the community outcomes from the City Deal may not fulfil their potential.
- 7.4. There is a concerning fundamental risk that if the community does not feel more connected to Antarctica, it may not step in to protect it from political and climate related threats in the future.

**8. Social and Customer Considerations**

- 8.1. As observed in the final Antarctic Cities Project report (Attachment A – pg 73):

*...In all five cities there is evidently a high level of political and economic investment in growing their Antarctic profiles, but the voices of city residents themselves usually remain largely absent from this dialogue at both a regional and national level.*

Three hundred people in Greater Hobart were surveyed as part of the project which broadened the conversations beyond those who work in the sector.

Young people were also engaged. One hundred and thirteen young people in Hobart took part in the project as on-line game testers and entrants to the two competitions that took place.

## **9. Community and Stakeholder Engagement**

9.1. The Antarctic Cities Project included perhaps more engagement on Antarctic matters than Hobart has seen before. In Greater Hobart, the following took place:

- Two workshops with 57 urban and Antarctic experts
- Two surveys of residents (300 from Greater Hobart)
- Three youth scenario planning and game design workshop with 47 young people (on the design and testing of an on-line game)
- A competition for primary school students to articulate their connection to Antarctica (10 young people from Hobart took part by showing their photographs at the 2018 Australian Antarctic Festival).
- 56 young people applied to be the Hobart Antarctic Youth Ambassador.

9.2. Key engagement figures across the five cities are well summarised below (Attachment A - Final Report pg. 13).





- 9.3. Further engagement is proposed in this report as part of the process of developing a new economic development strategy with Antarctic content.

## 10. Delegation

- 10.1. This matter is one for the Council.

*As signatory to this report, I certify that, pursuant to Section 55(1) of the Local Government Act 1993, I hold no interest, as referred to in Section 49 of the Local Government Act 1993, in matters contained in this report.*





Lucy Knott  
**SENIOR ADVISOR ECONOMIC  
DEVELOPMENT**



Tim Short  
**DIRECTOR COMMUNITY LIFE**

Date: 24 February 2022  
File Reference: F21/116306

Attachment A: Letter to Minister Jaensch re Tasmanian Antarctic Gateway  
Advisory Group 23 Dec 2021 ↓ 

Attachment B: Antarctic Connectivity Index ↓ 

OFFICE OF THE LORD MAYOR  
HOBART TOWN HALL

The Hon. Roger Jaensch MP  
Minister for State Growth

Via email: [Minister.Jaensch@dpac.tas.gov.au](mailto:Minister.Jaensch@dpac.tas.gov.au)

Dear Minister Jaensch

I am writing to you following the launch of the Antarctic Cities Report in late October, a project funded by the Australian Research Council and supported by many institutions including the City of Hobart and Antarctic Tasmania.

The full report which can be accessed via the [City of Hobart website](#) made a number of interesting recommendations ranging from continuing to administer surveys of Antarctic cities to examine the historical, economic, tourist, cultural and geopolitical relationships to Antarctica, to formally supporting the Antarctic Youth Coalition, the formation of which was an outcome of the project.

These recommendations, coupled with the importance of the Antarctic and Science Precinct in the City Deal have led the City to review its role in support of the sector.

I would like the opportunity for Council officers to discuss with key stakeholders the recommendations of the report, the City's changing role and the concept of Hobart being a 'custodian' rather than 'gateway' city. The project advocates for the term 'custodian' to reflect a shift closer to international cooperation and environmental protection.

As the Minister for State Growth through which the Tasmanian Antarctic Gateway advisory group (TAG) is administered, I would like to request that the City of Hobart present the findings of the report to a meeting of TAG. I look forward to your support to arrange this opportunity.

Yours sincerely

Councillor Anna Reynolds  
**LORD MAYOR**

Wednesday 22 December 2021

CITY OF HOBART

GPO Box 503, Hobart Tasmania 7001 Telephone: (03) 6238 2702 [lord.mayor@hobartcity.com.au](mailto:lord.mayor@hobartcity.com.au)

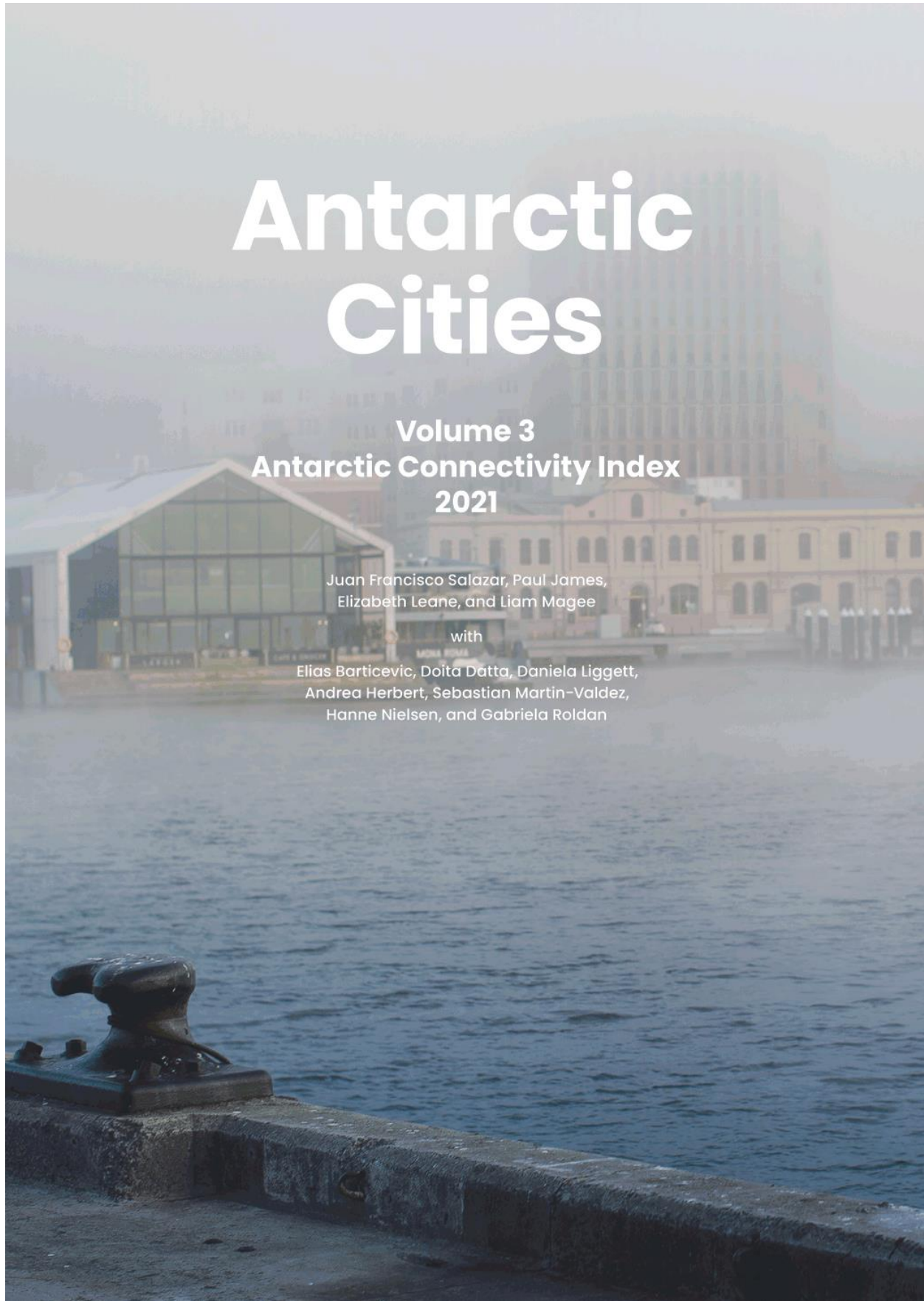
# Antarctic Cities

## Volume 3 Antarctic Connectivity Index 2021

Juan Francisco Salazar, Paul James,  
Elizabeth Leane, and Liam Magee

with

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The report, *Antarctic Cities*, comprises the following volumes

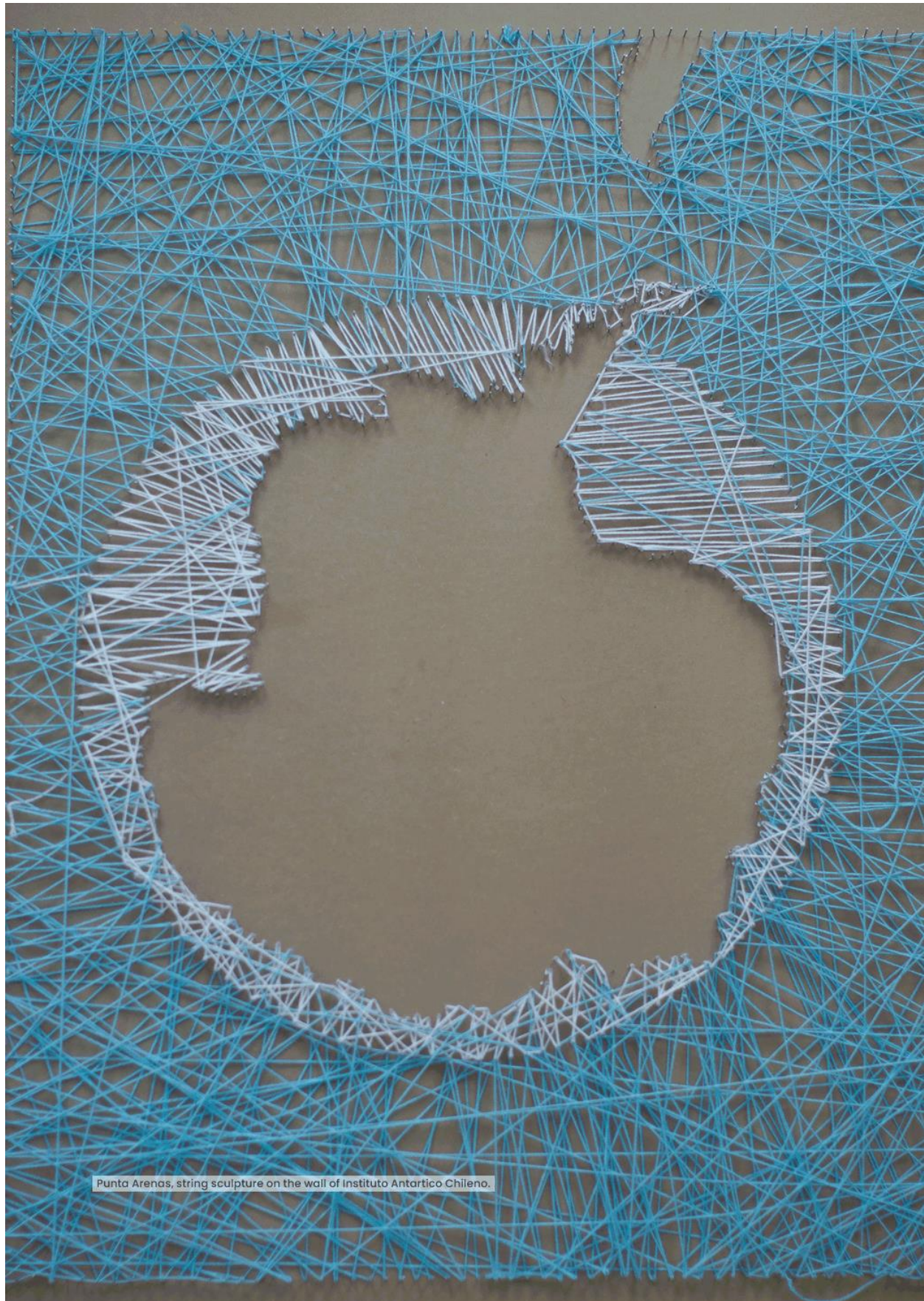
*Antarctic Cities, Volume 1: From Gateway Cities to Custodial Cities*

*Antarctic Cities, Volume 2: Urban Sustainability Profiles*

*Antarctic Cities, Volume 3: Antarctic Connectivity Index*

*Antarctic Cities, Volume 4: Principles for Antarctic Connection*





Punta Arenas, string sculpture on the wall of Instituto Antartico Chileno.

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# Background to the Index

The *Antarctic Connectivity Index* is an innovative and comprehensive instrument developed through a collaborative project involving a number of universities, agencies and cities. It provides an evidence-based means of showing the various levels of connectivity of cities as they engage with Antarctica.

This *Antarctic Connectivity Index* seeks to understand the level and nature of the connections of cities across the world to the Antarctic region. For the purposes of this index, the concept of 'the Antarctic region' includes Antarctica, the Southern Ocean and the sub-Antarctic region. The notion of 'connectivity' is used in the deeper historical meaning of the condition of being 'joined together' from the Latin *conectere*, to bind or establish a relationship—rather than the contemporary thinning out of the concept as the establishment of a mediated communications channel. This means that the connectivity is understood across a range of domains—ecological, economic, political, and cultural—rather than limited to communications technologies and other infrastructural means of connection.

The Index has been refined through comparative international case studies, surveys and research into current publicly available indicators. As a result of this process, we are at the beta-stage of developing a comprehensive instrument to gauge a city's current status as an 'Antarctic city'. The index is intended as a guide to thinking and practice as citizens of these cities contribute to Antarctica's future.

We are keenly interested in the activities of the Antarctic gateway cities and their transition to become Antarctic custodial cities. At the same time, this index is intended to have a global reach and allow for any city to evaluate its connections to the Antarctic. In setting up the index and its variables we have included consideration of cities other than the five gateway cities to bring in different kinds of relations to the Antarctic that are generally applicable.

## Why a Connectivity Index?

Cities, in particular the group of cities called the gateway cities have struggled to clarify the level of their connectivity to Antarctica. There has been no previous way of assessing the level of this connectivity in more than a return-on-investment form. Moreover, most of the prior work on connectivity has been directed towards a particular aspect of connectivity, in particular, economic connections. Ecologically, connectivity has largely limited to the direct impact of bases on the continent. Politically, claims to alternative forms of connectivity other than in relation to nation-state claims of sovereignty have had little purchase. And, culturally, the emotional, meaning-based and heritage-linked connection of cities to the Antarctic region has largely been limited to discussions of tourism.

In response to the various difficulties in developing a mapping process, the research team have used a consultative method framed by the Circles approach to give systematic guidance to choosing the basic indicators. Simultaneous work using the same approach is happening with other cities through the Sustainable Cities Collaboratory.

## The Process for Developing the Index

Development of the *Antarctic Connectivity Index* was initiated through an Australian Research Council project led by the Institute for Culture and Society at Western Sydney University (see Volume 1 of this report). A series of dialogues was begun with a range of urban and Antarctic experts from three Antarctic 'gateway cities' central to the overall project—Hobart, Christchurch, Punta Arenas. Other cities considered for comparative measurement in the development of the tool include Cape Town, Ushuaia, Shanghai, and Goa, among others.

Workshops were held with experts in each of the three cities of Hobart (July 2017), Christchurch (October 2017), and Punta Arenas (November 2017), with follow-up in these cities across the period 2018–2019 as the index was formed. The consultation brought together urban and Antarctic experts in each city (116 in total) to develop the key questions and critical issues from which possible indicators were developed. These indicators form the basis for a scaled index. In other words, the index is formed both through a top-down framework, through the *Circles of Social Life* method, and a bottom-up process through unconstrained brainstorming sessions and then directed discussions (using the 'Critical Issues Definition' process of the Circles method).<sup>1</sup> It was considered important within this method to consider the broad range of possibilities for connectivity across the ecological, economic, political and cultural domains.

<sup>1</sup> Liam Magee, Andy Scerri, Paul James, Lin Padgham, James Thom, Hepu Deng, Sarah Hickmott, and Felicity Cahill, 'Reframing Sustainability Reporting: Towards an Engaged Approach', *Environment, Development and Sustainability*, vol. 15, no. 1, 2013, pp. 225–43; Paul James, with Liam Magee, Andy Scerri and Manfred B. Steger, *Urban Sustainability in Theory and Practice: Circles of Sustainability*, Routledge, London, 2015.



**Core Partner Organizations**

City of Hobart, Australia  
Tasmanian Government, Department of State Growth, Australia  
Instituto Antartico Chileno, Chile  
Universidad de Magallanes, Chile  
University of Canterbury, New Zealand  
Christchurch City Council, New Zealand  
Antarctic Office, Christchurch, New Zealand

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**2 Antarctic Cities, Volume 3**

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 Jaime Vásquez, Gerente de la empresa de cruceros Antarctica XXI  
 Edgardo Vega, Director del INACH

### **The Questions Guiding the Index**

The process of setting up the index began with determining the *general question* that frames the project. This general question provides the core consideration for judging the quality and level of connectivity. Because this is a positive index, in effect treating higher levels of connectivity as normatively better (within limits), the question guides all aspects of the index development.<sup>2</sup>

How is the city positively connected to the Antarctic region in a way that enhances the sustainable future of that region, while it also enhances its own urban future?<sup>3</sup>

The concept of '*positive connectivity*' is important here, and accords with many other indices such as the Human Development Index. Most liveability, sustainability, and resilience indices are positive indices, even if they do not make explicit their normative orientation. Developing a notion of 'positive' connectivity entails specifying the normative orientation to the question of how connections are made to Antarctica.

From here our work went in two interconnected directions, both framed by the Circles of Social Life matrix of domains and subdomains:

1. The development of a top-level quantitative version in which agreed indicators, metrics, and data-parameters are used to compare levels of connectivity (see Table 1 below); and
2. The development of a more qualitative self-assessment process that moves from the top-level of the four domains down to the subdomains of the Circles' matrix (see Table 2 below).

<sup>2</sup> The question thus provides the basis for deriving the underlying algorithms that is used for calculating the level of the indicators. It should be noted at this level of detail more is not always better, or different indicators can bear against each other.

<sup>3</sup> Here the concept of 'sustainable' includes ecological, economic, political and cultural sustainability. And to repeat an earlier point, for the purposes of this Index 'the Antarctic' or 'Antarctic Region' means Antarctica, the Southern Ocean and the sub-Antarctic.



# Developing a Quantitative Index

From the general question, working with experts in the three cities, we then developed the domain-level questions and the associated themes for naming the top-level indicators:

- Ecology:** To what extent do the city's connections with the Antarctic region enhance the ecological flourishing of the region?  
**Indicator 1.** The extent to which the city supports the biosecurity and environmental monitoring of the Antarctic.
- Economics:** How sustainable is the Antarctic to the ongoing economic prosperity of the city?  
**Indicator 2.** The level of sustainable economic return to the city from its connection to the Antarctic.
- Politics:** How important is the Antarctic in the political engagement of the city?  
**Indicator 3.** The level of political engagement with the Antarctic region managed through the city.
- Culture:** To what extent is the Antarctic region positively embedded in the cultural life of the city?  
**Indicator 4.** The level of cultural engagement with the Antarctic, manifest in the life of the city.

The process for developing the variables and their measurement associated with each of those indicators is much more complicated, but Table 1 below is set up to show a possible way of doing this.

## Elaborating the Domain-Level Questions, Indicators and Variables

The themes for judging connectivity, like all the tools described in this report, are organized around the four-domain structure of the Circles of Social Life method. Based on the general question, simple domain-level questions were derived, and these become the basis for choosing the indicators and their variables. Both the indicators and their variables were then chosen as proxies for responding to the domain-level questions on the following basis:

- That they were as simple as possible while recognizing the complexity of different forms of connectivity.
- That they could act as fair representative indicators for the field covered by the domain-level question;
- That data was potentially available across the four cities to calculate the levels of the numerical variables;
- That they were positive indicators of connectivity that would potentially contribute to a positive or flourishing social engagement with Antarctica (see Appendix 2 below); and
- That they were relevant to cities beyond the current five gateway cities.

Table 1. Domain-Level Questions and Indicators in Relation to Variables			
Domains	Questions	Indicators <sup>4</sup>	Variables
<b>Ecology</b>			
The ecological domain is defined as the practices, discourses, and material expressions that occur across the intersection between the social and the natural realms, focusing on the important dimension of human engagement with and within nature, ranging from the built-environment to the wilderness.	To what extent do the city's connections with the Antarctic enhance the ecological flourishing of the whole Antarctic region? <sup>5</sup>	1. The level to which the city supports the biosecurity and ecological monitoring of the Antarctic region.	<p><b>1.1 The level of material support for the biosecurity of the Antarctic.</b></p> <p><i>Material Support</i>            = percentage calculated as a proportion of the overall annual budget of national/federal and local government authorities spent on programs in managing material flows in and out of Antarctica.</p> <p><i>Unit of measure</i> = percentage (of estimated annual urban budget)</p> <p><i>Minimum value:</i> 0 %  <i>Maximum value:</i> 5 % (NB. This value needs to be tested)  <i>Scale:</i> Linear</p> <p><i>Managing material flows</i> = 1. border control on goods; 2. waste-management and pollution-control programs in Antarctica; and 3. surveillance and interception programs of illegal fishing in the Southern Ocean.</p> <p><i>Constraint</i> = Programs run through the city.  <i>Unit of measure:</i> No. of programs (across the three categories)            This would need a clear definition of what constitutes a program.  <i>Minimum value:</i> 0  <i>Maximum value:</i> 206  <i>Scale:</i> Linear</p>
			<p><b>1.2. The level of monitoring and modelling of bio-geographic and climatic patterns in the Antarctic.</b></p> <p><i>Ecological monitoring</i> = Weather patterns including atmospheric and oceanographic; wildlife.</p> <p><i>Level</i> = Calculated by adding together the following two variables and dividing by two (each needs to be normalised differently):</p> <p>1. the number of variables monitored and modelled by scientists travelling to the Southern Ocean and the Antarctic.</p> <p><i>Unit of measure</i> = number of variables  <i>Minimum value:</i> 0  <i>Maximum value:</i> to be determined  <i>Scale:</i> Log-linear</p> <p>2. the number of monitoring initiatives launched/monitored from the city (weather stations; remote sensing projects; monitoring of human impact; invasive species monitoring)</p> <p><i>Unit of measure:</i> number of monitoring initiatives  <i>Minimum value:</i> 0  <i>Maximum value:</i> to be determined  <i>Scale:</i> Linear</p>

<sup>4</sup> For each of the domains there are indicators chosen, made up of two variables. Each of the variables is worth 50 per cent of the whole calculation. This allocation is only nominal at this stage of development of the index but reflects our view that they are equally important, and too much emphasis on one or the other would skew a city's ecological relation to the region.

<sup>5</sup> Note that the definition of 'ecology' includes humans in the environment. This qualifies the concerns of some critics who suggest that humans should leave Antarctica as 'pure' wilderness. Also, note that 'the Antarctic' in this and all subsequent uses refers to Antarctica and the Southern Ocean.

<sup>6</sup> Here the maximum value of 20 needs to be tested against the question 'What is the maximum number of programs that would make for a flourishing connection?'



Economics			
The economic domain is defined as the practices, discourses, and material expressions associated with the production, use, and management of resources.	How sustainable is engagement with the Antarctic to the ongoing economic prosperity of the city?	2. The level of sustainable economic return to the city from its Antarctic-related activities.	<b>2.1. The percentage of people in the city employed in jobs related to the Antarctic.</b>  <i>Jobs related to the Antarctic</i> = Those positions that are substantially involved with Antarctic-related activities, including maintenance of vessels, provision of training, servicing of bases, and scientific research.  <i>Substantially</i> = A significant proportion (i.e. more than a quarter) of the time of that position is devoted to Antarctic activities.  <i>Percentage</i> = Calculated as a proportion of all jobs in the city.  Unit of measure: Percentage Minimum value: 0 Maximum value: 5% Scale: Linear  <i>Constraint</i> = This does not include those persons working in the tourist industry. This is because 2.2 below is effectively a measure of tourism and we do not want to double-count.
			<b>2.2. The level of income for the city from Antarctic-related activities (adjusted for sustainability by measuring over time).</b>  <i>Level</i> = Percentage calculated as a proportion of the overall annual income of the city—i.e., gross metropolitan product (the value of all final goods and services produced within a metropolitan statistical area during a year, measured in relation to an average over the last five years).  <i>Constraint</i> = This figure includes the following economic activities:  1. Visitors coming to the city primarily for Antarctic-related activities such as festivals or heritage visits, or for travelling to the Antarctic.  Unit of measure: No. of visitors Minimum value: 0 Maximum value: 2.0 x city's population Scale: Linear  2. Goods and services provided by businesses in the city for Antarctic-related engagement.  Unit of measure: GMPpc in USD PPP Minimum value: 0 Maximum value: 10,000 Scale: Log-linear
Politics			
Politics is defined as the practices, discourses, and material expressions associated with basic issues of social power, such as organization, authorization, and legitimation.	How important is the Antarctic to the political life of the city?	3. The level of political engagement with the Antarctic region managed through the city.	<b>3.1. The number and size of national Antarctic programs that operate through the city.</b>  <i>Weighting</i> = One unit for each of the nation-states that operate national programs in Antarctica, including the country in which the city is located, divided by the relative size of the program measured by numbers of scientists, logistical personnel and administrators: <sup>7</sup>

<sup>7</sup> Details of weighting of each national program will be provided on a scale of 1 to 9. This includes all 30 national Antarctic programs.

			<p><i>Operate through the city</i> = That is, either used as a gateway for travelling to Antarctica or used as the home-base for administering the national Antarctic program.</p> <p>Unit of measure 1 = number and size of Antarctic programs</p> <p>Unit of measure 2 = total employees employed by the city or its national government in the city/city-population</p> <p>Minimum value: 0</p> <p>Maximum value: 0.2</p> <p>Scale: Linear</p>
			<p><b>3.2. The proportion of national government budget allocated to employing staff supporting Antarctic-related programs in the city.</b></p> <p><i>Government</i> = national or federal-level government.</p> <p><i>Proportion</i> = percentage of total government budget devoted to the Antarctic that is allocated to employment in the city to run programs in that city or through that city into Antarctica.</p> <p>Unit of measure = percentage of government budget allocated to Antarctic programs</p> <p>Minimum value: 0</p> <p>Maximum value: 1 per cent<sup>8</sup></p> <p>Scale: Linear</p>

Culture			
Culture is defined as the practices, discourses, and material expressions, which, over time, express continuities and discontinuities of social meaning	To what extent is the Antarctic embedded in the cultural life of the city?	4. The level of cultural engagement with the Antarctic, manifest in the life of the city.	<p><b>4.1. The number of public memorials and heritage sites in the city that relate to the Antarctic.</b></p> <p><i>Site</i> = a building or place marked by a plaque or other public signifier of connection to the Antarctic.</p> <p><i>Constraint</i> = This number only includes sites that are named as related to Antarctica and are listed in an official or unofficial city register. A site cannot be counted twice: for example, a statue of an Antarctic explorer immediately outside an Antarctic-related building cannot be counted as well as the building; a monument cannot be counted as well as the park that it is in.</p> <p>Unit of measure: Number of sites per capita (000's)</p> <p>Minimum value: 0</p> <p>Maximum value: 19</p> <p>Scale: Linear</p>
			<p><b>4.2 The intensity of Antarctic-related cultural events, exhibitions and archives held in the city.</b></p> <p>Events = discrete activities such as exhibitions, plays, readings, receptions, etc. Hence, a festival can include a series of events, but a designated series of performances of the same play is one event.</p> <p>Intensity = Measured as a proportion of the total of cultural events in the city <i>per capita</i>.</p> <p>Unit of measure: Number of events per capita (000's)</p> <p>Minimum value: 0</p> <p>Maximum value: 110</p> <p>Scale: Linear</p>

<sup>8</sup> This figure of 1 per cent is only nominal at this stage, but reflects the view that while funding connections to Antarctica is very important, it should only be a small proportion of the overall funding for ecological, economic, political and cultural flourishing in the city and beyond.

<sup>9</sup> It is certainly possible to have more than 1,000 sites associated with the Antarctic in a 100,000-person town, particularly one with a long history of association with the region, but this was considered to be of a sufficient order to recognize the depth of association without the city becoming turned over to memorializing one place of connection.

<sup>10</sup> As expressed in the previous footnote, Footnote 6, an ever-expanding number is not always better.

### Calculating the Antarctic Connectivity Index

The Antarctic Connectivity Index is compiled from the variables described above. First, four domain-level indices are calculated. Individual variable data are tempered against lower and upper bounds, referred to as 'Minimum value' and 'Maximum value' in Table 1 above.<sup>11</sup> In most cases, variable values are assumed to be uniformly or normally distributed between the bounds, and consequently linear scales are assumed as the simplified default. Variables such as income are known to be positively skewed (Mincer 1958), and logarithmic reduction can produce more meaningful bases for comparing these variables.

Once individual data values are adjusted and optionally rescaled, they are averaged to produce a domain-level score. This score is further scaled to a nine-point scale, to be plotted against the Circles diagram. Four indices are produced, one for each of the domains.

Following the Human Development Index, the overall connectivity index is then derived from the geometric mean of the individual domain-level connectivity scores.<sup>12</sup> The justification for the geometric over the simpler arithmetic means is that extreme low values ought to be interpreted as more consequential than extreme highs; the geometric mean of the numbers {1, 5, 9} is, for example, lower than the mean of numbers {5, 5, 5}. For the purpose of the Connectivity Index, where high scores ought to be interpreted uniformly as preferable to lower scores, this has the effect of weighting the combined connectivity scores downward where low outliers exist. Use of the geometric mean ensures low connectivity on one domain cannot entirely be compensated for or substituted by high connectivity in another.

We use only the domain-level indicators in this calculation of the index. The more detailed subdomain indicators would be compiled and used to calculate domain and overall connectivity index values in the same way, with at least seven rather than two or three variables to represent each domain.

### Showing How the General Equations Work

Equation 0.1 adjusts a raw data value against relevant lower and upper bounds.

$$\text{Equation 0.1: Adjusted } X = \frac{X - \text{LowerBound}}{\text{UpperBound} - \text{LowerBound}}$$

Equation 0.2 normalizes a value for a city's population, for cross-sectional comparison with other cities. 'X' is the value to be normalised; 'W' is a scaling factor to produce a meaningful value in the range [0, 1]; 'City Pop.' is the city's population; 'Base GMP' is the standard chosen for Gross Metropolitan Product (sometimes measured as 'Gross Regional Product'); 'City GMP' is this city's GMP, which may be above or below the Base GMP, and will adjust the per capita figures accordingly; 'Base CPI' and 'City CPI' are equivalent values for Consumer Price Index. While per capita figures will often be relevant to city-to-city comparison, GDP and CPI may be less so. In particular, compound CPI will be more relevant to longitudinal measures for a given city over time.<sup>13</sup> For cases where these additional normalization factors are not relevant, values of 1 can be passed to both 'Base' and 'City' values.

$$\text{Equation 0.2: Normalized } X = \frac{W * X}{\text{City Pop.}} * \frac{\text{Base GMP}}{\text{City GMP}} * \frac{\text{Base CPI}}{\text{City CPI}}$$

Equation 0.3 scales a value between 0 and 1 to another value between 1 and 9. The scaled value can be interpreted qualitatively, from "Vibrant" to "Critical", and displayed on the Circles diagram accordingly.

$$\text{Equation 0.3: Scaled } X = X * 8 + 1$$

### Ecological Domain of the Connectivity Index

$$\text{Equation 1.1: Material Support} = \frac{\left( \frac{\text{Material Support \%} - 0}{10 - 0} \right) + \left( \frac{\text{Material Flows} - 0}{20 - 0} \right)}{2}$$

$$\text{Equation 1.2: Monitoring Levels} = \frac{\left( \frac{\ln(\# \text{ of Variables} - 0)}{10 - 0} \right) + \left( \frac{\# \text{ of Monitoring Initiatives} - 0}{20 - 0} \right)}{2}$$

$$\text{Equation 1.3: Ecological Connectivity Index (ELCI)} = \text{Scaled} \left( \frac{\text{Material Support} + \text{Monitoring Levels}}{2} \right)$$

### Economic Domain of the Connectivity Index

$$\text{Equation 2.1: People in Antarctic Jobs} = \frac{\text{Percentage of Antarctic Jobs} - 0}{10 - 0}$$

$$\text{Equation 2.2: Income Levels} = \frac{\left( \frac{\# \text{ of Tourists} - 0}{0.1 * \text{City Pop.} - 0} \right) + \left( \frac{\ln(\text{GDPpc} - 0)}{\ln(10000 - 0)} \right)}{2}$$

$$\text{Equation 2.3: Economic Connectivity Index (ENCI)} = \text{Scaled} \left( \frac{\text{People in Antarctic Jobs} + \text{Income Levels}}{2} \right)$$

<sup>11</sup> These bounds are very rough estimates currently, and will need to be determined empirically for the final set of variables.

<sup>12</sup> <http://hdr.undp.org/en/content/why-geometric-mean-used-hdi-rather-arithmetic-mean>

<sup>13</sup> The approach to normalization, based on population, GDP and CPI, is well developed in the literature, and discussed by Pielke *et al.* (2008), Barthel & Neumayer (2012), and in an Australian context, Ladds *et al.* (2017).



#### Political Domain of the Connectivity Index

$$\text{Equation 3.1: Antarctic Program Size} = \frac{\left( \frac{\# \text{ of Program Staff}}{0.005 * \text{City Pop. (000's)}} \right)}{0.2}$$

$$\text{Equation 3.2: National Govt. Budget} = \frac{\% \text{ of budget on Antarctic}}{20}$$

$$\text{Equation 3.3: Political Connectivity Index (PCI)} = \text{Scaled} \left( \frac{\text{Antarctic Program Size} + \text{National Govt. Budget}}{2} \right)$$

#### Cultural Domain of the Connectivity Index

$$\text{Equation 4.1: Number of Sites} = \frac{\left( \frac{\# \text{ of Sites}}{0.2 * \text{City Pop. (000's)}} \right)}{1.0}$$

$$\text{Equation 4.2: Number of Events} = \frac{\left( \frac{\# \text{ of Events}}{0.2 * \text{City Pop. (000's)}} \right)}{1.0}$$

$$\text{Equation 4.3: Cultural Connectivity Index (CCI)} = \text{Scaled} \left( \frac{\text{Number of Sites} + \text{Number of Events}}{2} \right)$$

Accordingly, the calculation of the Antarctic Connectivity Index is:

$$\text{Equation 5.1: Antarctic Connectivity Index (ACI)} = \sqrt[4]{ELCI \times ENCI \times PCI \times CCI}$$

#### Example Using the City of Hobart

We use the City of Hobart as an example here to show how the index might be populated. Most of the data values are made up to show the derivation of the index rather than being taken from actual statistics.

Population:	225,000 <sup>14</sup>
GDP:	6,193 <sup>15</sup>
Material Support %:	0.9
Material Flows:	12
# of Variables:	132
# of Monitoring Initiatives:	5
Percentage of Antarctic Jobs:	8.1 <sup>16</sup>
# of Tourists:	6,434
GDP per capita, Antarctic-related:	\$2,300
% of budget on Antarctic:	3.1
% of Events:	47

Using the equations above and these fictitious values produces the following index values:

*Ecological Connectivity Index (ELCI)* = 4.16 ("Unsatisfactory")

*Economic Connectivity Index (ENCI)* = 5.25 ("Basic")

*Political Connectivity Index (PCI)* = 2.2 ("Bad")

*Cultural Connectivity Index (CCI)* = 8.38 ("Good")

*Antarctic Connectivity Index (ACI)* = 4.47 = ~5 ("Unsatisfactory")

In this partly made-up example, the overall Antarctic Connectivity Index scores 'Unsatisfactory' despite the presence of a very high score on the Cultural Connectivity Index. This is the effect of the geometric mean calculation, which is weighed down more by the poor Political Connectivity Index score.

<sup>14</sup> <https://en.wikipedia.org/wiki/Hobart>

<sup>15</sup> <https://economic-indicators.id.com.au/?StateId=6>

<sup>16</sup> <https://www.hobartcity.com.au/Business/Doing-business-in-Hobart/Key-industry-sectors>



# Developing a More Comprehensive Qualitative Index

Developing a qualitative-based index is a very different task. Although the qualitative index can be tested in terms of, and should be annotated through, the use of metrics, the qualitative index as developed below (see Table 2) is intended to be based on dialogue and debate between experts who then use a parallel 9-point scale as used for the Urban Sustainability Profiles (see Volume 2 of the present report). This time, the scale is one of intensity (all on the positive axis) rather than a positive-negative range from 'vibrant' to 'critical'.

*Figure 1. Scale of Intensity of Connectivity*

1	2	3	4	5	6	7	8	9
Not all all	Faint	Very Low	Low	Moderate	High	Very High	Momentous	Exceptional

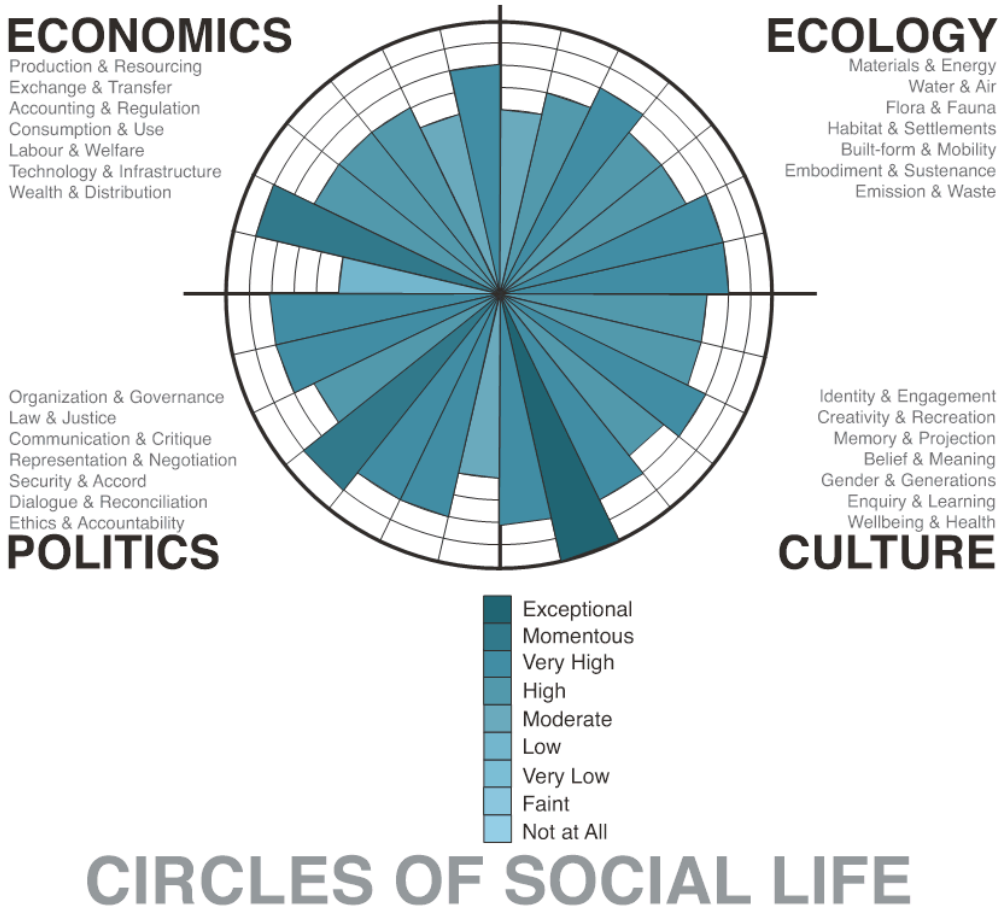
Based on this scale and in response to the indicators and variables as laid out in Table 2, we have done a rapid assessment of the level of connectivity of the City of Hobart. This thought-experiment produced the graphic Figure 2. In making this illustrative assessment we were concerned to set the levels comparatively using the five current gateway cities as benchmarks in relation to other major cities across the globe as points of reference.

Hobart's highest score of '9: Exceptional' is based on the city's contribution to enquiry and learning about Antarctica. It has the most complete knowledge infrastructure of any gateway city, hosting the largest critical mass of Antarctic scientists and scholars anywhere in the world with world-class research and education institutions. This is the result of a decision made in 1981 to move the Australian Antarctic Program to Hobart from Canberra, which in hindsight marked an economic and cultural turning point for both the city and the state of Tasmania.

Politically, for example, Hobart is the stage for international discussions about the management of the Southern Ocean thanks to the annual meeting of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) which is held in the city each October. CCAMLR meetings have also become a focal point for political attention from environmental activist groups.

In relation to economics, the scores are based on the way in which the Antarctic sector provides significant employment and economic benefits to the city (as of 2017, over 750 people employed directly, and around 430 indirectly (State of Tasmania, 2017: 3). The Tasmanian Polar Network, a co-ordinated group of business, scientific, educational and government representatives, was established in 1999 to foster commercial and scientific activity in relation to the Antarctic sector. Hobart's southern connections are also political (the city hosts two secretariats who support and administer legal instruments within the Antarctic Treaty System); cultural (Hobart holds a biennial Antarctic festival, as well as permanent museum exhibits and archival holdings); and research-based (with numerous Antarctic researchers located in the Institute of Marine and Antarctic Studies and other parts of the University of Tasmania, as well as the Commonwealth Scientific and Industrial Research Organization [CSIRO] and the AAD).

Figure 2. A Connectivity Profile of the City of Hobart, 2021.



All in all, this makes Hobart one the most Antarctic-connected cities in the world.

Table 2. Subdomain-level Questions and Indicators

<b>Ecology</b>				
To what extent do the city's connections with the Antarctic enhance the ecological flourishing of the whole Antarctic region?				
The ecological domain is defined as the practices, discourses, and material expressions that occur across the intersection between the social and the natural realms, focusing on the important dimension of human engagement with and within nature, ranging from the built-environment to the wilderness.				
Subdomains	Questions	Indicators	Rationale for the Selection of the Indicators	Variables for using in the annotations explaining the connectivity score
1. Materials & Energy	To what extent does the city contribute to providing materials and energy necessary for sustainable engagement in the Antarctic and Sub-Antarctic?	The amount of renewably generated energy provided for Antarctica by infrastructure provided and/or serviced by technicians travelling from or through the city.	National Antarctic Programs seek to harness natural energies to fuel their Antarctic research stations and bases therefore reducing dependency on fossil fuels. Implementation of alternative energy systems provides a positive connection by reducing (i) emission of greenhouse gases; (ii) risks of oil spills; (iii) costs of power generation; and increase efficiency of research station operations.	(Calculated in <i>mega joules</i> )
2. Water & Air	How much does the city contribute to monitoring and modelling the sustainability of the Antarctic and the Southern Ocean?	The level of monitoring and modelling of climate change and weather patterns in the Antarctic and the Southern Ocean. (NB. See Variable 1.2 for the quantitative index in domain of ecology.)	Monitoring the weather patterns of the Antarctic is of immense strategic importance to inform policy on global climate change. It represents a major aspect of the ecological connectivity between cities and the Antarctic. The Southern Ocean stores more anthropogenic heat and carbon dioxide than any other latitude band on Earth; therefore, it plays a key role in slowing the rate of climate change. The Southern Ocean is also home to a unique network of ocean currents—including the Antarctic Circumpolar Current—which transfer heat and carbon dioxide from the planet's surface to the ocean depths (Australian Strategic Policy Institute, 2015).  Recent studies have shown that the Southern Ocean is warming to a greater depth and at a faster rate than the global ocean average. The chemical composition of this body of water is also rapidly changing (higher acidity levels; lower oxygen and salinity levels). In the face of	<i>Level</i> = Calculated by the number of variables monitored and modelled by scientists travelling to the Southern Ocean and the Antarctic.  <i>Constraint</i> = This only includes monitoring and modelling programs run through the city.

			these changes, the capacity of the Southern Ocean to continue to slow down the rate of climate change is unknown (Antarctic Climate & Ecosystems Cooperative Research Centre, n.d.). Monitoring the Antarctic and the Southern Ocean's weather patterns is therefore crucial to predict and mitigate climate change effects.	
3. Flora & Fauna	To what extent do migratory birds, fish, seals, and whales that spend time in Antarctica or the Southern Ocean move regularly through the region associated with the city?	The extent to which migratory birds, fish, seals and whales, move between Antarctica and the region in question.	<p>Engagement with the flora and fauna that traverse the Antarctic and Sub-Antarctic is an important aspect of ecological connectivity. One of the key issues concerned choosing the indicative species for measuring the connection. The choice involved balancing global and regional movement.</p> <p>We also considered the geographical spread of species of flora and fauna that have their main home in the Southern Ocean around Antarctica, including paleo-flora (in relation the shifting plates of Gondwana) such as the Southern Fulmar (South America, South Africa, Australia, New Zealand), the soft tree fern (<i>Dicksonia antarctica</i>) (Australia), the Antarctic hair grass (<i>Deschampsia antarctica</i>) (South America). However, it was difficult to find a list that was relevant globally and regionally. Secondly, this variable was considered a legacy of past connectivity rather than contemporary and active engagement. Flora and Fauna dispersal is also critical in the sub-Antarctic where thousands of kilometres of open ocean separate small landmasses. Several key dispersal mechanisms operate in the region including wind, ocean currents, transport with mobile animals (zoochory) and humans (anthropogenic transport) (Moon et al 2017). These mechanisms are being altered by changing environmental conditions and human activity.</p>	<p>This could, for example, be annotated using the following species:</p> <ol style="list-style-type: none"> <li>1. Antarctic Tern (global—to the Arctic)</li> <li>2. Wandering Albatross (southern global)</li> <li>3. Antipodean Albatross <i>Diomedea antipodensis</i> (southern hemisphere)</li> <li>4. Short-Tailed Shearwater or Mutton Bird, <i>Puffinus tenuirostris</i> (Australia, Pacific to the Bering Strait)</li> <li>5. Sooty Shearwater <i>Ardenna grisea</i> (Southern Ocean as well as Atlantic and Pacific Oceans)</li> <li>6. Blue Petrel <i>Halobaena caerulea</i> (southern hemisphere)</li> <li>7. Southern Right whale (southern global)</li> <li>8. South Polar Skua <i>Catharacta maccormicki</i> (from Australia to Greenland and the Aleutian Islands)</li> <li>9. Kelp Gull, <i>Larus dominicanus</i> (sub-Antarctic to subtropical southern hemisphere)</li> </ol> <p>With one point (out of nine points) allocated for each of the nine species.</p>



4. Habitat & Settlements	To what extent does the city contribute positively to supporting the ecological sustainability of settlements in Antarctica?	The level of material support for the biosecurity of the Antarctic.  (NB. Variable 1.1 for the domain.)	Control of invasive species into the Antarctic is an important part of maintaining the ecological sustainability of the continent. Part of this indicator includes the level of investment through the city in programs to manage invasive species in the Antarctic. See for example, ANTENZ Biosecurity and non-native species policy: <a href="https://www.antarcticanz.govt.nz/assets/Uploads/2013-Corporate-Policy-ENVIR-02-Biosecurity.pdf">https://www.antarcticanz.govt.nz/assets/Uploads/2013-Corporate-Policy-ENVIR-02-Biosecurity.pdf</a>	<i>Material support</i> = Percentage calculated as a proportion of the overall annual budget of national/federal and local government authorities spent on biosecurity programs in managing material flows in and out of Antarctica.  <i>Managing material flows</i> = 1. border control on goods; 2. waste-management and pollution-control programs in Antarctica; and 3. surveillance and interception programs of illegal fishing in the Southern Ocean.  <i>Constraint</i> = Programs run through the city.
5. Built-Form & Mobility	To what extent does the city support transport connectivity to the Antarctic?	The number of ships and flights a year travelling to Antarctica from the city or passing through the city (not including those carrying tourists as their predominant passengers).	Cities and National Antarctic programs based in these cities provide transport and logistics in support of scientific research, Antarctic field operations, and search and rescue operations.	<i>Measurement</i> = A simple counting of numbers of 1. ships; and 2. flights that land in Antarctica  <i>Constraint</i> = not including those carrying tourists as their predominant passengers. The issue here is, firstly, that tourists do not contribute significantly or directly to the ecological flourishing of the Antarctic. In fact, there might be an optimal upper level of tourist visitations after which the sustainability measure and therefore positive connectedness goes dramatically down. Secondly, tourism has been counted for its economic benefits (see below).
6. Embodiment & Sustenance	To what extent does the city support the sustainable movement of people to and from Antarctica?	The number of visitors to Antarctica and the average time that visitors spend on the continent, having departing from the city.	Because of the fragility of the continent, the embodied presence of visitors needs to be carefully monitored. Some visitors, such as scientific researchers and the support staff that make their time there viable contribute positively to the long-term ecological sustainability of the continent. However, at a certain point increasing the number of such individuals has a diminishing benefit.	<i>Measurement</i> = Number of persons (and person-days) spent in Antarctica  <i>Constraint</i> = Not including tourists (because tourists do not add to the ecological sustainability of the continent and region).  <i>Data source</i> = Customs. Scientific programs. The Australian Antarctic Data Centre, for example, contains info on the number of person-days in each station (no info about departure point)

7. Emission & Waste	To what extent does the city contribute to processing waste from Antarctic settlements?	The amount of waste from Antarctica treated in a sustainable way by the city.	Effective waste-management practices are vital to national efforts to protect the Antarctic environment. Waste handling of non-recyclable wastes are returned to countries for appropriate disposal via gateway cities.	<i>'Treated in a sustainable way'</i> = having a recycling and re-use program in a waste-management program.  <i>Measurement</i> = tonnage in relation to the waste produced by the national program. This means that a city can score higher if they process the waste of other national programs.
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### Economics

#### How sustainable is engagement with the Antarctic to the economic prosperity of the city?

The economic domain is defined as the practices, discourses, and material expressions associated with the production, use, and management of resources.

Subdomains	Questions	Indicators	Rationale for the Selection of the Indicators	Variables
1. Production & Resources	How sustainable is engagement with the Antarctic for productive economic activity in the city?	The level of income for the city from Antarctic-related activities (not including tourism).  (NB. Variable 2.2. See above.)	For some cities, the Antarctic sector is crucial in fostering an innovative economy that draws on a city's comparative advantages as a gateway to Antarctica and as a world leader in Antarctic and Southern Ocean scientific research. For others, Antarctica is irrelevant to their economy.	<i>Level</i> = Percentage calculated as a proportion of the overall annual income of the city—i.e., gross metropolitan product (the value of all final goods and services produced within a metropolitan statistical area during a year).  <i>Constraint</i> = This figure includes the economic activities such as the goods and services provided by businesses in the city for Antarctic-related engagement, including scientific research activities and logistics. It does not include tourism, which is covered immediately below.
2. Exchange & Transfer	How economically vital to the city is the Antarctic tourist industry?	The level of income for the city from Antarctic tourism, both within the city, and travelling through the city to the Antarctic region.	Financial income to the city from tourists coming to the city for Antarctic-related activities is an important source of revenue for some cities. It is a form of connectivity which can be important for a city, and has the further consequence of facilitating global awareness of the continent.	<i>Tourist</i> = person travelling to Antarctica who uses the city as a point of departure, or comes to the city for an Antarctic event or experience.



3. Accounting & Regulation	How involved is the city in regulating activities directly concerned with Antarctic engagement?	The number of public officials in the city whose position descriptions include a role in regulating economic activities either occurring in the Antarctic or related to engagement with the Antarctic.	Antarctica-related tasks and positions are a crucial part of the regional public and policy-making work-scape.	<p>The overall percentage of time by public officials in the city spent on Antarctic-related tasks (e.g., preparing the season opening logistically).</p> <p>Constraints = not including events that are primarily tourist-oriented.</p>
4. Consumption & Use	To what extent do Antarctic-related events contribute to the economic sustainability of the city?	The financial value of Antarctic-related events in the city returned to the economy from visitors to the city and locals who attend these events.	Antarctic events can for some cities create financial revenue and benefits for the economy as well as enhance the capacity of human capital in the region through experiential education.	As above for the subdomain of 'exchange and transfer', this includes both tourists coming to the city on the way to Antarctica and those coming to the city as tourists for Antarctic related reasons, but it additionally includes the economic engagement of locals.
5. Labour & Welfare	How many people in the city are employed in jobs related to the Antarctic?	The percentage of people in the city employed in jobs related to the Antarctic. (NB. Variable 2.1. See above.)	Providing logistical support and conducting science forms a crucial part of the regional workscape.	<p><i>Jobs related to the Antarctic</i> = Those positions that are substantially involved with Antarctic-related activities, including maintenance of vessels, provision of training, servicing of bases, and scientific research, as well as public engagement and administration.</p> <p><i>Substantially</i> = A significant proportion (i.e. more than a quarter) of the time of that position is devoted to Antarctic activities.</p> <p><i>Percentage</i> = Calculated as a proportion of all jobs in the city.</p> <p><i>Constraint</i> = This does not include those persons working in the tourist industry.</p>

6. Technology & Infrastructure	How important is the city for providing technology and infrastructure to the Antarctic region?	The financial value of technology and infrastructure used in the Antarctic (expressed as USD-equivalent) that has been, invented, developed or manufactured in the city.	Technological and infrastructure investments related to Antarctic logistics are significant. Often, very specific containment facilities have to be provided for Antarctic samples; docking spaces have to be made available in ports to support Antarctic ship-based operations, and air-infrastructure and runways need to be maintain, all requiring significant investment by the city.	Percentage of the city's annual budget invested into Antarctic support infrastructure and technology.
7. Wealth & Distribution	To what extent is wealth generated by Antarctic-related activities used for the social good of all people in the city?	—The percentage of financial value accruing from Antarctic-related activities used for the social good of all people in the city as opposed to personal enrichment.	Wealth generated from Antarctica-related activities enriches public life in gateway city, creates work, contributes to a diverse and prosperous city.	The amount of money invested in the public infrastructure of the city as a proportion of the estimated financial value accruing from Antarctic-related activities.

### Politics

#### How important is the Antarctic to the political engagement of the city?

Politics is defined as the practices, discourses, and material expressions associated with basic issues of social power, such as organization, authorization, and legitimation.

Subdomains	Questions	Indicators	Rationale for the Selection of the Indicators	Variables
1. Organization & Governance	How politically engaged is the city in governance issues relating to Antarctica?	The proportion of government budget allocated to employing staff supporting Antarctic-related programs in the city.  (NB. Variable 3.2. See above.)	Different cities take a more or less active and engaged stance in shaping and influencing Antarctica's future. Time and money are being set aside for the participation in the governance of Antarctica and the Southern Ocean, e.g., through representatives from the city or organisations based in the city, at Antarctic Treaty Consultative Meetings or CCAMLR meetings.	<i>Government</i> = national or federal-level government.  <i>Proportion</i> = percentage of total government budget devoted to employing Antarctic-related administrative staff in that city or through that city into Antarctica. This does not include scientists and technicians.)

2. Law & Justice	To what extent is the city engaged in issues of law and justice related to the Antarctic region?	The number of jurists, including lawyers, judges and legal scholars, working in the city, whose brief includes Antarctic-related issues.	Different cities have variable levels of interest and stake in Antarctic and Southern Ocean jurisprudence. Some cities offer forensic services where required, provide legal advice and support on Antarctic matters and educate young lawyers on Antarctic matters.	Number of times legal assistance is provided on Antarctic matters or the city is called upon to assist with forensic or legal investigations.
3. Communication & Critique	How prominent are Antarctic-related issues in the media of the city?	The number of political reports and opinion pieces in local newspapers per annum that refer to Antarctica and the Antarctic region.	Antarctica features variably in discussion via local media, but this is an important element of connectivity, informing different constituencies about developments occurring in the region.	(Calculated as a raw number.)
4. Representation & Negotiation	To what extent does your city act as a place for the negotiation or representation with other organizations and polities working in Antarctica?	The number of national Antarctic programs that are run through the city.  (NB. Variable 3.1. See above)	Antarctica fosters important diplomatic, economic, and political connections on an international scale. Different cities are variably part of this process.	<p><i>Weighting</i> = One unit for each of the nation-states that run national programs in Antarctica, including the country in which the city is located, divided by the relative size of the program measured by numbers of scientists, logistical personnel and administrators: details of weighting of each national program will be provided on a scale of 1 to 9.</p> <p><i>Run through the city</i> = That is, the program either uses the city as a gateway for travelling to Antarctica or is located in the city as its home-base for administering the national Antarctic program.</p> <p><i>Government</i> = national or federal-level government.</p> <p><i>Proportion</i> = percentage of total government budget devoted to the Antarctic that is allocated to the city to run programs in that city.</p>

5. Security & Accord	To what extent does the city contribute to questions of security that relate to the Antarctic?	The active involvement of the city in dealing with accidents, ships in distress, and alike, in the Southern Ocean.	The city plays an important role in making operations in Antarctica safe. It offers assistance in search-and-rescue coordination and provides platforms and infrastructure towards SAR.	<i>Calculation</i> = 1. The number of SAR ('Search and Rescue') responses using the city's infrastructure (port, airport, ships, etc.); 2. The total budget spent annually in/by the city on SAR activities. 3. The number of fisheries enforcement responses using the city's port.
6. Dialogue & Reconciliation	To what extent does the city support or host dialogical forums that concern the Antarctic?	The number of forums held in the city or supported directly by the city concerning the Antarctic—including conferences, high-level meetings and workshops—which include the active participation of people from outside the city.	The city provides a crucial platform that supports critical discussion and engagement with issues concerning Antarctica.	(Calculated as a raw number, with the requirement that at least 10 per cent of those involved come from outside the city.)
7. Ethics & Accountability	How ethical are the city's transactions concerning the Antarctic?	The extent to which ethics approvals and accountability mechanisms are processed by agencies based in the city.	The city facilitates the transparency and clarity of the city's and its inhabitants' transactions with regard to the Antarctic. Mechanisms for accountability and ethical conduct (e.g. for research) are in place.	Calculated = 1. The number of ethics approvals processed by agencies based in the city 2. The number of Environmental Impact Assessments issued by agencies operating in the city.

<b>Culture</b>				
To what extent is the Antarctic region positively embedded in the cultural life of the city?				
Subdomain	Questions	Indicators	Rationale for the Selection of the Indicators	Variables
1. Identity & Engagement	To what extent does the city identify itself as connected to Antarctica?	The level of engagement Antarctic-related events held in the city.  (NB. Variable 4.2. See above)	Events, when well-managed, engaged and participatory are considered positive for cultural flourishing. This indicator is intended to point to something different from similar indicators such as the number of organizations regularly involved in arts and cultural events related to the Antarctic. We also considered other indicators  — the proportion of the city's population who are regularly involved in public cultural events related to the Antarctic either as a creator or consumer, but this was deemed too hard to measure in a consistent comparative way.  — the number of organizations regularly involved in arts and cultural events related to the Antarctic.	<i>Events</i> = Defined as discrete activities such as exhibitions, plays, readings, receptions, etc. Hence, a festival can include a series of events, but a designated series of performances of the same play is one event.  <i>Intensity</i> = Measured as a proportion of the total of cultural events in the city.
2. Creativity & Recreation	How much does the Antarctic figure in the creative expression of the city?	The number of creative works (including novels, plays, paintings, songs, music scores, etc.) written over the past 30 years by persons living the city that have the Antarctic as a setting for the content of the work.	Antarctica is an important element of the city's cultural and creative scene.  Other possible indicators included the number of cultural and arts organizations in city that occasionally feature Antarctic themes in their work.	Number = a simple accounting exercise using six categories: 1. novels, 2. plays, 3. paintings, 4. plays, 5. songs, 6. music scores. <sup>17</sup>  <i>Constraint 1</i> = a song and a music score with the same tune cannot be counted twice.  <i>Constraint 2</i> = Paintings only include those hung in a public gallery or building and institutionally registered.
3. Memory & Projection	To what extent does the city remember and preserve the history of its relation to the Antarctic?	The number of public memorials and heritage sites in the city that relate to the Antarctic.  (NB. Variable 4.1. See above.)	Antarctica-related (infrastructure?) plays an important part in the city's public representation, expression, and display. We also considered 'the extent of archives about the Antarctic held in the city' as an indicator in this subdomain. This is	<i>Site</i> = a building or place marked by a plaque or other public signifier of connection to the Antarctic.  <i>Constraint</i> = This number only includes sites that are named as related to Antarctica and are listed on an official or unofficial city register. A site cannot be

<sup>17</sup> This, like all the variables, is a proposition only. It treats these arts forms as proxies for all art forms, but the art forms chosen could be changed.

			of the number of artefacts, the number of logical data records and the linear metres of written or printed records.	counted twice: for example, a statue of an Antarctic explorer immediately outside an Antarctic-related building cannot be counted as well as the building; a monument cannot be counted as well as the park that it is in.
4. Beliefs & Ideas	How important is the Antarctic in the everyday imagination of people in the city?	—The number of times that the words 'Antarctic', 'Antarctica', or 'Antartida' appear in tweets sent from persons living in the city.	Antarctica features prominently in thought expressions and opinion exchanges of citizens.	Blogs, individual websites, social media, traditional media
5. Gender & Generations	To what extent are the youth of the city involved in cultural activities associated with Antarctica.	The number of children and youth participating in Antarctic related-activities such as science fairs, school events, and art competitions.	Having an Antarctic connection is crucial to youth and children getting involved in, and caring about, worldwide ecological and political issues, also related to Antarctica?	<i>Data source</i> = local education departments or authorities.
6. Enquiry & Learning	How active is the research being done in the city on Antarctica or directly related themes?	The number of applications for research funding on Antarctic related projects.	The Antarctic connection fosters an active and engaged scientific community based in the city.	Research funding given to institutions in the city for Antarctic research; Bibliometric data on Antarctic papers published by individuals based in the city.
7. Wellbeing & Health	To what extent does the city's connection to the Antarctic contribute to its citizen's sense of wellbeing?	The percentage of people in the city who agree with the statement, 'People in my city can influence the cultural meanings that shape our relationship to Antarctica.'	Engagement with Antarctica provides citizens with a sense of pride and influence.  From the <i>Social Life</i> questionnaire, calculated as a percentage of total urban population responding to this question asked in a random survey.	





Liam Magee at an Antarctic Cities meeting,  
Institute for Marine and Antarctic Studies.

## Appendix 1. Notes for Researchers

### Orientations

The Antarctic Connectivity Index (ACI) is a pioneering self-assessment tool designed to help gateway cities understand how they can enhance and improve connectivity with the Antarctic region. The aim of the ACI is to assist cities to accomplish their connectivity goals with Antarctica via four interrelated orientations:

- First, the Index is a tool that allows cities to produce baseline measurements of their current connectivity patterns with Antarctica, which should then be subsequently monitored and assessed over time.
- Second, the Index serves as a public platform upon which awareness raising exercises in relation to Antarctic sustainability can be launched.
- Third, the Index acts as portal among various government agencies, NGOs and the public, encouraging better communication, stronger networks and public engagement.
- Fourth, the Index serves as a means of awareness raising, allowing the gateway cities to promote public engagement and stewardship, and mobilize their citizenry in efforts to foster multiple ways of Antarctic connectivity and custodianship.

The index was built around a number of considerations that were crucial to its final form.

1. *The index is global in its scope, and measures the degree of connectivity that cities have to the Antarctic.*

—*Antarctic*: The concept of the *Antarctic* refers to Antarctica and the Southern Ocean.

—*Connectivity*: The concept of *connectivity* is intended to cover both objective and subjective connections, material and intangible connections.

—*Global*: Here the term *global* denotes the spatial scope of the index. The index will be used in the first instance to showcase the degree and depth of connection of five 'gateway cities' (and what might become *custodial cities*) to Antarctica and the Antarctic region, but it has been developed so that any city across the globe can use the index to compare themselves in terms of that connectivity.

2. *The index measures the positive connectivity of cities to Antarctica.*

In this case, we are taking positive connection to mean all connectivity that expresses or enhances the flourishing of the Antarctic as a zone of human engagement with other-species life and environmental phenomena (while at the same time shaping the sustainability of the cities). In turn, the concept of 'flourishing' refers to the vitality, relationality, productivity, and sustainability<sup>18</sup> of the human and non-human world, including the ecological systems of the Antarctic (see Appendix 1). The activities of cities across the world and the future of Antarctica are already entangled. We are trying to work out how this is positive. (See below on Page 6 for the *General Question* that we have chosen to represent this orientation.)

3. *The index is holistic and integrated.*

Here 'holistic' means that we are treating connectivity very broadly across four domains of social life: ecological, economic, political and cultural. It also means that the relation between these different domains is made apparent in figuratively representing the degree of connectivity.

4. *The index is theoretically grounded.*

The index is based upon the domain-structure of the *Circles of Sustainability* approach (see Appendix 2).<sup>19</sup> This approach provides a means of deciding upon issues that are systematically related, are comprehensive in their coverage, and can be readily understood. The approach works across four domains of social life—ecological, economic, political and cultural—each with seven subdomains. In each of these subdomains, a key question or questions will be asked that expresses a particular issue in relation to the many aspects of connectivity. These questions will in turn be linked to a set of possible indicators of how a city relates to the Antarctic.

5. *The index does not abstract the assessment into a single composite number representing the overall degree of connectivity.*

The index is not being set up to derive a single hierarchical league table (though it will allow hierarchical lists by domain—ecological, economic, political and cultural. There are many reasons for this.

- Firstly, league tables tend to distort relative relations.
- Secondly, cities that are not at the top of league tables tend to have little interest in the comparisons, and those at the bottom resent the index without it making much difference to their policy.
- Thirdly, because practices of connectivity are replete with countermanding and contradictory outcomes—for example, 'higher tourist numbers' is positive for economic engagement, but negative for ecological connectivity—we need to separate out domains that have systematic tendencies for such tension.

<sup>18</sup> These terms are themselves conceptually charged. See P. James, 'Creating Capacities for Human Flourishing: An Alternative Approach to Human Development', in Paola Spinozzi and Mazzanti Massimiliano, eds, *Cultures of Sustainability and Wellbeing*, Routledge, London, 2018.

<sup>19</sup> The approach is based on P. James, with L. Magee, A. Scerri, and M.B. Steger, *Urban Sustainability in Theory and Practice: Circles of Sustainability*, Routledge, London, 2015; and L. Magee, *Interwoven Cities*, Palgrave Macmillan, Basingstoke, 2016. See Appendix 2.)



6. The index is constructed across two levels: the domain level and the subdomain level.

The most general level of the index is based on choosing an (aggregate) indicator for each of the domains, one that acts as a proxy for the whole domain. The subdomain level of the index depends upon choosing an indicator or group of indicators for each subdomain.

7. The ACI uses an approach that comprises 4 Top-Level Indicators and 28 Sub-Level Indicators and is constructed with a nine-point scale describing different levels of connectivity:

1. Not at all
2. Faint
3. Very low
4. Low
5. Moderate
6. High
7. Very high
8. Momentous
9. Exceptional

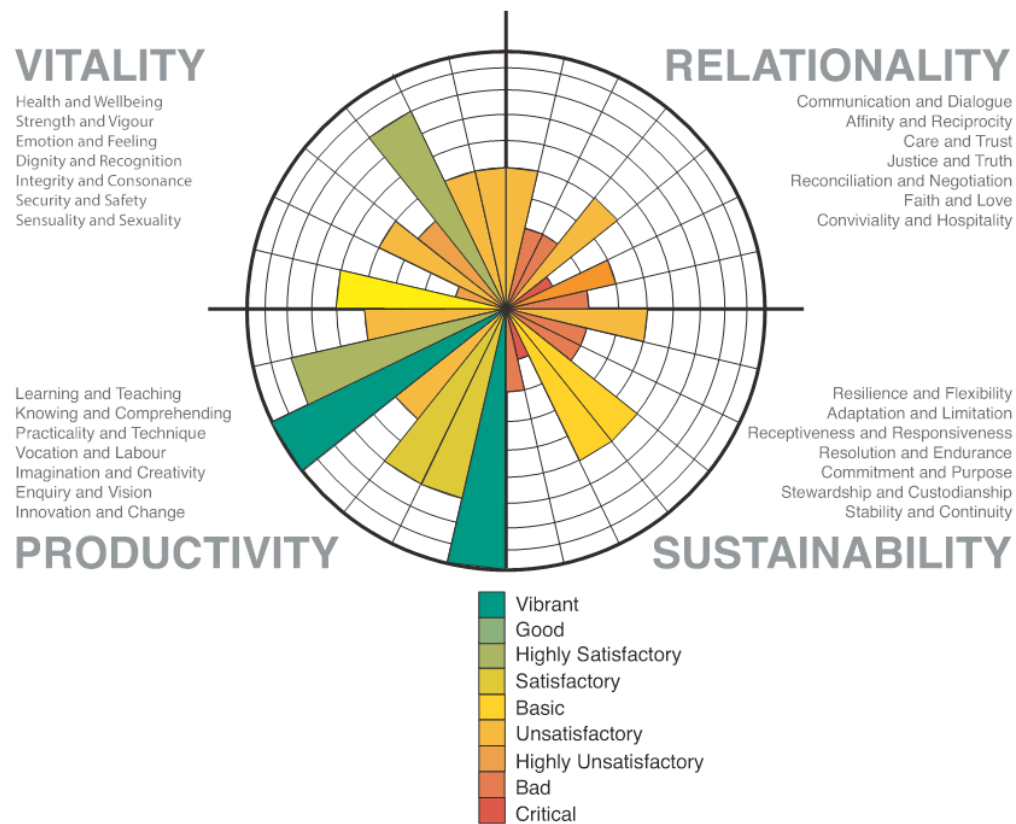
#### **Practical Considerations**

- It is important to choose indicators that are *already* readily availability, and are publicly accessible across at least the three core cities of the project, plus the gateway cities of Cape Town and Ushuaia. (\*The core cities need to be willing to collect at least the domain-level data for this index on an annual basis into the future). The team behind the Antarctic Connectivity Index do not have the capacity to collect new connectivity data in a systematic and ongoing way without a partnership with the core cities.
- At the domain-level, each of the domains needs to have a minimum number of indicators that can act as a proxy for the domain. If the number of indicators is more than one, the indicators will be aggregated into a single figure. The basis of such as aggregation will be calculated on precise weightings between different indicators according to importance to give a single composite figure.
- At the subdomain level, each of the subdomains needs to have at least one question and one indicator, but it might need more questions and indicators to give a full coverage of the complexity of that subdomain. Ideally, if it is more than one it would exactly seven questions and seven potential indicators (organized at the sub-subdomain level) to cover different facets of connectivity.
- The questions and indicators in each domain and subdomain need to operate adequately as 'global' proxies for the issues covered by that domain or subdomain. That is, any chosen indicator needs to be applicable across different cities. For example, we would not choose a plant species such as Antarctic hair grass (*Deschampsia antarctica*) that only occurs in one continent as the basis for ascertaining connection by paleo-flora.

## Appendix 2. Capacities for Human Flourishing

What capacities make for conditions of human flourishing? Posing this question suggests that if we can develop a working answer then we have the foundation for answering all those other more narrowly framed or precisely oriented questions such as what makes for good connectivity to Antarctica. Put the other way around, if we want to know the answers to practical and policy issues such as what makes for good connectivity or what makes for a liveable city, we need to go back to the basics concerning human flourishing in general. This move will not give us one-to-one or complete answers concerning what should be done—which in any case would partly depend upon differences in time and across place. But at least it will slow down the current tendency towards falsely connected fashion—statements about what constitutes good ways of doing things: 'more connectivity is good', 'good connectivity is smart', 'smart cities are better cities', 'better cities require fast connectivity', 'connectivity brings growth', and 'economic growth is the only way to increase the quality of life'. Figure 3 below shows how this works graphically based on a though experiment judging the global capacity for contributing to a flourishing world.

Figure 3. The Capacities for Human Flourishing



## CIRCLES OF SOCIAL CAPACITIES

Appendix 3. Circles of Social Life Domain Structure

Figure 4. The Circles of Social Life

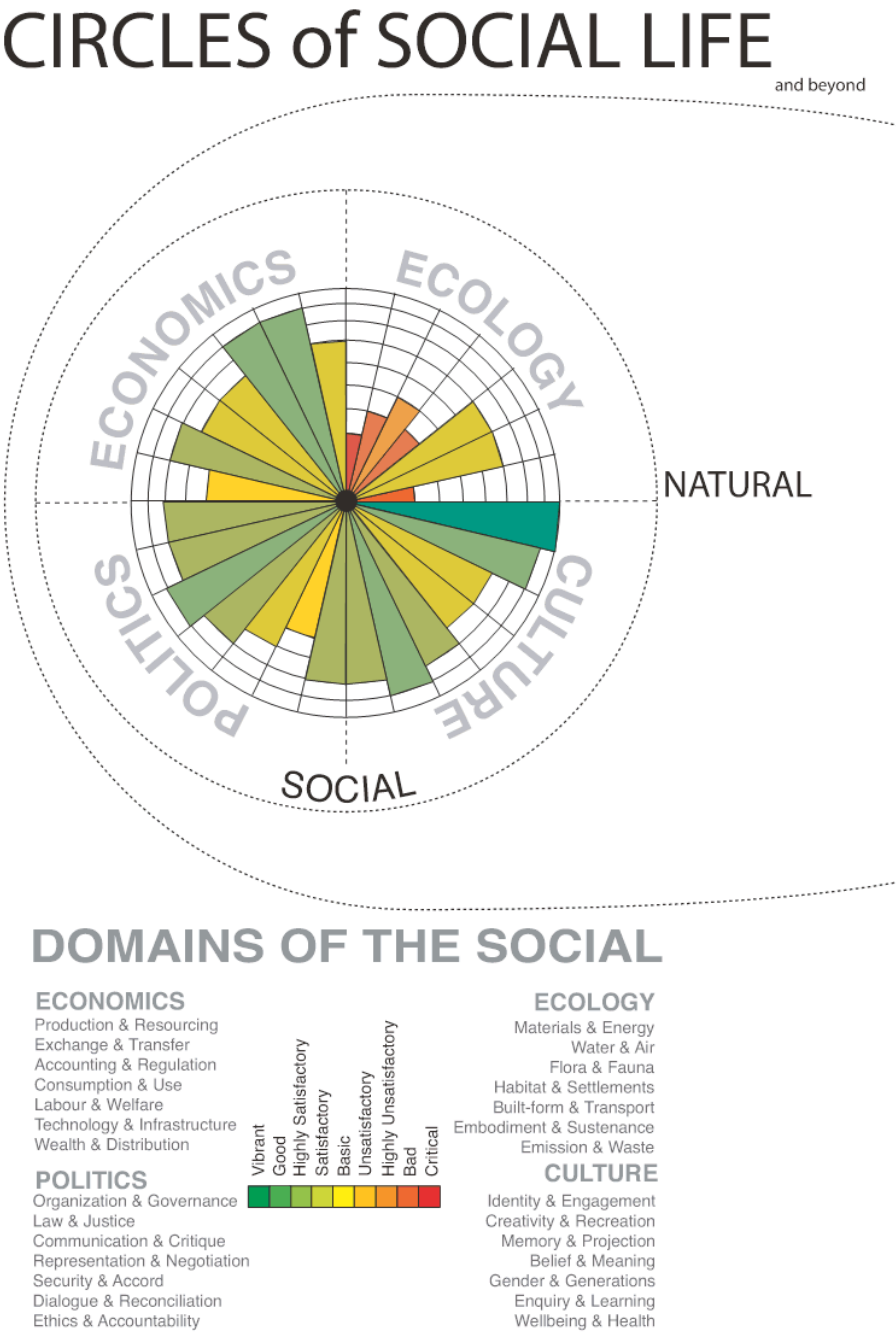


Table 3 below elaborates on the domain structure of variables that sit behind the Antarctic Connectivity Index, as represented graphically in Figure 4. All of the these domains, perspectives (or subdomains) and aspects (or sub-subdomains) have careful definitions, though these have been left out in the interest of saving space.

Table 3. Summary of the Structure of the Urban Profile Process

Domains	Perspectives	Aspects
<b>Ecology</b>  The ecological domain is defined as the practices, discourses, and material expressions that occur across the intersection between the social and the natural realms, focussing on the important dimension of human engagement with and within nature, ranging from the built-environment to the 'wilderness'.	1. Materials and Energy	1. Availability and Abundance
		2. Soil and Fertility
		3. Minerals and Metals
		4. Electricity and Gas
		5. Petroleum and Biofuels
		6. Renewables and Recyclables
		7. Monitoring and Reflection
	2. Water and Air	1. Vitality and Viability
		2. Water Quality and Potability
		3. Air Quality and Respiration
		4. Climate and Temperature
		5. Greenhouse Gases and Carbon
		6. Adaptation and Mitigation Processes
		7. Monitoring and Reflection
	3. Flora and Fauna	1. Complexity and Resilience
		2. Biodiversity and Ecosystem Diversity
		3. Plants and Insects
		4. Trees and Shrubs
		5. Wild Animals and Birds
		6. Domestic Animals and Species Relations
		7. Monitoring and Reflection
	4. Habitat and Settlements	1. Topography and Liveability
		2. Original Habitat and Native Vegetation
		3. Parklands and Reserves
		4. Land-use and Building
		5. Abode and Housing
		6. Maintenance and Retrofitting
		7. Monitoring and Reflection
	5. Built-Form and Mobility	1. Orientation and Spread
		2. Proximity and Access
		3. Mass Transit and Public Transport
		4. Motorized Transport and Roads
		5. Non-motorized Transport and Walking Paths
		6. Seaports and Airports
		7. Monitoring and Reflection
	6. Embodiment and Sustenance	1. Physical Health and Vitality
		2. Reproduction and Mortality
		3. Exercise and Fitness

		4. Hygiene and Diet
		5. Nutrition and Nourishment
		6. Agriculture and Husbandry
		7. Monitoring and Evaluation
	7. Emission and Waste	1. Pollution and Contamination
		2. Hard-waste and Rubbish
		3. Sewerage and Sanitation
		4. Drainage and Effluence
		5. Processing and Composting
		6. Recycling and Re-use
		7. Monitoring and Evaluation

<b>Economics</b> Defined as the practices, discourses, and material expressions associated with the production, use, and management of resources.	1. Production and Resourcing	1. Prosperity and Resilience
		2. Manufacture and Fabrication
		3. Extraction and Harvesting
		4. Art and Craft
		5. Design and Innovation
		6. Human and Physical Resources
		7. Monitoring and Reflection
	2. Exchange and Transfer	1. Reciprocity and Mutuality
		2. Goods and Services
		3. Finance and Taxes
		4. Trade and Tourism
		5. Aid and Remittances
		6. Debt and Liability
		7. Monitoring and Reflection
	3. Accounting and Regulation	1. Transparency and Fairness
		2. Finance and Money
		3. Goods and Services
		4. Land and Property
		5. Labour and Employment
		6. Taxes and Levies
		7. Monitoring and Reflection
	4. Consumption and Use	1. Appropriate Use and Re-use
		2. Food and Drink
		3. Goods and Services
		4. Water and Electricity
		5. Petroleum and Metals
		6. Promotion and Dissemination
		7. Monitoring and Reflection
	5. Labour and Welfare	1. Livelihoods and Work
		2. Connection and Vocation
		3. Participation and Equity
		4. Capacity and Productivity
		5. Health and Safety

		6. Care and Support
		7. Monitoring and Reflection
	6. Technology and Infrastructure	1. Appropriateness and Robustness
		2. Communications and Information
		3. Transport and Movement
		4. Construction and Building
		5. Education and Training
		6. Medicine and Health Treatment
		7. Monitoring and Reflection
	7. Wealth and Distribution	1. Accumulation and Mobilization
		2. Social Wealth and Heritage
		3. Wages and Income
		4. Housing and Subsistence
		5. Equity and Inclusion
		6. Re-distribution and Apportionment
		7. Monitoring and Reflection
<b>Politics</b> Defined as the practices, discourses, and material expressions associated with basic issues of social power, such as organization, authorization and, legitimation.	1. Organization and Governance	1. Legitimacy and Respect
		2. Leadership and Agency
		3. Planning and Vision
		4. Administration and Bureaucracy
		5. Authority and Sovereignty
		6. Transparency and Clarity
		7. Monitoring and Reflection
	2. Law and Justice	1. Rights and Rules
		2. Order and Civility
		3. Obligations and Responsibilities
		4. Impartiality and Equality
		5. Fairness and Prudence
		6. Judgement and Penalty
		7. Monitoring and Reflection
	3. Communication and Critique	1. Interchange and Expression
		2. News and Information
		3. Accessibility and Openness
		4. Opinion and Analysis
		5. Dissent and Protest
		6. Privacy and Respect
		7. Monitoring and Reflection
	4. Representation and Negotiation	1. Agency and Advocacy
		2. Participation and Inclusion
		3. Democracy and Liberty
		4. Access and Consultation
		5. Civility and Comity
		6. Contestation and Standing
		7. Monitoring and Reflection

	5. Security and Accord	1. Human Security and Defence
		2. Safety and Support
		3. Personal and Domestic Security
		4. Protection and Shelter
		5. Refuge and Sanctuary
		6. Insurance and Assurance
		7. Monitoring and Reflection
	6. Dialogue and Reconciliation	1. Process and Recognition
		2. Truth and Verity
		3. Mediation and Intercession
		4. Trust and Faith
		5. Remembrance and Redemption
		6. Reception and Hospitality
		7. Monitoring and Evaluation
	7. Ethics and Accountability	1. Principles and Protocols
		2. Obligation and Responsibility
		3. Integrity and Virtue
		4. Observance and Visibility
		5. Prescription and Contention
		6. Acquittal and Consequence
		7. Monitoring and Reflection

<b>Culture</b> Defined as the practices, discourses, and material expressions, which, over time, express continuities and discontinuities of social meaning.	1. Identity and Engagement	1. Diversity and Difference
		2. Belonging and Community
		3. Ethnicity and Language
		4. Religion and Faith
		5. Friendship and Affinity
		6. Home and Place
		7. Monitoring and Reflection
	2. Creativity and Recreation	1. Aesthetics and Design
		2. Performance and Representation
		3. Innovation and Adaptation
		4. Celebrations and Festivals
		5. Sport and Play
		6. Leisure and Relaxation
		7. Monitoring and Reflection
	3. Memory and Projection	1. Tradition and Authenticity
		2. Heritage and Inheritance
		3. History and Records
		4. Indigeneity and Custom
		5. Imagination and Hope
		6. Inspiration and Vision
		7. Monitoring and Reflection
	4. Beliefs and Ideas	1. Knowledge and Interpretation
		2. Ideologies and Imaginaries



		3. Reason and Rationalization
		4. Religiosity and Spirituality
		5. Rituals and Symbols
		6. Emotions and Passions
		7. Monitoring and Reflection
	5. Gender and Generations	1. Equality and Respect
		2. Sexuality and Desire
		3. Family and Kinship
		4. Birth and Babyhood
		5. Childhood and Youth
		6. Mortality and Care
		7. Monitoring and Reflection
	6. Enquiry and Learning	1. Curiosity and Discovery
		2. Deliberation and Debate
		3. Research and Application
		4. Teaching and Training
		5. Writing and Codification
		6. Meditation and Reflexivity
		7. Monitoring and Reflection
	7. Wellbeing and Health	1. Integrity and Autonomy
		2. Bodies and Corporeal Knowledge
		3. Mental Health and Pleasure
		4. Care and Comfort
		5. Inclusion and Participation
		6. Cuisine and Emotional Nourishment
		7. Monitoring and Reflection



Gabriella Rodan presenting in an Antarctic Cities forum, Christchurch.

## Appendix 4. Relationship to the Sustainable Development Goals

*Table 4. Defining the Domains and Subdomains with Reference to the SDGs and their Targets*

<b>Ecology</b>		
The ecological domain is defined as the practices, discourses, and material expressions that occur across the intersection between the social and the natural realms, including the important dimension of human engagement with and within nature, ranging from the built-environment to the 'wilderness'.		
<b>Subdomains</b>	<b>Definition</b>	<b>Sustainable Development Goals —selected Targets</b>
Materials & Energy	This subdomain comprises ecological issues pertaining to energy activation and materials extraction. In the first instance, materials and energy are the sources of life. That is why 'Materials and Energy' is the first subdomain.	7.2. By 2030, increase substantially the share of renewable energy in the global energy mix.  7.3. By 2030, double the global rate of improvement in energy efficiency.
Water & Air	This subdomain focuses on water and air, emphasizing the quality of the biosphere and the impact of human social life. It treats water and air as fundamental bases of the environment. This and the subdomain of 'Emission and Waste' are the areas most relevant to issues of climate change.	6.3. By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials ...  6.4. By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity ...
Flora & Fauna	Here the subdomain considers the issue of particular biota in a given region with references to such questions as biodiversity, species equilibrium, species extinction, and so on. One of the crossovers to the next ecological subdomain of 'Habitat and Settlements' is of course that the quality of a habitat depends upon its complex biota.	15.2. By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation ...  15.8. By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species.
Habitat & Settlements	This subdomain considers the relationship between the ecological habitat and human settlement. The circle of life on this planet has become increasingly human-determined, hence the changing emphasis of this subdomain and those that follow on humans in the environment.	11.7. By 2030, provide universal access to safe, inclusive and accessible, green and public spaces ...  15.5. Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.
Built-Form & Mobility	This subdomain focuses on the impact of the built-environment and transport systems on natural ecosystems. Concerns here include spatial form, the nature of development and the basic ecology of housing people.	3.6. By 2020, halve the number of global deaths and injuries from road traffic accidents.  11.1. By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.
Embodiment & Sustenance	This domain concerns the ecology of the human body—specifically physical health (emotional wellbeing is treated as having its primary orientation in the cultural domain). Sustenance refers to the physical sustenance, in particular the quality and accessibility of food and drink.	2.1. By 2030, end hunger and ensure access by all people ... to safe, nutritious and sufficient food all year round.  3.2. By 2030, end preventable deaths of newborns and children under 5 years of age ...

Emission & Waste	The critical issues here relate to the levels and impact of emissions—such as carbon, other gases, liquid waste, effluent, grey water—and ‘solid’ waste such as garbage and sewerage, etc.	12.4. By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks ...  12.5. By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
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#### Economics

The economic domain is defined as the practices, discourses, and material expressions associated with the production, use, and management of resources.

Subdomains	Definitions	Sustainable Development Goals —selected Targets
Production & Resourcing	This subdomain covers economic issues such as resource-use and extraction, manufacturing, and fabrication, etc. Rather than assuming the dominance of any particular form of production, the focus potentially ranges from the practices of techno-scientific capitalism to those of hunting-and-gathering.	2.4. By 2030, ensure sustainable food production systems ...  8.4. Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation ...
Exchange & Transfer	This sub-domain potentially ranges from reciprocal exchange and barter to electronic finance capitalism. It considers the economic dimensions of such issues as transport, transfers of material goods, warehousing, and supply chains such as the ‘food cycle’, etc.	12.7. Promote public procurement practices that are sustainable, in accordance with national policies and priorities.  15.a. Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.
Accounting & Regulation	Accounting here includes the formal field of accounting but extends beyond it to take in all of questions of economic accountability. Similarly, regulation refers to more than modern rule-setting for conducting economic transactions. It also encompasses informal regimes that regulate economic practice.	10.5. Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations.  12.6. Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.
Consumption & Use	This category includes all issues of sustainability that relate to the end-use of material and immaterial goods. This ranges from the use of basic items for the sustenance of life including food consumption through to the consumption of services.	12.1 Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns ...  12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains ...
Labour & Welfare	The area of labour includes formal employment, but also informal employment in the reproduction of social life, contracting and unpaid work. It includes work in the home. Welfare is similarly defined in the broadest sense to include welfare situations that exist outside the modern welfare state. In other words, it is not presumed that all welfare comes from the state.	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property ...  8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.



Technology & Infrastructure	This subdomain refers to the wide range of basic economic issues of technological change from the effect of computerization to the techniques and technologies used to sustain the built environment, including economics questions of housing, commercial building, and state-directed infrastructure development such as roads and ports, etc.	<p>9.1 Develop quality, reliable, sustainable and resilient infrastructure ... to support economic development and human well-being, with a focus on affordable and equitable access for all.</p> <p>9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support ...</p>
Wealth & Distribution	This subdomain relates to levels of wealth as distributed across a locale, as well as to questions relating to allocation and distribution of wealth, taking in issues as broad as taxation, education and healthcare budgets, etc.	<p>1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.</p> <p>10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average.</p>

#### Politics

Politics is defined as the practices, discourses, and material expressions associated with basic issues of social power, such as organization, authorization and, legitimation.

Subdomains	Definitions	Sustainable Development Goals —selected Targets
Organization & Governance	The domain of politics concerns the social relations of power. In this sense, this subdomain centres on how power is managed and governed. Relevant themes include the management of operational procedures, forms of administration and regulation, and the nature of public decision-making processes.	<p>11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management ...</p> <p>17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.</p>
Law & Justice	Here the emphasis is on the juridical-regulation of power rather than more procedural questions of 'Organization and Governance'. Key concepts include: human rights, civil legal processes, and obligation-based norms, etc.	<p>5.1 End all forms of discrimination against all women and girls everywhere.</p> <p>10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.</p>
Communication & Critique	The question of politics also pertains to the communication and dissemination of ideas, as well as to political movements that project these ideas. The kinds of issues that arise here include the availability of communications technology, mass-media concentration, and freedom of the press.	<p>5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.</p> <p>12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.</p>
Representation & Negotiation	This subdomain concerns the nature and extent of political representation for persons as either citizens of the state or members of public and private institutions. It thus includes the possibilities for negotiating outcomes and policies both in and through public and private institutions.	<p>0.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.</p> <p>16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels.</p>

Security & Accord	This subdomain ranges from the big negative things such as war, civil unrest, protest, and human insecurity to how secure individuals feel walking down the street or crossing the road. It ranges from local and personal senses of security to the ontological insecurities of our time—the sense of global risk incurred in living in a world of climate change, nuclear proliferation and global terrorism.	1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.  5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.
Dialogue & Reconciliation	Linked closely to 'Law and Justice', and the other side of 'Conflict and Insecurity', this subdomain includes, firstly, the means of addressing issues of conflict resolution—for example, through deliberative and restorative justice—and, secondly, the possibilities of documenting, and registering the 'truth' of past conflicts.	NB. There are no SDG targets in this category
Ethics & Accountability	This subdomain includes major issues concerning the ethical basis of common dealings and the possibilities of corruption, both public and personal. It is concerned with the political practice of how codes of conduct are developed and enacted.	16.5 Substantially reduce corruption and bribery in all their forms.  16.6 Develop effective, accountable and transparent institutions at all levels.

#### Culture

Culture is defined as the practices, discourses, and material expressions, which, over time, express continuities and discontinuities of social meaning

Subdomains	Definitions	Sustainable Development Goals —selected Targets
Identity & Engagement	This subdomain concerns the quality and extent to which people engage with each other through public celebrations, rituals, and festivals, as well as across the boundaries of difference. It concerns social cohesion, cross-cultural engagement and the depth or complexity of meaning associated with that engagement.	NB. There are no SDG targets in this category.
Creativity & Recreation	'Creativity and Recreation' is concerned with issues that range from the level of creative participation in the arts, and the vibrancy of the 'cultural industries', to opportunities for leisure and recreation as positive responses to people, places, and things. This includes what is sometimes called the 'work/life balance'.	NB. There are no SDG targets in this category.
Memory & Projection	Meaning exists in the present both carried from the past into the present—as built-heritage, cosmologies, oral histories, creation stories and memories—and into the future as plans, projections, hopes and policies. This subdomain concerns all these issues of past and future.	NB. Whereas many SDGs have up to ten targets, there is only one SDG target in this category:  11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage ...

Beliefs & Ideas	All human societies generate different sites of meaning—from paintings and songs to places and institutions or practices of spirituality and religion, belief and faith. This subdomain deals with the depth and breadth of active cultural engagement with ideas.	NB. There are no targets in this category, although there is a substantial emphasis on knowledge and training. See below under 'Enquiry and Learning'.
Gender & Generations	Cultural issues of 'Gender and Generations' range across themes of cultural equality, reproductive relations, and inter-personal mutuality, including the strength of family and friendship relations, and intergenerational engagement.	NB. There are no targets that focus on the cultural considerations of gender or generations, however it should be noted that the categories of gender and childhood are singled out in many of the economic and political targets as important to the outcome of that target.
Enquiry & Learning	This subdomain concerns the vigour of institutions and processes of enquiry and learning. It not about how much money goes into supporting education, but rather focuses on broad questions of how much people want to learn across different stages of their lives and how vibrant is the culture of enquiry across all areas from science to the humanities.	<p>4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.</p> <p>4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, ...</p>
Wellbeing & Health	The key theme covered by this subdomain is the facilitation and strength of cultural wellbeing. While the domain includes formal issues of mental health, it is not concerned with assessing the efficacy of the physical health and medical system.	NB. There are no targets in this cultural category of wellbeing. By comparison, even though there are no explicit targets that relate to wellbeing or mental health, there are many targets that are directed to physical or embodied health—see under 'Embodiment and Sustenance' above.



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**6.2 International Relations Update**  
**File Ref: F22/14267**

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Report of the Senior Advisor Economic Development and the Director  
Community Life of 21 February 2022 and attachments.

Delegation: Council

**REPORT TITLE: INTERNATIONAL RELATIONS UPDATE****REPORT PROVIDED BY:** Senior Advisor Economic Development  
Director Community Life**1. Report Purpose and Community Benefit**

- 1.1. The purpose of this report is to review international relations activities that have taken place since the last update that to the Council on 31 March 2021.
- 1.2. This report will also provide the Council with an update on the status of potential relationships with the cities of Jiri (Nepal), Kochi (India), Incheon (South Korea) and Balibó (Timor-Leste).
- 1.3. Given the unprecedented circumstances within which the Council is now operating as a result of COVID-19, this report will provide clarity to the community about the Council's short term intentions when it comes to its international relationships.
- 1.4. Another benefit of this report is that it increases community awareness of what international activities are taking place despite the pandemic.

**2. Report Summary**

- 2.1. The City of Hobart has existing relationships with Yaizu (Japan), L'Aquila (Italy) and Fuzhou (China) and a commitment to a relationship with Balibó in Timor-Leste.
- 2.2. Pre COVID-19 the City was also investigating relationships in Incheon (South Korea), Jiri (Nepal) and Kochi (India).
- 2.3. The report reflects on the nature of the City's international relationships pre-COVID, activities that have taken place in the last 12 months and thoughts for the future.

**3. Recommendation*****That:***

- 1. Investigations into potential new relationships with cities Jiri in Nepal, Kochi in India and Incheon (South Korea) to be placed on hold and reviewed in September 2022.***
- 2. Operational activities relating to existing international relationships to continue online. Officers to undertake local community-based engagement throughout 2022, with minimal to no additional budgetary requirements other than officer time.***
- 3. The waste education program being considered for Balibó in Timor Leste, to be placed on hold and reviewed in September 2022.***

#### 4. Background

- 4.1. Prior to the emergence of COVID-19 in the first quarter of 2020, the City's international relationships were governed by the International Relations Action Plan (IRAP).
  - 4.1.1. The IRAP was first endorsed by the Council on 9 May 2016 and was most recently amended in April 2018. The current version of the IRAP is included in this report as **Attachment A**.
- 4.2. The last full review of international activities against the IRAP was presented to the Economic Development and Communications Committee (EDCC) on 23 May 2019, with key highlights being:
  - 4.2.1. Small business delegation visit from Yaizu.
  - 4.2.2. Student exchange visit from Yaizu.
  - 4.2.3. Delegation visit from Yaizu (including Yurikamome Children's Choir).
  - 4.2.4. Officer participation in a seminar series in Fuzhou enabling the advancement of projects and information gathering from 11 of Fuzhou's other friendship cities.
  - 4.2.5. Delegation visit from Fuzhou to discuss the potential of China being the feature nation for 2021/2023 Australian Wooden Boat Festival.
  - 4.2.6. School delegation received from Xi'an to advance a relationship with Hutchins School.
  - 4.2.7. A council officer and elected member participated in interviews held by RMIT (Royal Melbourne Institute of Technology). Hobart was later featured as an exemplar city when it comes to managing its relationships in China in the study ['Australia-China Sister Cities' – Seizing Opportunities Together](#).
  - 4.2.8. Welcoming Timorese veterans, government officials and 100 seasonal workers to the city to mark ANZAC Day.
  - 4.2.9. Delivering the inaugural Children's Day celebrations in the Royal Tasmanian Botanical Gardens with 400 children and 200 adults in attendance.
- 4.3. Each year when the progress of the international programme was reported to the Council, it was common that recommendations for amendments to the IRAP were made. This reflects the dynamic nature of international relationships. In 2019 however the situation was different.

- 4.4. A month before the consideration of the IRAP and potential amendments, the Council resolved on 1 April 2019:

*That a report be provided to investigate potential relationships between the City of Hobart and cities in India, Nepal and Fiji and other countries with established communities within Hobart.*

- 4.5. Given the significant impact that the introduction of new relationships would have on the IRAP, it was decided that it would not be reviewed until the Council came to a position on the new potential relationships.
- 4.6. In December 2019 a substantial report was taken to the Council examining potential relationships with cities around the world. Based on 17 criteria including having an active population from the proposed country here in Hobart, 61 places from around the world were selected and then shortlisted to four based on the strongest matches in four categories (knowledge exchange, economic, cultural and philanthropic).

The Council supported further investigation of relationships with Incheon – South Korea (economic), Jiri – Nepal (philanthropic) and Kochi – India (cultural). Before any significant further investigation could take place, COVID-19 emerged.

- 4.7. Two reports have been taken to the Economic Development and Communications Committee considering the impact of COVID-19 on existing and potential relationships over the last two years (August 2020 and March 2021).
- 4.8. Upon receipt of the last update, the Council on 31 March 2021 resolved:

That:

1. *Investigations into potential new relationships with cities Jiri in Nepal, and Kochi in India to be placed on hold throughout 2021 and reviewed in February 2022.*
2. *Council officers will continue to consult with the Tasmanian and Australian governments regarding opportunities for a new relationship with Incheon in South Korea and report back to the Council as appropriate.*
3. *Operational activities relating to existing international relationships to be recommenced online. Officers to undertake local community-based engagement throughout 2021, with minimal to no additional budgetary requirements other than officer time.*
4. *The waste education program being considered for Balibó in Timor Leste, to be placed on hold throughout 2021 and reviewed in February 2022.*

5. *The Minister for Foreign Affairs be advised of the Council's existing relationships with foreign entities by 10 June 2021.*

4.9. This report is a response to each item in the above resolution.

#### **Jiri (Nepal) and Kochi (India)**

- 4.10. The Lord Mayor reached out to both Jiri and Kochi to inform them of the decision made in March 2021 to hold investigations into relationships with the two cities. No responses have been received.
- 4.11. From data collected, aggregated and compiled by the Center for Systems Science and Engineering at John Hopkins University, it appears that the state of Kerala (in which Kochi is the largest city) experienced a peak number of cases on 2 February 2022 of 50,353 (7 day average). Similarly, Nepal as a country saw its highest peak to date of 8,423 cases (7 day average) on 24 January 2022.
- 4.12. This ongoing situation in both India and Nepal demonstrates that even with Australia's borders opening on February 21, international travel will remain very difficult given the situations and ensuing restrictions arising in other nations.

The situation in Incheon (South Korea) is very similar.

#### **Incheon, South Korea**

- 4.13. Enquiries were made through the Department of Foreign Affairs and Trade, Department of State Growth (Tasmanian Government) and the Honorary Consul for South Korea in Tasmania prior to the emergence of COVID-19. This is because direct contact to the Mayor of Incheon in February 2020 did not receive a response, nor did officer enquiries made through Incheon Council's Facebook page.

South Korea is currently experiencing the peak of its COVID cases so far, with the 7 day average on 15 February being 60,230. Given the current circumstances, it is felt that now is not the right time to be following up on these enquiries.

#### **Operational Activities**

- 4.14. Despite the restrictions COVID-19 has imposed on the City's international relations from a budgetary and travel perspective, many activities have taken place over the last 12 months optimising officer time and a minimal budget:
- 4.14.1. May 2021 saw the delivery of the third Children's Day celebration in the Royal Tasmanian Botanical Gardens. Over 1000 students aged between 4 and 18 years from 14 local schools learned about Japan's Children's Day, its meaning, history and cultural significance. Unlike pre-COVID years, the students did not assemble in the gardens at one specific time to

take part in activities, instead they and the general public were welcomed into the gardens over nine days including two weekends.

The students collectively contributed over 650 Koinobori (traditional karp decorations) that were displayed in the gardens. To include friends in Yaizu in this event, a drone was utilised to capture footage that was then shared.

4.14.2. In June 2021, the Lord Mayor delivered a virtual opening address at the Fuzhou International Friendship Cities Cultural Festival. The Senior Advisor Economic Development delivered a presentation to other government officials from many of Fuzhou's friendship cities as part of the same festival programme.

4.14.3. In August 2021, to celebrate Tokyo Olympic Games, Hobart students joined with Yaizu students online to learn how to play a Japanese game called 'Kendama' and then took part in a friendly real time virtual competition. Yaizu students reciprocated by participating in an Aussie thong-throwing competition.

4.14.4. The City worked with the South Hobart Football Club (SHFC) to stage two soccer matches in September 2021. This was in recognition of the ongoing relationship between the two cities and the benefits experienced by SHFC members.

In 2019, a team under 14 and under 15 players travelled to Fuzhou to take part in an international friendly tournament. They played matches against Chinese and Japanese teams and gained a real understanding of what life was like for teenagers of both nations through a series of joint activities.

As part of the celebrations marking the 40<sup>th</sup> anniversary of the Fujian – Tasmania sister state relationship, the Tasmanian Government sponsored the men's and women's soccer jerseys that were worn in these matches. The shirts displayed the Hobart-Fuzhou friendship city logo.

4.14.5. Council officers maintain their connection to the Hobart communities who value these relationships by staging Hobart-Yaizu Committee meetings quarterly, attending Abruzzese Association (L'Aquila) Committee meetings and events and meeting with the Executive Chairman of the Australia Fujian Association Tasmania (all within the bounds of COVID-19).

### **Balibó Waste Education Project**

4.15. The most recent report on Balibó to go to the Council was 2 December 2019. This followed the decision made on 23 April 2018 to inter alia support a long term relationship in the Timorese village.



The report in December 2019 provided a detailed budget and implementation plan for a project focusing on educating school children on the environmental issues associated with single use plastics. Council at this meeting resolved:

*'That the matter be deferred for further consideration by the Committee.'*

- 4.16. Discussion amongst elected members during the Economic Development and Communications Committee (EDCC) on 21 November and Council on 2 December 2019 included concern over the scale and budget of the project which included international travel.
- 4.17. A further report was drafted in response to the concerns of Council and EDCC proposing a scaled down pilot project but this report was not taken to the Council due to the upsurge of COVID-19 cases in early 2020.
- 4.18. The cases in Timor-Leste are relatively low for a population of 1.3 million. They are currently 161 per day (7 day average) with the peak so far occurring in August 2021. Despite these low cases, it has not been possible to further consider the education program. This has been due to the budgetary constraints of the Council and limitations on international travel.

#### **Minister for Foreign Affairs**

- 4.19. As per the Council resolution that this report addresses, the Minister for Foreign Affairs was advised of the Council's existing international relationships prior to 10 June 2021. Details of relationships with Yaizu (Japan), L'Aquila (Italy) and Fuzhou (China) have been submitted.

#### **Internal Changes at the City of Hobart**

- 4.20. This report clarifies the ongoing impact the pandemic has on the City's international relationships from a travel and budgetary perspective. It must also be noted that significant change is taking place within the City of Hobart.
- 4.21. In May 2021, the Council welcomed a new CEO, Kelly Grigsby. During her time at the Council, Ms. Grigsby has been implementing an organisational transformation project to ensure that Hobart is a '...vibrant, globally relevant and contemporary capital city...'
- 4.22. As part of this transformation, a number of directors and senior staff members have been recruited to effect this change. The Director Connected City Ms. Jacqui Allen commences employment in early March and will preside over a broad portfolio including the City's international relationships.

Undoubtedly Ms. Allen will detail her own views on how the City's international relationships may operate going forward.

## 5. Proposal and Implementation

- 5.1. Given the ongoing changes in the internal and external landscape highlighted above, it is proposed that investigations into potential new relationships with cities Jiri in Nepal, and Kochi in India remain on hold with a further report brought to Economic Development and Communications Committee in September 2022.
- 5.2. The same is suggested for the waste education program being considered for Balibó in Timor Leste. It is proposed that a report is brought to Economic Development and Communications Committee in September 2022 when the internal and external landscapes may have settled further.
- 5.3. Given the significant achievements taking place in the international programme despite COVID-19, it is proposed that connections continue to be made through virtual means and local community-based engagement.

## 6. Strategic Planning and Policy Considerations

- 6.1. Ongoing engagement in international relations is aligned with *Hobart: A community vision for our island capital* and outcomes outlined in the *Capital City Strategic Plan 2019-29*, particularly:
  - 2.2.2 *Support and advocate for all people and communities to celebrate their histories and identities and encourage mutual understanding*
  - 2.2.3 *Provide and support activities and programs that celebrate diversity to reduce social isolation and build cohesion*
  - 4.3.7 *Support the city's existing international relationships and respond to new opportunities, in line with the community vision*
  - 4.3.8 *Develop greater community involvement in international relations programs*

## 7. Financial Implications

- 7.1. Funding Source and Impact on Current Year Operating Result
  - 7.1.1. Proposals in this report have no financial implications for this year's operating result.
- 7.2. Impact on Future Years' Financial Result
  - 7.2.1. Officers will consider the 2022-23 budget in the light of the pandemic, restrictions and the Council's financial position.
- 7.3. Asset Related Implications
  - 7.3.1. There are no asset related implications.

## **8. Legal, Risk and Legislative Considerations**

- 8.1. The International Relations Action Plan is a non-binding document. The nature of friendship / sister city relationships are also non-binding. As such, there will be no negative legal implications from the recommendations in this report.

## **9. Environmental Considerations**

- 9.1. Given that very limited aviation travel is taking place at present, the Council's current international relationships are having no negative impact on the environment.
- 9.2. The city continues to investigate opportunities with existing and potential friendship / sister cities that will create positive environmental outcomes such as increased knowledge or investment. Examples of are the potential relationship with Incheon in South Korea and the existing relationship with Yaizu in Japan.

Incheon is particularly interested in attracting investment in a number of industries including the hydrogen economy (low carbon). This is also something the Tasmanian Government are seeking to develop, with [three feasibility studies](#) currently being funded examining the potential of hydrogen based industries in the state.

The Acting Lord Mayor of Hobart and the Mayor of Yaizu connected via a virtual meeting last month to mark the 45<sup>th</sup> anniversary of the relationship. Information was exchanged on each city's sustainable practices and there was a clear appetite for further exchange.

## **10. Social and Customer Considerations**

- 10.1. It is of social importance that the City of Hobart fosters a diverse selection of international relationships based on geography, industry and nature of outcomes (community, culture, economic).
- 10.2. This report is not aiming to undermine the importance of the City's international relationships but given budgetary and travel constraints is advocating for a pause in significant activities until September 2022.

## **11. Marketing and Media**

- 11.1. When smaller activities took place in 2021 such as Children's Day and the 45<sup>th</sup> anniversary of the Hobart-Yaizu relationship, the City ensured it maximised the opportunity to spread the word through the community utilising social media, the corporate website, media coverage, City News and use of City assets such as the LOOP, Soap Box and car park billboards. The use of communication platforms will continue to be maximised in order to promote and engage the community with activities undertaken.

**12. Community and Stakeholder Engagement**

- 12.1. This report is advocating no significant change that would require stakeholder engagement.
- 12.2. The City continues to engage with stakeholders in the international program such as the Tasmanian Government (Trade), Abruzzese Association and the Hobart-Yaizu Sister City Committee regularly.

**13. Delegation**

- 13.1. This matter is one for the Council.

*As signatory to this report, I certify that, pursuant to Section 55(1) of the Local Government Act 1993, I hold no interest, as referred to in Section 49 of the Local Government Act 1993, in matters contained in this report.*



Lucy Knott  
**SENIOR ADVISOR ECONOMIC  
DEVELOPMENT**



Tim Short  
**DIRECTOR COMMUNITY LIFE**

Date: 21 February 2022  
File Reference: F22/14267

Attachment A: International Relations Action Plan 2016 with Amendments  
endorsed by Council - 19 April 2018 ↓ 

Overarching Goal:

**Relevant and effective international relationships contribute to the growth of Hobart and its community.**

Outcome	Actions	Measure / Reporting
1. <b>Knowledge</b> – <i>Hobart has used its friendship city relationships and potential international contacts to increase knowledge and learning for the benefit of its community.</i>	1.1. Maintain an active program of communication and visits with Hobart's existing sister cities of Yaizu and L'Aquila.	Council considers relationships to be active.
	1.1.1 Open discussions with L'Aquila and the Abruzzese Association with regards to the existing sister city arrangement between Hobart and L'Aquila and ongoing intentions.	Discussions commence and reported in annual update to Economic Development and Communications Committee (EDCC).
	1.2 Maintain an active program of communication and visits with Hobart's existing friendship city (Xi'an) and soon to be friendship city (Fuzhou) for the five year terms of the relationships.	Council considers relationships to be active.
	1.3. Commit to undertaking sister / friendship city visits at least every two years, or as appropriate where the city makes an equivalent commitment.	Sister / friendship city visits undertaken, economic and cultural value measured (actions 2.1 and 3.1) presented to EDCC in annual update.

*\*All reporting to be done to Economic Development and Communications Committee as part of an annual update report, or more frequently if required.*

*\*\*Different usage of the terms 'friendship' and 'sister' city reflect only historical trends and international preferences, not differing levels of commitment.*

Outcome	Actions	Measure / Reporting
	<p>1.4. Participate in international activities that will provide opportunities for the Council to gain knowledge for the benefit of the City.</p> <p>1.4.1. Consider participation in the biennial World Cities Summit and associated Mayors' Forum in Singapore.</p> <p>1.4.2. Investigate and resolve whether to lead the re-establishment of the Antarctic Gateways Cities Group of Hobart, Christchurch, Ushuaia, Punta Arenas and Cape Town for the purpose of sharing information.</p> <p>1.5. Develop agreed actions with government, education and business sectors on specific outcomes required from existing and potential relationships.</p> <p>1.5.1. Develop and implement an agreed plan with the State Government as to the City's role in supporting State Government policy outcomes in existing and future international trade.</p> <p>1.5.2. Develop and implement an agreed plan with UTAS as to the City's role in supporting UTAS's existing and future international growth.</p>	<p>Council decision to be made.</p> <p>Council decision to be made.</p> <p>Plans finalised and implementation commenced (1.5.1 and 1.5.2). Report to EDCC as part of annual update.</p>

*\*All reporting to be done to Economic Development and Communications Committee as part of an annual update report, or more frequently if required.*

*\*\*Different usage of the terms 'friendship' and 'sister' city reflect only historical trends and international preferences, not differing levels of commitment.*



Outcome	Actions	Measure / Reporting
2. <b>Cultural</b> – <i>Hobart has sought to enrich its community through cultural exchange and connection</i>	2.1. Measure the cultural value of international relationships annually and report to the Economic Development and Communications Committee.	Number of cultural events hosted / facilitated relating to the friendship city (e.g. Art exhibition, stand at the Taste of Tasmania etc). Number of school, college, university student / teacher exchanges between Hobart and friendship city. Level of activity of local sister city committees and their engagement with activities. Number of delegations sent to and received from the friendship city.
	2.2. Understand the culturally important aspects of Hobart's sister / friendship cities and seek to promote them in Hobart.	Report on 2.2.1-2.2.3 to EDCC annually.
	2.2.1. Encourage and facilitate the involvement of the sister / friendship city local community to stage activities in collaboration with existing events such as Festa Italia or the Australian Wooden Boat Festival that promote aspects of their city's culture and life to Hobart and Tasmania	
	2.2.2. Promote local community involvement in sister / friendship city activities through relevant associations and community groups.	
	2.2.3. Seek to investigate options for developing and sustaining international relationships via social media channels, expatriate networks and other	

*\*All reporting to be done to Economic Development and Communications Committee as part of an annual update report, or more frequently if required.*

*\*\*Different usage of the terms 'friendship' and 'sister' city reflect only historical trends and international preferences, not differing levels of commitment.*

Outcome	Actions	Measure / Reporting
	<p>appropriate methods, as a means of increasing knowledge and reinforcing relationships between visits</p> <p>2.3. Actively engage with UTAS to understand its Global engagement aspirations.</p> <p>2.3.1. Develop and implement an agreed plan with UTAS as to the City's role in supporting UTAS's existing and future international growth.</p>	Plan developed and implemented.
3. <b>Economic</b> – <i>Hobart has grown the number of economic outcomes achieved from its sister / friendship cities and international relationships</i>	3.1. Measure the economic value of international relationships annually and report to the Economic Development and Communications Committee.	<p>Number local businesses assisted by the City of Hobart to cater for Chinese visitors.</p> <p>Number of business referrals / introductions through the Xi'an and Fuzhou government to Hobart / Tasmanian businesses.</p> <p>Number of business referrals / introductions through the State Government and the City of Hobart to Xi'an and Fuzhou based businesses.</p> <p>Development of specific investor marketing material for overseas investors.</p> <p>Development of international student marketing materials in partnership with educational institutions such as UTAS and TasTAFE.</p> <p>Visitor numbers from sister /friendship cities (and associated spend).</p> <p>Student numbers from sister / friendship cities (and associated spend).</p>

*\*All reporting to be done to Economic Development and Communications Committee as part of an annual update report, or more frequently if required.*

*\*\*Different usage of the terms 'friendship' and 'sister' city reflect only historical trends and international preferences, not differing levels of commitment.*

Outcome	Actions	Measure / Reporting
	<p>3.2. Understand the State Government's policy position on international relations and trade and seek, so far as appropriate, to actively support this.</p> <p>3.2.1. Develop and implement an agreed plan with the State Government as to the City's role in supporting State Government policy outcomes in existing and future international trade.</p> <p>3.2.2. Participate in State Government trade missions where potential value to the City of Hobart is likely in the short, medium or long term.</p> <p>3.3. Hold an annual forum with Hobart's key business leaders to discuss opportunities for Hobart, overseas.</p> <p>3.4. Actively discuss and explore economic opportunities with the City of Xi'an, China based on the action plan attached to the Friendship City Agreement.</p> <p>3.5. Actively discuss and explore economic opportunities with the City of Fuzhou, China.</p> <p>3.6. Engage with Business Events Tasmania and relevant groups in the bidding for and hosting of international events and conferences.</p>	<p>Plan developed and implemented.</p> <p>Economic value (as per 3.1 measured and reported annually).</p> <p>Forum held and feedback from participants measured.</p> <p>Economic value reported (3.1).</p> <p>Economic value reported (3.1).</p> <p>Number of international event bids won.</p>

*\*All reporting to be done to Economic Development and Communications Committee as part of an annual update report, or more frequently if required.*

*\*\*Different usage of the terms 'friendship' and 'sister' city reflect only historical trends and international preferences, not differing levels of commitment.*

Outcome	Actions	Measure / Reporting
	<p>3.7. Actively engage with UTAS to understand its Global engagement aspirations.</p> <p>3.7.1. Develop and implement an agreed plan with UTAS as to the City's role in supporting UTAS's existing and future international growth.</p>	Plan finalised and implemented – number of economic outcomes achieved (3.1).
4. <b>Civic</b> – <i>the City has utilised its status as the Capital City to advance Hobart and Tasmania's international standing.</i>	<p>4.1. Continue to hold the annual Antarctic opening of the season reception and seek to broaden the international participation in it.</p> <p>4.2. Host Civic receptions that will advance the City and State's international brand, particularly through the State Government priority sectors of:</p> <ul style="list-style-type: none"> <li>a) Education;</li> <li>b) Tourism;</li> <li>c) Antarctic and Southern Oceans;</li> <li>d) Agriculture; and</li> <li>e) Aquaculture.</li> </ul>	<p>Reception held and participant numbers together with stakeholder feedback.</p> <p>Number of receptions held, participant and stakeholder feedback.</p>
5. <b>New Opportunities</b> – <i>the City has sought out and responded to opportunities to expand diverse international relationships.</i>	5.1. Develop on an annual basis for the Council's consideration a list of relevant cities that could be considered for future strategic relationships (these could be friendship city or a lesser commitment such as project based cooperative agreements).	Report to Council for all decisions relating to new opportunities (5.1-5.5) using Council policy 5.14.01 – <i>Guidelines for Future International Relations</i> for criteria.

*\*All reporting to be done to Economic Development and Communications Committee as part of an annual update report, or more frequently if required.*

*\*\*Different usage of the terms 'friendship' and 'sister' city reflect only historical trends and international preferences, not differing levels of commitment.*

Outcome	Actions	Measure / Reporting
	<p>5.2. Commence investigations into a community development based relationship with a city in the Asia Pacific region.</p> <p>5.3. Commence investigations into a relationship with one or more of the Antarctic Gateway cities of Cape Town, Punta Arenas and Ushuaia.</p> <p>5.4. Commence investigations into relationships with international cities with distinct similarities / very strong learning opportunities e.g. Portland, U.S.A.</p> <p>5.5. Before agreeing to new sister / friendship city or strategic relationship, undertake a minimum 12 month period of investigation and knowledge gathering into potential linkages with Hobart, based on the criteria set out on Council policy 5.14.01.</p>	

*\*All reporting to be done to Economic Development and Communications Committee as part of an annual update report, or more frequently if required.*

*\*\*Different usage of the terms 'friendship' and 'sister' city reflect only historical trends and international preferences, not differing levels of commitment.*

## **7. COMMITTEE ACTION STATUS REPORT**

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### **7.1 Committee Actions - Status Report**

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A report indicating the status of current decisions is attached for the information of Elected Members.

***RECOMMENDATION***

***That the information be received and noted.***

Delegation: Committee

Attachment A: Status Report for the 3 March 2022 meeting

**ECONOMIC DEVELOPMENT AND COMMUNICATIONS COMMITTEE – STATUS REPORT**

**OPEN PORTION OF THE MEETING**

**3 March 2022**

Ref	Meeting	Report / Action	Action Officer	Comments
1.	<b>ANTARCTIC CITIES PROJECT COMPLETION</b>  Council, 11/10/2021, Item 13	<p>That:</p> <ol style="list-style-type: none"> <li>1. The Antarctic Cities Project Final Report as detailed in item 6.1 of the Open Economic Development and Communications Committee meeting of 23 September 2021 be noted.</li> <li>2. The City of Hobart recognises the need for its role in supporting the Antarctic sector to broaden, arising as a result of the City Deal and recommendations made in the Antarctic Cities Project Final Report.</li> <li>3. The City of Hobart commits to reconsidering and developing its strategic role in supporting Antarctica which may include:               <ol style="list-style-type: none"> <li>(i) Leading and driving discussions with the other Antarctic Gateway Cities of Cape Town, Christchurch, Punta Arenas and Ushuaia about how the cities may collaborate.</li> <li>(ii) Supporting the Antarctic Youth Coalition to become a sustainable member organisation for young people across the gateway cities.</li> <li>(iii) Evaluating the changing nature of Hobart's relationship with Antarctica and whether the term 'custodian' is more representative of this relationship than 'gateway'.</li> <li>(iv) How the City will fulfil its role as a partner in the City Deal in delivering an Antarctic and Science Precinct at Macquarie Point.</li> <li>(v) How the City engages with other key stakeholders in the sector through bodies such as the Tasmanian Antarctic Gateway Advisory Committee.</li> <li>(vi) Reconsidering how the City engages with the community on Antarctic matters based on feedback through the two surveys conducted as part of the Antarctic Cities Project.</li> <li>(vii) Engage with the relevant State Government Minister to ascertain the governments further commitment to the Antarctic sector.</li> </ol> </li> <li>4. A report will be brought back to the Council highlighting proposals to more strategically align the City's activities with respect to its link to Antarctica and the Antarctic industry in Tasmania.               <ol style="list-style-type: none"> <li>(i) The report to also include the financial implications associated with the proposal.</li> </ol> </li> </ol>	Director Community Life	A report addressing this matter is attached to this agenda.



## **8. QUESTIONS WITHOUT NOTICE**

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Section 29 of the *Local Government (Meeting Procedures) Regulations 2015*.  
File Ref: 13-1-10

An Elected Member may ask a question without notice of the Chairman, another Elected Member, the Chief Executive Officer or the Chief Executive Officer's representative, in line with the following procedures:

1. The Chairman will refuse to accept a question without notice if it does not relate to the Terms of Reference of the Council committee at which it is asked.
2. In putting a question without notice, an Elected Member must not:
  - (i) offer an argument or opinion; or
  - (ii) draw any inferences or make any imputations – except so far as may be necessary to explain the question.
3. The Chairman must not permit any debate of a question without notice or its answer.
4. The Chairman, Elected Members, Chief Executive Officer or Chief Executive Officer's representative who is asked a question may decline to answer the question, if in the opinion of the respondent it is considered inappropriate due to its being unclear, insulting or improper.
5. The Chairman may require a question to be put in writing.
6. Where a question without notice is asked and answered at a meeting, both the question and the response will be recorded in the minutes of that meeting.
7. Where a response is not able to be provided at the meeting, the question will be taken on notice and
  - (i) the minutes of the meeting at which the question is asked will record the question and the fact that it has been taken on notice.
  - (ii) a written response will be provided to all Elected Members, at the appropriate time.
  - (iii) upon the answer to the question being circulated to Elected Members, both the question and the answer will be listed on the agenda for the next available ordinary meeting of the committee at which it was asked, where it will be listed for noting purposes only.

## 9. CLOSED PORTION OF THE MEETING

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### RECOMMENDATION

That the Committee resolve by majority that the meeting be closed to the public pursuant to regulation 15(1) of the *Local Government (Meeting Procedures) Regulations 2015* because the items included on the closed agenda contain the following matters:

- Confirm the minutes of the Closed portion of the meeting
- Questions without notice in the Closed portion

The following items are listed for discussion:-

- |            |  |
|------------|--|
| Item No. 1 | Minutes of the last meeting of the Closed Portion of the Committee Meeting |
| Item No. 2 | Consideration of supplementary items to the agenda                         |
| Item No. 3 | Indications of pecuniary and conflicts of interest                         |
| Item No. 4 | Questions Without Notice   |