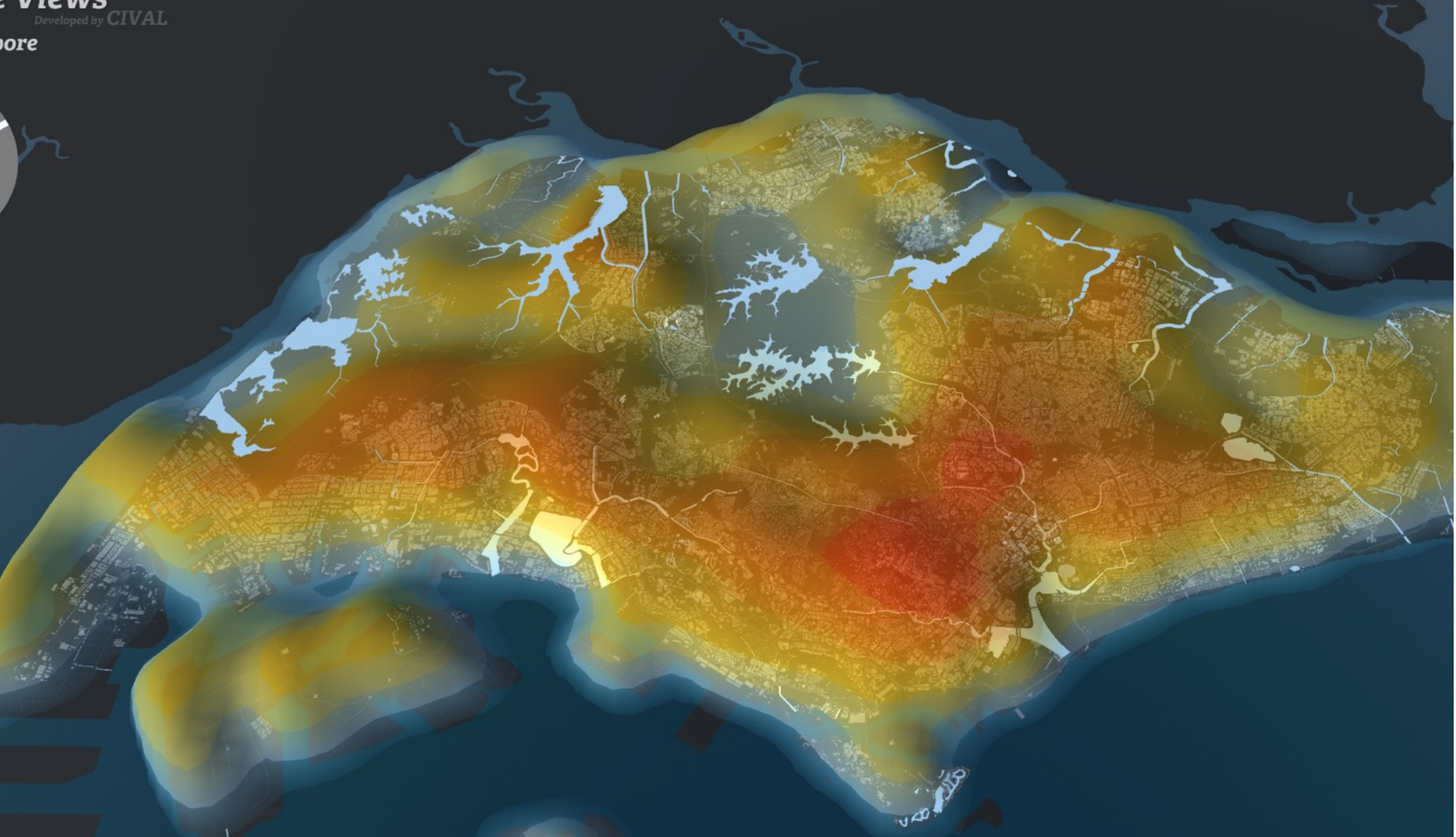


Cooling Singapore







A DRAFT - JUNE 2017

A CATALOGUE OF STRATEGIES TO MITIGATE URBAN HEAT ISLAND AND IMPROVE OUTDOOR THERMAL COMFORT FOR TROPICAL SINGAPORE

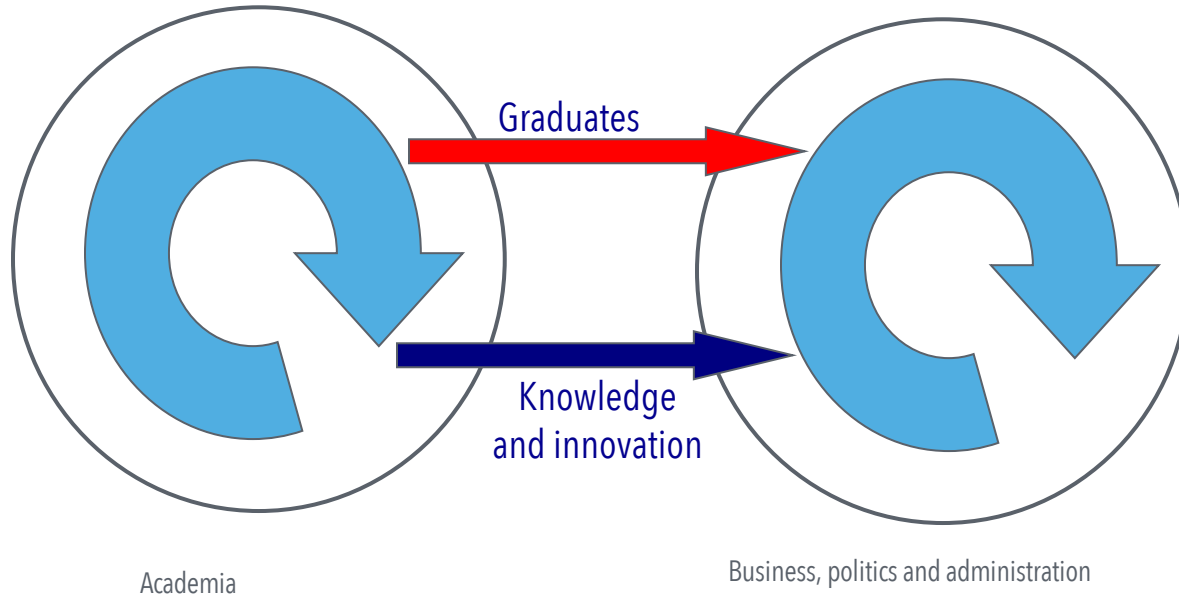
COOLING SINGAPORE

...you have to work things out

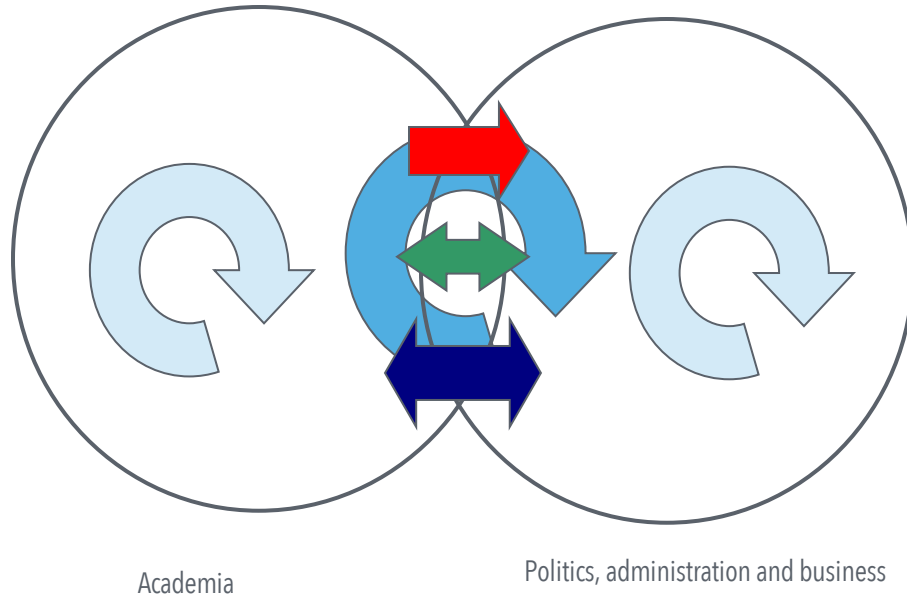
together!

The role of universities

Supporting a growth-based economy (model 1)



Supporting societal transformation (model 2)



Graduates
Staff mobility
Co-production of
knowledge

Lighthouse programmes

A lighthouse on a cliff at night, with beams of light shining out from the top against a dark blue sky. The lighthouse is white with a black top section. A small white building with a dark roof is situated at the base of the lighthouse. The sky is dark blue with some clouds, and the sea is visible in the foreground.

Large, integrated funding programmes designed to support impact-oriented research and innovation for sustainable development

Goals of lighthouse programmes

Scientific goals

- Work on sustainability problems in their broader contexts
- Develop new theoretical and methodological approaches
- Provide actionable knowledge on case-based, specific problems
- Develop metrics and monitor progress towards sustainability
- Track changing research needs (and respond at short notice to emerging issues)
- Provide a scientific underpinning for more focused research

Goals of lighthouse programmes

Societal goals

- Build a platform for co-production between academia and society
- Create an information hub in support of science-based decision making
- Provide a forum for public debate on issues of sustainability
- Establish a dialogue with decision-makers
- Support societal transformation

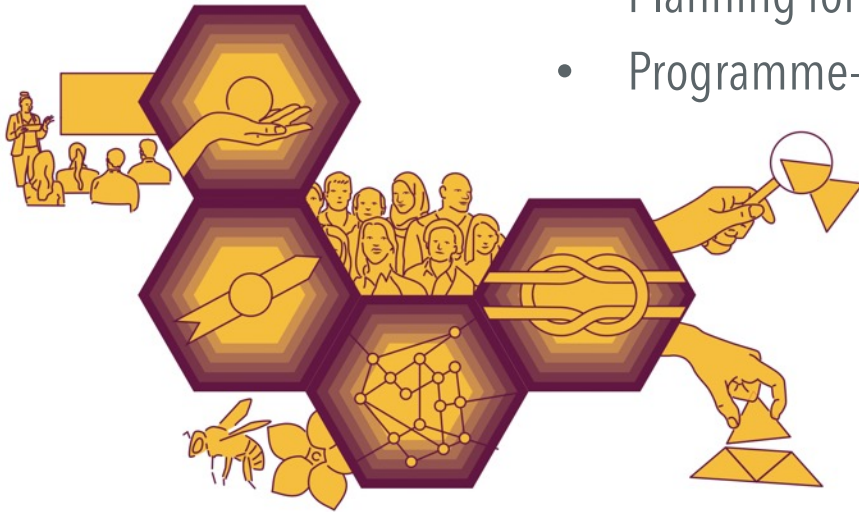
Goals of lighthouse programmes

Institutional goals

- Strengthen the institutional capacity to address questions related to sustainability
- Establish true interdisciplinarity across faculties, departments and institutions
- Develop strong capacities in transdisciplinarity and science–society–policy dialogue
- Establish enduring networks with non-academic stakeholders
- Build strong international collaborations
- Provide a model for future transdisciplinary research structures within institutions

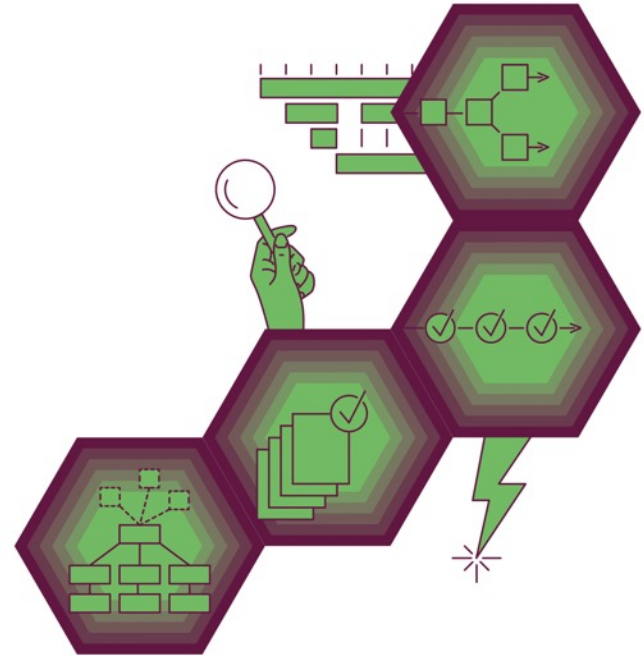
Ch. 2: Essential features of lighthouse programmes

- Embracing the complexity of sustainability questions
- Ensuring societal pertinence
- Planning for impact
- Programme-level support for sustainability projects



Ch. 3: Programme development, governance, and impact evaluation

- Redefining programme development
- Expanding programme leadership
- Redesigning proposal assessment
- Integrating formative impact evaluation



Ch. 4: Implications for research institutions



- Making sustainable development an institutional priority
- Fostering cross-cutting structures
- Building capacity
- Developing careers

Funding lighthouse projects: why a new approach is needed

- Lighthouse programmes need substantial funding
- Some important elements can be difficult to fund adequately, e.g., project development, supporting stakeholders, dialogue with policy and society, implementation
- Existing instruments such as NRP's are too short and usually too sharply focused on specific problems
- Sustainability research has to compete with other thematic areas for access to these funds
- Most funding agencies are already stretched

Collaboration amongst funders: a possible way forwards

Partners: a group of organizations that commit to supporting lighthouse programmes, e.g., SNSF, government agencies, Innosuisse, universities (e.g. EPFL), cities and cantons, private sector, trusts & foundations, etc.

Mission: promoting research and innovation for a societal transition to sustainability

Main activities:

- Continuing dialogue with policymakers to identify research priorities
- Issue calls for proposals
- Assemble funding consortia for individual programmes
- Programme approval and oversight

With thanks to the many experts who contributed in different ways to the preparation of this report

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Thank you for your attention!



sustainability.scnat.ch/lighthouseprogrammes