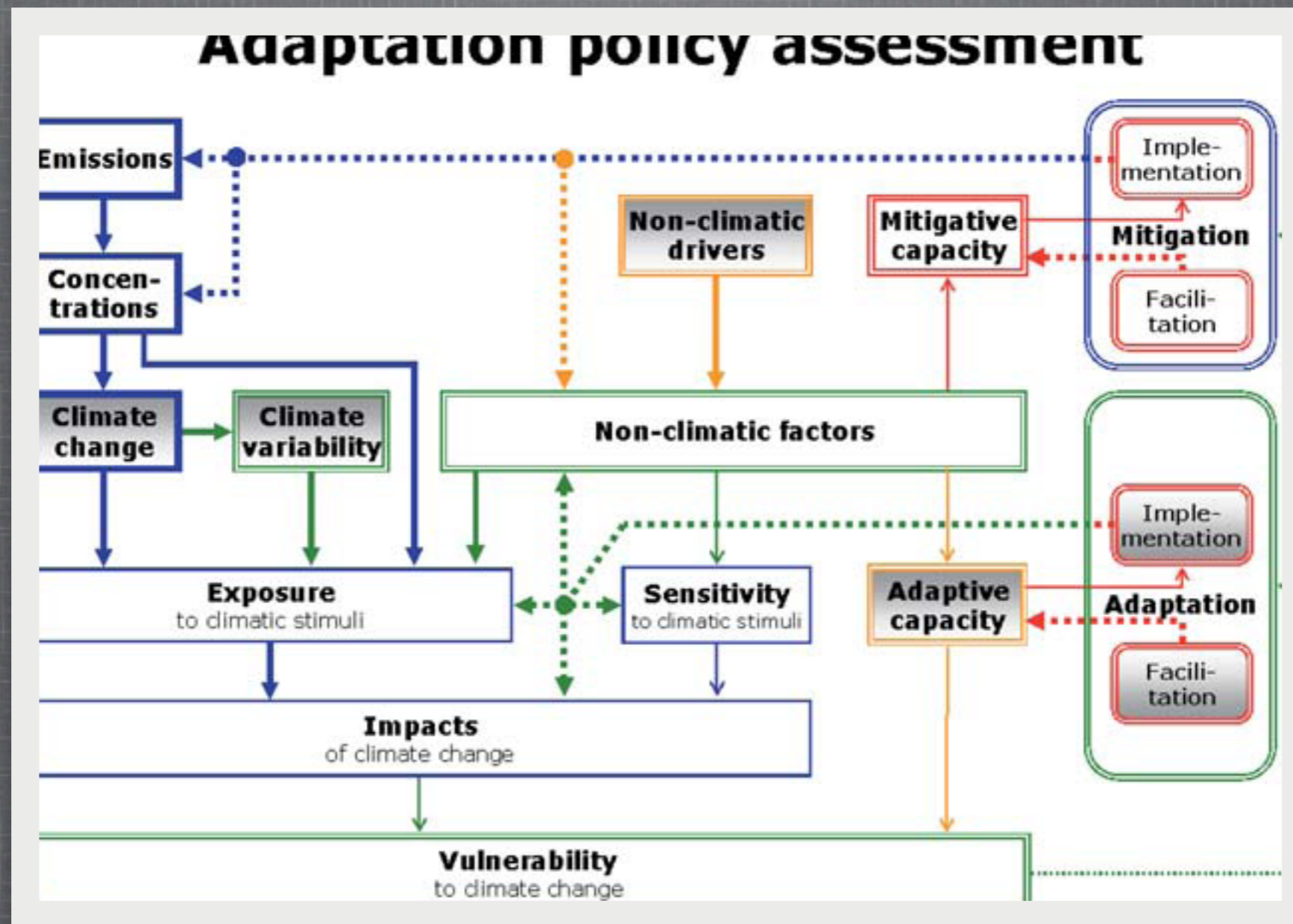


VULNERABILITY ASSESSMENT CONTEXT

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VULNERABILITY ASSESSMENT

- IPCC 2001: Defined vulnerability as:
 - The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes.
 - Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity (IPCC 2001).
 - Same terminology for natural and human systems

BASIC MODEL OF VULNERABILITY

$$V = f(E, S, A)$$

Sources: Turner et al. 2003, Smit and Pilifosova 2003, Ford and Smit 2004, IPCC 2007

WHERE:

V = Vulnerability to climate change

E = Exposure to climatic stimuli

S = Sensitivity to climatic stimuli

A = Adaptive Capacity

ADAPTIVE CAPACITY

IPCC's definition:

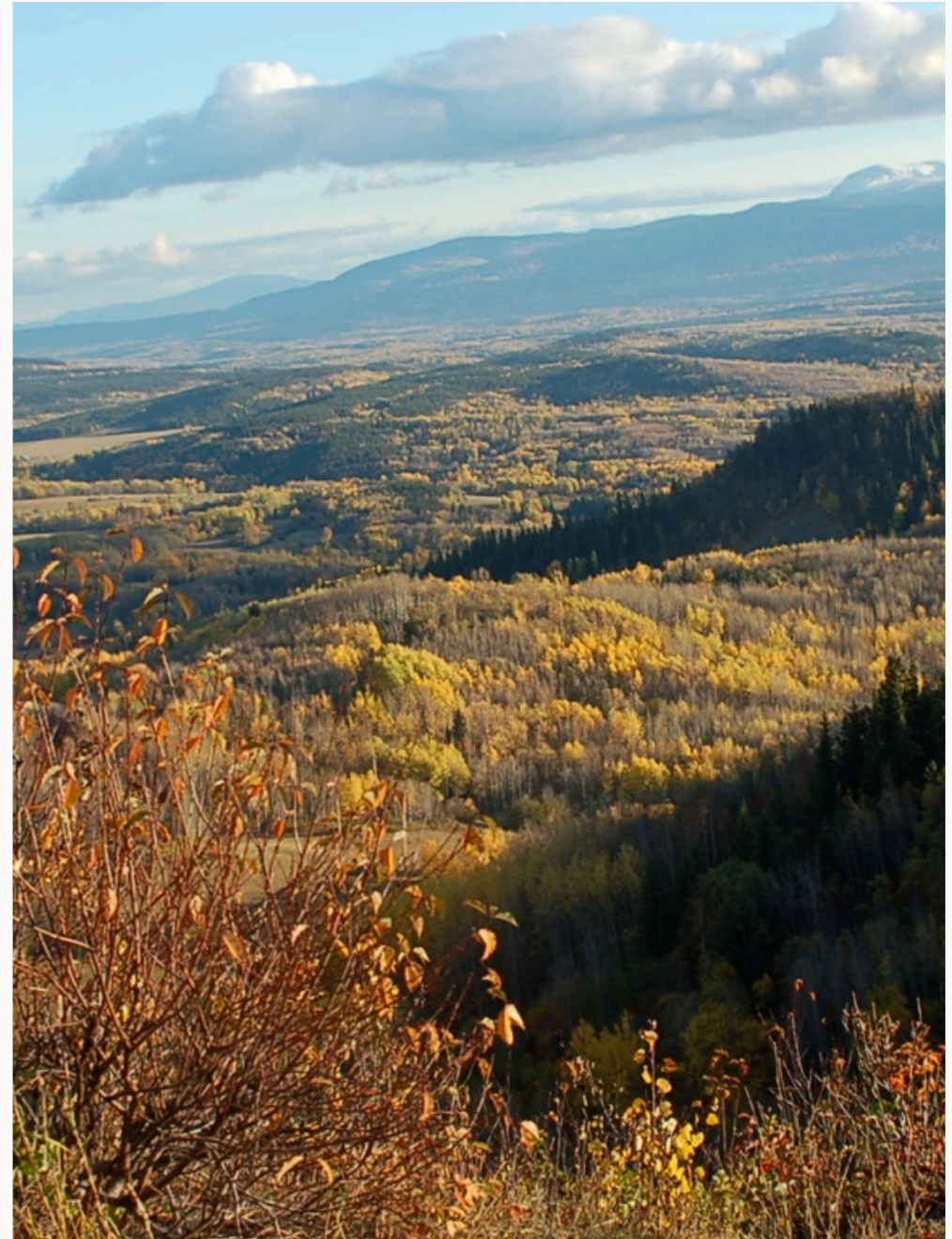
“The whole of capabilities, resources and institutions of a country, region, community or group to implement effective adaptation measures.” (IPCC 2007)

VULNERABILITY ASSESSMENT

- System perspective - includes environmental, social, economic, political and cultural.
- Past and current vulnerability to extreme weather and cumulative effects
- Focus on existing coping strategies
- Includes stakeholders and non climate-related stressors
- Helps decision makers id most vulnerable parts of system

VULNERABILITY ASSESSMENT PROJECTS

- Provincial: FFEI
- Regional:
 - Future Forest Ecosystem Council (FFESC):
 - Kamloops
 - Nadina
 - West Kootenay
 - Future Forest Strategy
- National:
 - Canadian Council of Forest Ministers (CCFM)
- International: IPCC



CLIMATE ACTION SECRETARIAT

- Vision - “British Columbia is prepared for and resilient to the impacts of climate change” - To achieve requires:
 - “Building a strong foundation of knowledge and tools to help public and private decision-makers across BC prepare for a changing climate.
 - Make adaptation a part of the BC Government’s business, ensuring that climate change impacts are considered in planning and decision-making across government.
 - Assess risks and implement priority adaptation actions in key climate sensitive sectors.”

MFR SERVICE PLAN

- Goal 1 is Sustainable Forest and Range Resources.
- Objective 1.1 is to achieve well managed, healthy, productive forest and range resources.
- **Strategies include adapting British Columbia's forest and range management practices for a changing climate.**

FUTURE FOREST ECOSYSTEM INITIATIVE

- Aim is to foster forest and range ecosystem resilience through a coordinated approach including research, modelling, monitoring, policy assessment, policy adjustment, and communication.
- The goal is for BC's resilient and well-adapted forest and range ecosystems to continue to provide a stream of goods and services upon which our citizens rely.

FFEI

ADAPTING TO CLIMATE CHANGE

- 1) Impact Assessments – to evaluate the potential consequences associated with climate change.
- 2) Vulnerability Assessments– to evaluate where impacts of significance may occur, i.e. where a system is most exposed, sensitive and least capable of adapting.
- 3) Adaptation – designing and implementing adaptive actions to reduce vulnerabilities and adapt to climate change;
- 4) Integration – monitoring responses to climate change, identifying interactions, feedbacks and cumulative effects, and adjusting adaptation approaches as necessary.

PURPOSE OF THE PROVINCIAL VULNERABILITY ASSESSMENT

To identify:

- implications of climate change on ecosystem components / processes and likely effects on forest and range values;
- where opportunities for working with climate change exist; and,
- the components of the province's forest and range management framework that should be further assessed.



PHASES OF THE VULNERABILITY ASSESSMENT

Phase 1 - Overview (high level/strategic) assessment

- to identify priority issues and trends for consideration in policy discussions
- to inform broad FFEI priority setting for modelling, monitoring and research.

Phase 2 - Detailed provincial assessment

- to address and “drill down” into priority issues and specific policy implications
- to provide more detailed direction on FFEI priority setting for modelling, monitoring and research

PHASE 1- OVERVIEW ASSESSMENT OBJECTIVES

1. Assess the effects of climate change on ecosystems and ecological processes over the next 50 years.
2. Identify the relationships between the ecological change and forest management activities.
3. Identify where the most pressing issues will occur on the landscape (high level)
4. Prioritize short- and long-term policy considerations and knowledge requirements (research, modelling, monitoring) for adapting to a changing climate.

FUTURE FOREST ECOSYSTEMS SCIENTIFIC COUNCIL

- In March 2008, the BC Ministry of Forests and Range established the Future Forest Ecosystems Scientific Council (FFESC) to guide the allocation of a \$5.5 million grant-in-aid to research that supports the objectives of the Future Forest Ecosystems Initiative (FFEI) – namely, adaptation of the forest and range management framework to climate change.
- The FFESC is a cooperative council comprising representatives of the Ministry of Forests and Range, the University of British Columbia (UBC), and the University of Northern British Columbia (UNBC).