Conducting climate change and surgery orientated research and Quality Improvement

**Climate change is the biggest global health threat of the 21st century** *
More than 80 million deaths estimated to occur due to carbon emission between 2000 and 2100 §

Surgery and climate change are locked in a vicious cycle
Surgery contributes significantly to carbon emissions, while climate change impacts on surgical burden of disease and surgical care infrastructure.

The US government spends just $5.3M/year on climate and health research
By comparison National Institutes of Health (NIH) alone awarded $33B in research grants in 2022 ¶

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1. **IDENTIFY...**
   - the local research or QI needs at your institution based off recent publications
   - The other **COAST climate change and surgery hot topics** are an excellent resource to give you ideas for smaller scale projects within your own department

2. **ENGAGE...**
   - with organisations such as Health Care Without Harm
   - and Practice Greenhealth
   - Such institution may support development of local sustainability initiatives
   - Surgery specific groups like COAST are also useful resources

3. **FUNDING**
   - There are increasing numbers of climate and health funding sources.
   - The NIH climate change and health initiative is just one example.
   - Smaller seed grants such as the Burroughs Wellcome Fund are also available

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4. **ENSURE CLIMATE JUSTICE**
   - Even those working outside of the climate change space can consider the environmental impacts of their work.
   - Striving for sustainability in your research practice will improve impact and increase likelihood of adoption / implementation in other centers

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**RESEARCH GAPS**

- There is a lack of primary research in the ‘surgery and climate change’ space

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**Identification of innovation**
Intersectoral collaboration with scientists, engineers, and industry partners in development of technological solutions eg solar powered devices
Sustainability can also be achieved through low- or no-tech innovations e.g. improved OR utilization / reduced turnover time

**Benefits**
The benefits and cost saving of research and/or QI projects are project specific.
Examples of these benefits and cost saving are outlined in other COAST Climate Change and Surgery Hot Topics