### Focusing Questions:
- Are there relationships between solar energy, global energy transfer processes, climate and biomes?
- What evidence suggests our climate maybe changing more rapidly than living species can adapt?
- Is human activity causing climate change?
- How can we reduce our impact on the biosphere and on global climate, while still meeting human needs?

### Key Concepts:
- Social and environmental contexts for investigating climate change
- Human activity and climate change

### Outcome for Science, Technology and Society (STS) and Knowledge

1. **Describe how the relationships among input solar energy, output terrestrial energy and energy flow within the biosphere affect the lives of humans and other species**
   - explain how climate affects the lives of people and other species, and explain the need to investigate climate change
   - describe and explain the greenhouse effect, and the role of various gases—including methane, carbon dioxide and water vapor—in determining the scope of the greenhouse effect

2. **Relate climate to the characteristics of the world’s major biomes, and compare biomes in different regions of the world**
   - identify the potential effects of climate change on environmentally sensitive biomes

4. **Investigate and identify human actions affecting biomes that have a potential to change climate**
   - identify evidence to investigate past changes in Earth’s climate
   - describe and evaluate the role of science in furthering the understanding of climate and climate change through international programs
   - describe the role of technology in measuring, modelling and interpreting climate and climate change
   - describe the limitations of scientific knowledge and technology in making predictions related to climate and weather
   - assess, from a variety of perspectives, the risks and benefits of human activity, and its impact on the biosphere and the climate

### Skill Outcomes:
**Initiating and Planning:**
- identify questions to investigate that arise from practical problems and issues
- design an experiment, and identify specific variables

**Analyzing and Interpreting**
- propose alternative solutions to a given practical problem, identify the potential strengths and weaknesses of each, and select one as the basis for a plan

### Attitude Outcomes
**Interest in Science**
- Show interest in science-related questions and issues, and confidently pursue personal interests and career possibilities within science-related fields

**Mutual Respect**
- Appreciate that scientific understanding evolves from the interaction of ideas involving people with different views and backgrounds

**Stewardship**
- Demonstrate sensitivity and responsibility in pursuing a balance between the needs of humans and a sustainable environment