Draft Proposal and call for expressions of interest

Tasmanian Science Centre for Sustainability

Macquarie Point Antarctic and Science Precinct

Hobart, Tasmania

DRAFT FOR DISCUSSION

10 October 2023

Contents – Tasmanian Science Centre for Sustainability

Tasmanian Science Centre for Sustainability
Draft Proposal and call for expressions of interest

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Our vision

Our vision is for a Tasmanian Science Centre for Sustainability. The Centre would communicate, inspire and advance innovation and excellence in science for sustainability. It would actively support informed policy, planning and decision-making for our collective community and planetary wellbeing, now and for future generations.

The concept

The concept is to establish a state-of-the-art Tasmanian Science Centre for Sustainability. The Centre would be part of the planned Antarctic and Science Precinct within the Macquarie Point development site in Hobart, Tasmania, Australia.

Purpose

The purpose of the Tasmanian Science Centre for Sustainability is to communicate, inspire and advance innovation and excellence in science for sustainability. The Centre would engage and connect experts with policy and decision-makers and community stakeholders across multiple sectors. It would establish an active link between 'what the science tells us' and 'what we are trying to achieve'.

A key focus for the Centre is to support Tasmania in growing its role and profile as a global leader and exemplar of sustainability. This is through application of robust science to support informed policy, planning and decision-making for sustainable well-being outcomes across multiple sectors. The Centre will strive to give effect to Figure 1.

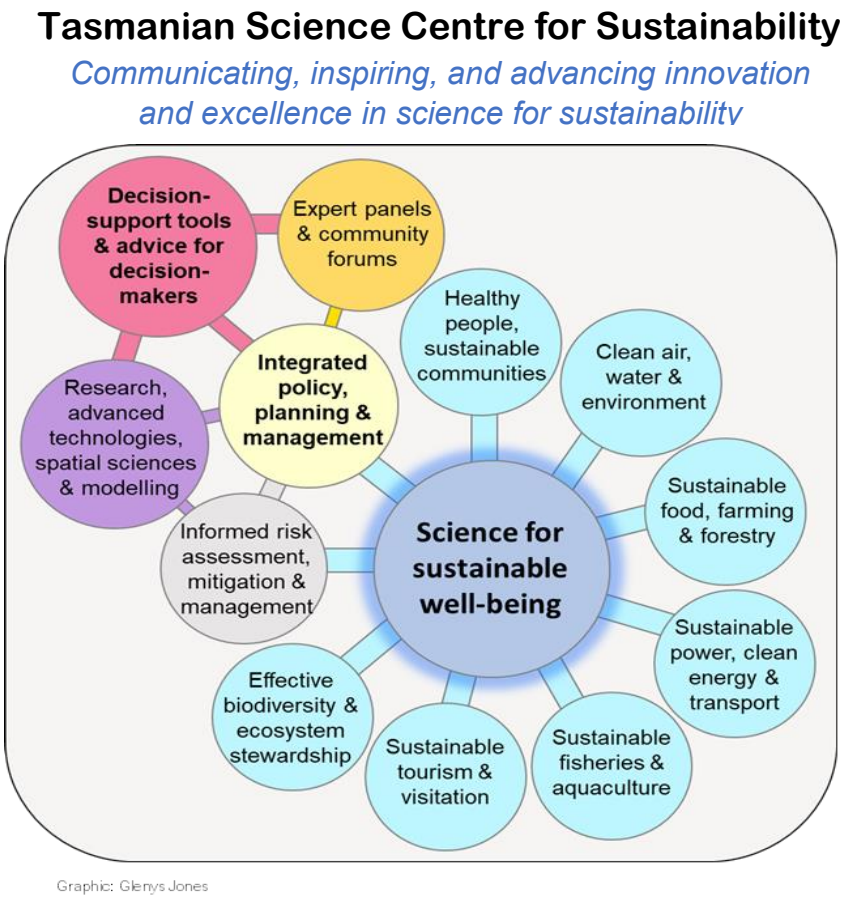

Figure 1. The Tasmanian Science Centre for Sustainability aims to support informed policy and decision-making for sustainable well-being outcomes across multiple sectors. For illustration, just two of the sectoral hubs are elaborated here, but all hubs could be addressed.

Scope and functions

The Science Centre for Sustainability will facilitate and engage on specific policy, planning and sustainability issues and opportunities of state, national and international interest.

The initial and primary focus for the Centre's work would be on innovation and advances in science and technology to advance Tasmanian leadership in sustainability and address priority opportunities and challenges for achieving the desired future. Specific matters of local and/or regional interest could also be a focus, such as predictive fire risk modelling, regional land and marine use planning, and socio-ecological modelling for sustainable management.

Functions of the Centre would include:

- Support informed, evidence-based policy, planning and decision-making at all levels of government and across multiple sectors to support the delivery of optimal sustainable well-being outcomes now and for future generations. This will include connecting experts, organisations, industries and government to share information and ideas to forge synergies for positive change.

- Create and maintain an inspiring, user-friendly website for communicating science for sustainability, with links to open-access information, tools, case studies and additional online resources.

- Facilitate and host on-site and online forums, expert panels, conferences, workshops, events, and exhibitions around the themes of science for sustainability, environmental and ecosystem stewardship, and science communication. This will involve delivering an ongoing community outreach program to connect diverse audiences with the Centre and its work. Activities could include:

    - Communicate latest research findings and technological advances and their application to solving real-world problems and challenges.

    - In collaboration with others, plan for and promote a yearly program of exhibitions and displays that link with a calendar of local, national and international events such as National Science Week, Beaker Street Festival, World Environment Day, International Day for Biological Diversity, World Sustainable Energy Day, World Sustainable Transport Day, Clean Up Australia Day (including advances in waste management and recycling), Sustainable Living Tasmania events etc.

    - Provide recognition and media profile for outstanding achievements and advances in science for sustainability.

- Endeavour to attract and facilitate financial and in-kind investment and support for the Centre and its purposes. For example:

    1. Secure joint government commitment and support for establishment of the Tasmanian Science Centre for Sustainability as a key component of the Antarctic and Science Precinct at Macquarie Point.
    2. Attract and galvanise active interest and support for the Centre from relevant scientific organisations and agencies, and secure in-principle commitment of an appropriate anchor organisation with aligned purposes, strengths and capabilities to host and manage the Centre.
    3. Strive to attract one or more high value philanthropic or corporate donors to pledge a significant co-investment of funds to help create an inspiring, fit-for-purpose, state-of-the art Tasmanian Science Centre for Sustainability at Macquarie Point.
    4. Encourage and facilitate partnerships, collaborations and resourcing arrangements to support the ongoing operation, purposes and activities of the Centre. For example, activities and initiatives that align with the Centre's purposes include:

- Bring people together to facilitate discussions and productive dialogue to advance shared interests and initiatives for sustainability.
- Advance and facilitate science communications and decision-support tools for sustainability. For example, this could include providing support for the development of spatial and computer modelling and interactive scenario planning tools using visual animations. These tools would help demonstrate predicted outcomes under differing policy settings or planning scenarios and support more informed, integrated terrestrial and marine use policy, planning and adaptive management.
- Support and collaborate with partners to develop and progress joint funding and grant applications for selected projects and priority initiatives such as enquiry-led research and outcomes monitoring.

The opportunity

1. **Joint government commitment for an Antarctic and Science Precinct at Macquarie Point.**

- The Australian and Tasmanian Governments, together with the Municipal Councils of Greater Hobart, have committed to a shared 10-year vision for Hobart. This includes redevelopment of the Macquarie Point site as an iconic world class science, tourism, culture and arts hub' (https://www.hobartcitydeal.com.au/home).

- The 'Hobart City Deal' provides a key mechanism for delivering this vision by bringing together all three levels of government, the community, and private enterprise to create place-based partnerships.

- The Hobart City Deal recognises that achieving the vision 'would be catalysed through the establishment of an Antarctic and Science Precinct within the Macquarie Point site. There is commitment for the Macquarie Point site to include an Antarctic and Science Precinct.

- This is a once-in-a generation opportunity for Hobart and Tasmania to realise its potential for leadership in Antarctic science and science for sustainability.

- In June 2023, the Macquarie Point Development Corporation (https://www.macpoint.com/) commenced community consultation on options for the 9.3 Ha developable area of the Mac Point site and to assist in detailed precinct planning. For more information see https://www.infrastructure.gov.au/sites/default/files/migrated/cities/city-deals/hobart/files/hobart-city-deal.pdf.

2. **The need for integrated, evidence-based policy, planning and decision-making for sustainability.**

- The need for evidence-based decision-making to support the delivery of sustainability goals for community and planetary well-being has never been greater. The Commission for the Human Future (2020) has identified 10 potentially catastrophic global risks in its report *Surviving and Thriving in the 21st Century*. A brief overview of these issues is provided in the article *Science for sustainability: The paradigm shift our world needs* (Jones, 2021).

- Cutting edge science combined with effective science communication are urgently needed to inform and guide sound strategic policy, integrated planning and decision-making across multiple sectors at state, national and international levels.

- The UN Sustainable Development Goals provide a widely accepted framework for developing more specific sustainability goals and statements of Key Desired Outcomes at all levels. For more information, go to https://sdgs.un.org/goals.

3. **Tasmania has leading science and research organisations and expertise.**

- Tasmania is home to multiple leading science and research organisations including:
    - CSIRO – 'Australia's national science agency...solv[ing] the greatest challenges through innovative science and technology', with its sites in Tasmania focused on marine and atmospheric research, environmental science, agricultural and ecological research and technology;
    - University of Tasmania[1] and its associated Institutes, Centres and research hubs including:
        - Institute for Marine and Antarctic Studies (IMAS)
        - Centre for Marine Socioecology (CMS)
        - The Fire Centre research hub (https://firecentre.org.au/)
        - School of Natural Sciences (including specialist expertise in global change, ecology, forestry sciences, agriculture, terrestrial carbon balance and others);
        - ARC Centre for Forest Value (https://www.utas.edu.au/arc-forest-value).
    - Commonwealth Antarctic Division (AAD) and the Australian Antarctic Program
    - National Environmental Science Program Marine Biodiversity Hub
- Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) - CCAMLR is an international commission for the Convention and is based in Hobart. The Commission has 27 Members and a further 10 countries have acceded to the Convention. Based on the best available scientific information, the Commission agrees a set of conservation measures that determine the use and protection of marine living resources in the Antarctic.
- Tasmanian Museum and Art Gallery (https://www.tmag.tas.gov.au/about_us/our_role) whose purpose is 'To collect, conserve, research and create knowledge, and to engage with, educate and inspire the community about our world'.
- Tasmania has the highest number of scientists per capita of any state in Australia. Tasmania has global expertise in multiple fields including: marine and environmental science, oceanographic and atmospheric research, climate change and predictive modelling, pyrogeography, agricultural and natural areas research and management, and scientific research for risk mitigation and integrated sustainable management of land and sea use.

4. **The Tasmanian Government and key stakeholders are committed to achieving a sustainable future for Tasmania.**

- The Tasmanian government has committed to developing a sustainability strategy for Tasmania in consultation with Tasmanians. 'The strategy will include our shared vision for a sustainable future and outline the goals and aspirations that ensure we attain that vision.' A discussion paper, *Tasmanian Positive. Our state's sustainability strategy,* was released In September 2023 to start the conversation.
- The Department of Natural Resources and Environment Tasmania has published its Strategic Plan 2022-2027 which focuses on 'delivering a sustainable Tasmania' (NRE Tas 2022).

[1] Note: The University of Tasmania was rated as the number one (#1) university in the world on climate action; # 3 for SDG[1] Life Below Water and #4 for Life on Land by Times Higher Education (THE) Impact Rankings (https://www.utas.edu.au/about/sustainability/highlights/the-impact-rankings)

- Multiple industry sectors and businesses in concert with the Tasmanian Government are explicitly stating their commitment to delivering sustainably managed products and services (e.g. Tasmania's Sustainable Agri-food Plan; Tasmanian Salmon Industry Plan; Sustainable Timber Tasmania).

5. **The Australian Government has committed to reform Australia's environmental laws to better protect, restore and manage our unique environment.**

- The Environmental Protection and Biodiversity Conservation (EPBC) Act is the main Commonwealth environmental and heritage legislation. The EPBC was reviewed in 2021 (https://epbcactreview.environment.gov.au/) and in response, improvements have been planned (*Nature Positive Plan: better for the environment, better for busines*s (DCCEEW, 2022) and are expected to be legislated in late 2023. The improvements include establishing a national Environment Protection Agency and data management facility, improving collaboration mechanisms with States, accreditation schemes, clarifying national environmental standards, regional planning, climate change, water, forestry, and stakeholder collaboration mechanisms.

- The planned improvements under the revised EPBC Act rely on strong support between science and management, improved environmental standards, integrated planning across interest sectors, and focused attention to specific challenges. These strongly link to the foreshadowed capabilities of the Tasmanian Science Centre for Sustainability.

6. **Tasmania – the perfect place to showcase innovation and excellence in science for sustainability in harmony with nature.**

- The island state of Tasmania has unique and outstanding strengths and points of difference that distinguish it from other places. These centre around Tasmania's beautiful natural environment and being 'clean, green and sustainable'.

- The following attributes contribute to Tasmania's profile and reputation for being clean, green and sustainable:

    - Tasmania has the cleanest air in the world and globally exceptional clear dark night skies.

    - Tasmania has outstanding natural scenery, unique wildlife and vast areas of unspoilt wilderness.

    - Almost half of Tasmania is protected in national parks and reserves, including the Tasmanian Wilderness World Heritage Area and Macquarie Island World Heritage Site (located in the subantarctic).

    - Tasmania's clean water, wild rivers and pristine mountain streams are highly valued, including by producers of Tasmania's world-renowned whiskies and other quality beverages.

    - Tasmania's rural countryside supports a range of agriculture, farming and forestry industries producing fine food, wine, timber, fine wool, natural fibres, and other quality products.

    - Tasmania's marine and coastal waterways support a variety of finfish and shellfish wild fisheries and aquaculture industries.

    - Tasmania has a comparatively low population (approximately 570,000) and is largely self-sufficient in food production and clean energy generation through its Hydro-electric power schemes and growing wind-power generating capacity.

- Tasmania's strengths in science and research, combined with the above attributes. provide exceptional opportunities for Tasmania to grow its identify and future role as a global leader and centre for excellence in science for sustainability in harmony with nature.

'The future is in science related to the natural world and how we live. The science is there, the natural world is there. It's time for this town, this state to do something different and lead.'

— Robyn Williams (Science journalist, Hobart Town Hall public meeting 2017)

Benefits

A state-of-the-art Tasmanian Science Centre for Sustainability at Macquarie Point can be anticipated to:

- Position Hobart and Tasmania as a leader in science for sustainability and boost Tasmania's international profile as a leader of innovation and leading practice in sustainability.
- Serve as a national Centre for Excellence in sustainability, showcasing innovation and excellence in sustainability.
- Act as a catalyst for advancing science and research for sustainable industries, enterprises and community well-being outcomes.
- Bring scientific disciplines and experts together to address specific policy needs and issues relevant to Tasmania, Australia and the Asia-Pacific region.
- Facilitate building highly skilled scientific teams and collaborations with international expertise and capacity to provide national and international guidance for advancing the delivery of UN Sustainable Development Goals (SDGs).
- Engage government, key industry sectors and the broader Tasmanian community in building shared understandings and commitment for achieving Tasmania's best possible future for our collective sustainable well-being.
- Strengthen Tasmania's capabilities in natural resource management and integrated land and sea-use policy, planning and management.
- Harness the power of scientific computer modelling, visualisations and scenario-planning to make scientific data and understandings accessible and relevant to policy and decision-makers and everyone with responsibilities or interests in shaping a better, more sustainable future.
- Support interstate and international tourism to Tasmania for science and sustainability conferences, workshops, and educational opportunities to learn about sustainability and to visit 'real world' examples of leading practice in sustainability across multiple sectors including natural areas management and 'nature-positive' ecotourism.
- Contribute to advancing the global Sustainable Development Goals at state, national and Regional levels.

Seeking expressions of interest from potential partners and supporters

We are seeking expressions of interest from potential partners in government, science and research organisations, philanthropic foundations and/or benefactors to engage in further discussions and consideration for commitment to progress the establishment of a Tasmanian Science Centre for Sustainability as a component of the Antarctic and Science Precinct of the Macquarie Point development site in Hobart.

To indicate an interest or commence a conversation, please contact the authors.

Potential partners

Groups that could potentially be interested in being involved in further discussions about the Tasmanian Science Centre for Sustainability include:

Government: and government bodies/statutory authorities

- Australian Government, including the Department of Climate Change, Energy, the Environment and Water (DCCEEW) - https://www.dcceew.gov.au/. 'We lead Australia's

response to climate change and sustainable energy use, and we protect our environment, heritage and water.' The department includes the Australian Antarctic Division (AAD) and Marine Parks Australia which are both based in the Hobart suburb of Kingston, Tasmania.

- Tasmanian Government, including the Department of Natural Resources and Environment (NRE Tas) – https://nre.tas.gov.au/ - with a broad-range of responsibilities.
  'Our vision: A Tasmanian where our natural resources, cultural values and environment are recognised and used sustainably to support our future prosperity.'
  'Our purpose: Delivering a sustainable Tasmania'.
- Hobart City Council - https://www.hobartcity.com.au/Home
- Tasmanian Museum & Art Gallery - https://www.tmag.tas.gov.au/about_us/our_role

University, Research and Science Organisations

- CSIRO - https://www.csiro.au/. Australia's national research organisation with expertise in multiple relevant fields including management strategy evaluation, experimental design and data analysis, computer modelling, risk assessment, decision-support tools, land and water, monitoring the state of the environment, data-driven infrastructure (Data 61), visualisations, climate research, future scenarios planning etc.)
- University of Tasmania - https://www.utas.edu.au/research/about-utas-research. 'Our state-of-the-art tools and facilities allow our researchers to conduct internationally competitive research that addresses fundamental questions and delivers world-changing innovation', e.g. School of Geography and Spatial Sciences supports 'Resilient social-ecological systems';
- UTAS Centre for Marine Socioecology - http://marinesocioecology.org/about/. A collaboration between the University of Tasmania, the CSIRO and the Australian Antarctic Division, based in Hobart at the University of Tasmania. (More information about this centre is provided under the heading below 'How it might work in practice'.)
- UTAS Centre for Pyrogeograpy and Fire Centre Research Hub - https://firecentre.org.au/about-us/. 'We link wildfire researchers and projects from around the state to solve the most pressing problems'
- Sense-T https://www.sense-t.org.au/. Hosted by the University of Tasmania and working with CSIRO, Tasmanian Government departments, authorities and other research organisations, Sense-T uses data, sensing and telemetry technologies and advanced data analytics and visualisation tools to help see alignments and opportunities to improve decision making and create real impact. Sense-T brings researchers, industry, government and the community together to foster innovation. The Sense-T Mission is:
  - To use Tasmania as an environment for data led transformation.
  - To bring together data and domain scientists, accessible data sources and real-time sensing technology to solve demand driven practical challenges and develop real-world solutions.
  - To improve decision making for industry, government and community by using data to enhance economic, environmental and social value.
- Blue Economy Cooperative Research Centre - https://blueeconomycrc.com.au/. Established and supported under the Australian Government's CRC Program, the Blue Economy CRC supports industry-led collaborations between industry, researchers and the community for the purpose: 'To perform world class, collaborative, industry focused research and training that underpins the growth of the Blue Economy through increased offshore sustainable aquaculture and renewable energy production.' The CRC is located at the Australian Maritime College in Newnham, Launceston Tasmania.
- Australian National University - Commission for the Human Future: 'The Commission for the Human Future is a body of researchers and concerned citizens dedicated to finding and developing solutions to one of the greatest challenges in human history - the combination of catastrophic global threats that now confront humanity.'
- Tasmanian Museum & Art Gallery - https://www.tmag.tas.gov.au/about_us/our_role. 'Our purpose: To collect, conserve, research and create knowledge, and to engage with, educate and inspire the community about our world.'

Community Organisations

- Sustainable Living Tasmania 'Our purposes is to make Tasmania a leader in achieving global sustainability' https://www.slt.org.au/
- Tasmanian Land Conservancy https://tasland.org.au/ 'Our vision is for Tasmania to be a global leader in nature conservation.'
- Greening Australia https://www.greeningaustralia.org.au/tag/tas/ 'Greening Australia is …a national not-for-profit committed to restoring Australia's diverse landscapes and protecting biodiversity in ways that benefit communities, economies, and nature.'

Philanthropic Foundations and Benefactors

- Potential avenues and alignments of interest to be explored.

Background and current situation

Our professional backgrounds and experience have led us to believe that the increasing risks facing the world on multiple fronts demand sound, strategic, evidence-based and integrated policy, planning and decision-making.

The world is a complex place, and decision-makers face a relentless stream of challenging issues and 'gnarly waves' that demand action. Decisions made to support one sector can have unanticipated effects (positive and/or negative) on other sectors, the community and even the planet. At times, the end-result of a decision may not be what anyone intended or wants. What may seem like a good decision to meet pressing needs may not turn out to be a good decision in the longer term interests of sustainable social, environmental and economic well-being.

However, science capabilities have increased dramatically over recent years. They now offer the technical ability to develop and assimilate multiple datasets and biophysical models of our changing natural and built environment and ecosystem. The science exists to develop valuable decision-support tools and aids, such as visualisations of future scenarios under different decision options. These tools and products can make science accessible to the public and support more informed, transparent and evidence-based decisions for a sustainable future for our collective well-being.

Over some years, we have been raising awareness of the opportunities and prospects for Tasmanian leadership in science and sustainability. Our newspaper articles are provided in Attachment 1 *We're a science state so act like it* (Mercury Talking Point, 2020) and Attachment 2 *STEM centre assures bright future* (Mercury Talking Point, 2017). We have also provided inputs to government consultation processes and politicians.

In response to the interest shown in the concept, the authors have met with a range of politicians from the Liberal, Labor and Greens parties as well as representatives of the Macquarie Point Corporation. We have also had some preliminary discussions with academics from CSIRO, the University of Tasmania and others. These discussions have all been positive and have generated further contacts and meetings which are ongoing.

The authors recognise that our role in putting forward this proposal is a minor one, and we wish to make it clear that we have no material interest in the proposed Centre. We simply believe there is a worthy need and outstanding opportunity for Tasmania to take a leadership role in creating an inspiring centre of excellence for science and sustainability.

Next steps

For this proposal to become a reality, next steps will need to include further discussions amongst interested parties and active consideration of the proposal by governments, science and research leaders and their organisations, potential funders as appropriate, and community leaders/champions who can take this initiative forward and 'give it legs'. Ideally this will lead to a compelling business case and the commitment of significant investment for the establishment of a state-of-the-art Tasmanian Science Centre for Sustainability at Macquarie Point: An investment in Tasmania's future.

Quotable Quotes

Below are some quotable quotes:

- 'The future is in science related to the natural world and how we live. The science is there, the natural world is there. It's time for this town, this state to do something different and lead.' (Science broadcaster Robyn Williams, Hobart Town Hall public meeting 2017)
- 'Hobart can be known for being clever and smart with knowledge at our heart.' (Former Hobart Lord Mayor, Sue Hickey, Hobart Town Hall public meeting 2017)
- 'A [science, technology, engineering and maths] STEM centre would transform Hobart and Tasmania in terms of both education and the economy.' (Economist Saul Eslake, Hobart Town Hall public meeting 2017)
- 'Innovation keeps us competitive. It keeps us at the cutting edge. It creates jobs. And it will keep our standard of living high.' (Commonwealth of Australia, Department of the Prime Minister and Cabinet, National Innovation and Science Agenda)

How it might work in practice - example models from around the world

1. **Chatham House** (London) - https://www.chathamhouse.org/ - provides a demonstrated model that has endured for over a century.

Background: Founded in 1920 following a speech by British diplomat Lionel Curtis to the British and American delegates to the Paris Peace Conference, giving a vision that was to alter the course of international politics. Two organisations – one in London, the other in New York – were founded out of this idea.

Mission: 'To help governments and societies build a sustainably secure, prosperous and just world'.

How it operates: Offering policy solutions grounded in core principles, Chatham House delivers its missions through dialogue, research, and leadership.

Governance: Chatham House was granted its Royal Charter by His Majesty King George V in 1926, and the governance structure serves as a guarantee of its independence and impartiality. There are three structures:

1. The reigning sovereign who serves as Patron of the Institute along with three Presidents chosen from senior political figures (who have no governance responsibilities but assist the institute at a senior institutional and representational level).
2. Council of 12 members (drawn from and elected by the Institute's membership) with governance responsibilities as laid out in its Charter and Bylaws;
3. A Panel of Senior Advisors who provide an experienced sounding board for the Institute's policy conclusions and communications at the highest levels.

How it's funded. Chatham House relies on both individuals and institutions to support its missions, especially as a think tank group for informed debate on issues in international affairs. Chatham House receives a wide range of philanthropic, research-related, and membership support. Chatham House is a non-profit organisation and a registered charity in England and Wales. The institute has been granted foreign equivalency status with the United States Internal Revenue Service.

2. **Centre for Marine Socioecology** (Hobart) (http://marinesocioecolog.org/)

'A socio-ecological perspective will support the delivery of accountable and transparent decision-making. It will not only be useful to government agencies, industries and coastal planners, but to any group interested in the sustainable use of Australia's marine and coastal zones'.

Objectives:

a. To bring together researchers in a multi- and trans-disciplinary collaboration in a formal and enduring partnership, ensuring coherence, focus and profile.
b. To advance our understanding and management of marine socio-ecological systems through the development of methods, tools and decision support systems.
c. To create a world-leading centre

Themes

The Centre for Marine Socioecology has five themes:

- Coastal & Marine Governance
- Sustainable Futures & Planetary Health
- Environmental Change & Adaptation
- Knowledge Production
- Science Engagement & Impact

About the authors

1. Glenys Jones is a specialist in evaluation. She holds a first-class Honours degree in Science (UNSW) and has over 40 years' experience working in the fields of science, landscape design, and World Heritage management planning and evaluation. She has worked for government departments, universities, CSIRO, commissions and the private sector. She is a member of the IUCN World Commission on Protected Areas and a founding member of the Protected Areas Learning and Research Collaboration (www.palrc.com). Her work in management effectiveness evaluation for the Tasmanian Wilderness World Heritage Area was recognised through the Australasian Evaluation Society Prize 2005 for Best Evaluation Publication. View LinkedIn profile.

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2. Keith Sainsbury is a marine scientist who worked for many years as a Senior Principal Research Scientist at CSIRO. He is Associate Professor Marine Systems Science, Institute of Marine and Antarctic Studies (IMAS); is a past member of the Board of Trustees and a current member of the Technical Advisory Board of the Marine Stewardship Council; and is managing director of a Hobart-based consulting company providing science advice for sustainable fisheries management in Australia and around the world. He was awarded the Japan Prize in 2007 for his contribution to research and sustainable management of oceans. View LinkedIn profile.

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NOTE: The views expressed in this document are those of the authors and do not represent any other entity.

ATTACHMENT 1. Mercury Talking Point article, 3 September 2020

THURSDAY, SEPTEMBER 3, 2020
SUBSCRIPTIONS 1300 696 397 • themercury.com.au

We're a science state so act like it

A science centre at Macquarie Point could put Tasmania at the front of the world's sustainability push, write **Glenys Jones** and **Keith Sainsbury**

THE COVID-19 pandemic has brought a forced halt to business-as-usual in Tasmania, as elsewhere. This pause provides a unique opportunity to reflect on the directions Tasmania could take to secure the best future for our health and wellbeing.

The need for science-savvy leadership and evidence-based policy has never been greater. In her excellent Talking Point, Tasmanian neuroscientist Lila Landowski draws attention to the positive role science can play in shaping a bright future for Tasmania ("The top job we need for success," August 20). Dr Landowski draws attention to the fact Tasmania has the highest number of scientists per capita of any state yet is the only state without a chief scientist, which is needed to address "the big hole in the state's plans for a great future".

She points out science is already an important part of Tasmanian life, with major institutions including CSIRO, IMAS, Antarctic Division, University of Tasmania, and several private companies providing significant employment and a skilled workforce driving world-leading advances.

We share Dr Landowski's view that Tasmania should be building a future where scientific method and critical thinking are a core part of our society, where science empowers society with policies that are evidence-based and where scientific knowledge and understanding arms Tasmanians with the ability to dissect fact from fiction.

To our minds, it makes good sense to build on the strengths Tasmania already has in science and research capabilities and to grow Tasmania's opportunities for leadership in science and sustainability. Science can help inform and guide state strategic planning and policy to create the right conditions for nurturing the best possible sustainable future for our collective community wellbeing.

This includes harnessing science to assist multiple industry sectors to flourish sustainably. Think sustainable food, farming, forestry, fisheries, tourism and so on.

Science can be a catalyst for innovation and excellence, and can help advance Tasmania's opportunities for leadership in key areas. For example, Tasmania has outstanding opportunities for demonstrating leadership and exemplary practice in fields that link and align to the natural world and environmental UN Sustainable Development Goals. Think clean energy (eg sustainable power/clean transport), climate action (ocean/climate research, fire-risk modelling), life on land (global leadership in nature conservation and World Heritage management) and life in water (marine and Antarctic research, sustainable fisheries management). Such leadership strengthens Tasmania's international reputation and credentials for sustainability, enhances Tasmania's marketing brand and, importantly, contributes to community and planetary wellbeing.

At a Hobart Town Hall public meeting some years ago, community leaders were expressing their support for a proposed new science, technology, engineering and maths (STEM) centre for Hobart. Former Hobart Lord Mayor Sue Hickey said, "Hobart can be known for being clever and smart with knowledge at our heart". Renowned science broadcaster Robyn Williams put it this way, "The future is in science related to the natural world and how we live. The science is there, the natural world is there. It's time for this town, this state to do something different and lead" (Talking Point, November 17, 2017).

Perhaps more than any other place on Earth, Tasmania has the potential to walk the talk in achieving quality sustainable living in harmony with nature. Tasmania is a natural fit for a Science Centre for Sustainability.

> TASMANIA HAS THE HIGHEST NUMBER OF SCIENTISTS PER CAPITA OF ANY STATE. HARNESS SCIENCE TO ASSIST SUSTAINABLE FOOD, FARMING, FORESTRY, FISHERIES AND TOURISM

We call on the Premier of Tasmania, state and federal ministers for science and technology, science and community leaders, and all stakeholders with an interest in creating Tasmania's optimal sustainable future, to consider the opportunity and benefits of establishing a Science Centre for Sustainability as part of the planned development of a state-of-the art science precinct at Macquarie Point in Hobart. The Science Centre for Sustainability could support government strategic directions, assist key Tasmanian sectors, and involve communities through expert panels, community forums, decision-support tools and advice for informed decision-making. Such a centre would play a valuable role in community life and would contribute to forging the best possible sustainable future for Tasmania. We encourage the Macquarie Point Development Corporation to consider this concept and engage in discussions with others as appropriate with a view to developing a realistic plan.

MAKE WAY: Tasmania's strength in energy, Antarctic science, fisheries and food can help the state flourish. Inset, Macquarie Point.

Glenys Jones has a background in natural sciences, research and policy and 30 years' experience in government, universities, CSIRO and private sector. She is a University of Tasmania associate (Geography & Spatial Sciences).

Keith Sainsbury is Associate Professor of Marine Systems Science at the Institute of Antarctic Studies, a member of the Marine Stewardship Council's Technical Advisory Board and managing director of a consultancy advising on sustainable fisheries management. He was a CSIRO senior principal researcher. The views here are their own and not necessarily the views of any other entity.

THURSDAY, SEPTEMBER 3, 2020
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ATTACHMENT 2. Mercury Talking Point article, 17 November 2017

talkingpoint

STEM centre assures bright future

talkingpoint

Tasmania could lead in science for sustainability, write **Glenys Jones** and **Keith Sainsbury**

GROWING: STEM-related research generates spin-offs in new products and businesses.

THE proposed STEM centre for science, technology, engineering and maths in Hobart could be a game changer for Tasmania.

Australia urgently needs to generate the professional and research capabilities required to support development of high-value science, technology, engineering and mathematics-related industries. The University of Tasmania's existing STEM facilities at the Sandy Bay campus are nearing the end of their usable life. According to Professor Brian Yates, Dean of Science, it makes good sense to invest strategically in a new STEM centre which would bring disciplines together, generate a more skilled workforce, and provide a catalyst for innovation and economic growth in Tasmania.

Most people are aware that STEM skills and research capabilities underpin the technology and products our modern society takes for granted — computers, mobile phones, power generation, weather forecasting, network dynamics and countless others. Perhaps less well known is that STEM skills underpin the scientific methods for achieving sustainable development goals, such as sustainable ecosystems, farming, fisheries, forestry, renewable energy, clean water and sanitation, and sustainable cities and communities.

The STEM skills and capabilities that underpin most applications — especially natural resource and environmental management — fall into four categories: **MONITORING** and observation systems, such as remote-sensing from satellites, aircraft or drones. **ANALYSIS** and interpretation of observational data, such as through geographic information systems. **PREDICTIVE** modelling for scenario planning, including computer models to test alternative development and management strategies, and guide informed decision making. **VISUALISATION** of data through animations, 3D modelling and similar methods to support understanding and communication with — and between — scientists, decision-makers and stakeholders.

Tasmania has world-class capability in these areas which is internationally sought and applied — for example, Tasmania's mathematical modelling of climate and marine ecosystems and their interaction with human usage and management.

STEM-related research programs generate spin-offs including new products and businesses. For example, a hydroacoustic research program in Tasmania led to the creation of the Hobart business Echoview Software, which produces and sells software in more than 60 countries.

The global need for science and evidence-based policy for sustainability has never been greater. Investing in a STEM centre in Hobart with a strong focus on science for sustainability would strengthen the state's capabilities in natural resource and environmental management. For example, STEM capabilities could be applied in Tasmania to support sustainable food and farming, sustainable fisheries, forestry, water and environmental management, sustainable energy and integrated land-use planning and management.

There is an outstanding opportunity for Tasmania to seize leadership in tertiary education for management of national parks, World Heritage Areas, and other protected areas. With almost half the state reserved in national parks and World Heritage Areas, Tasmania is a natural choice to become the Asia-Pacific centre for leadership, training and research in natural and protected areas management and sustainable tourism. Tasmania's award-winning ecotourism leaders are already demonstrating how well-managed natural areas can provide sustainable livelihoods for local businesses and communities.

The University of Tasmania offers courses in environmental planning, protected areas governance and management, wilderness studies, information systems, spatial sciences, sustainable tourism and business management. Some are offered under the Protected Areas Learning and Research Collaboration (www.palrc.com) which aims to foster excellence in governance and management of protected areas in the Australian, Asian and Pacific regions. Strengthening and expanding the University's PALRC courses with STEM capabilities would boost Tasmania in becoming the Asia-Pacific centre for leadership, excellence and tertiary education in natural and protected areas management.

Tasmania has the advantage of short travel times between its capital city and all regions of the island. This provides diverse opportunities for integrating practical, real-world experience into courses to showcase innovation and sustainable practice in natural resource management, protected area management and sustainable tourism. This assists the university in engaging regional communities and can offer a competitive advantage in attracting interstate and overseas students.

The case for a state-of-the-art STEM centre seems compelling. The proposal is gaining favourable attention from influential experts and community leaders. Economist Saul Eslake has given the proposal his thumbs up, saying "a STEM centre would transform Hobart and Tasmania in terms of both education and the economy". Hobart Lord Mayor Sue Hickey says that with the new STEM centre, Tasmania can be known for being "clever and smart with knowledge at our heart". Sorell Mayor Kerry Vincent says a STEM centre could inspire young Tasmanians to embrace learning, aim high and gain the skills needed to take on the challenges that matter. Science broadcaster Robyn Williams put it this way: "The future is in science related to the natural world and how we live. The science is there, the natural world is there. It's time for this town, this state to do something different and lead."

Perhaps more than any other place on Earth, Tasmania has the potential to authentically "walk the talk" in achieving quality sustainable living in harmony with nature.

The time is right for politicians and the university to work out a realistic strategy to deliver a new STEM centre that enables Tasmania to become a leader in the science and application of sustainability. Tasmania needs the real deal on STEM to build a better future.

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