

Adaptation Options to Reduce Impacts on Health and Culture

Introduction and Overview (2-3 pp) to all adaptation options for the TWG. It is important to have a problem statement and an indication of the strategy adopted by the TWG right at the start.

It is important to have a sense of why the options were chosen, how they address the impacts in the sector/TWG, and how they hang together as a group. Why should Alaska adopt these options? Together, the options recommended by any TWG should constitute a strategy for the TWG “sector,” as well as a set of discrete options.

This storyline could include the following elements:

- Brief overview of issues/impacts/vulnerabilities being addressed by TWG. (See text box glossary for some additional clarification.)

Problem: Describe the impact, vulnerability, or other issues being addressed by the TWG. Connect these issues explicitly to climate change to the extent possible.

Significance: Discuss the magnitude or extent of the anticipated impact/vulnerability. How important is it? Are impacts already being observed? Who and what is at risk? Assess whether an impact may lead to irreversibilities that will affect either future resilience or the ability of the state to implement future options. Also capture subjective and potentially intangible issues that may concern many citizens, such as social justice, the viability of small or rural communities, maintaining historical ways of life, biodiversity, etc.

Ability to cope. Describe the ability of the human or natural system under consideration to cope with the consequences of climate change without intervention. Some systems can accommodate changes in climate without significant intervention while other systems cannot. For example, most hard infrastructure, such as roads, bridges, coastal buildings, etc. cannot alter their alignment, elevation, or structural foundation to accommodate coastal erosion or increased flood risk. On the other hand, farmers have historically responded to natural climate change by changing farming practices, crops planted, etc. Consequently, adaptive capacity may be lower for hard infrastructure than for agriculture. Other non-climate stressors and factors may also affect a systems ability to cope, such as development patterns, pollution,

- A discussion of how the options address critical impacts/vulnerabilities, e.g.:
 - Are there goals that your TWG set that the options are helping to meet, or
 - Do the options focus resources on the most critical impact areas
- What can you say about the strategy embodied in the choice of options, e.g.:
 - Are the options composed of policies, programs, or actions? Why?
 - Are the options primarily research/assessment or capacity building or action oriented?
 - Do they address ST needs/impacts that are already being experienced?
 - Do they put in place longer-term actions to address future impacts?
 - Can they be implemented quickly or will they take time?
- What else is important to note about these options, e.g.:

- Do they require new institutions or can they be implemented with existing institutions?
- New legislative authority?
- Are there co-benefits—address other environmental or other non-climate stressors at the same time?

Note that this introductory piece will likely be pulled out and used also in the body of the report—so don't worry if there is overlap with materials that follow. It should be standalone.

Short Glossary of Adaptation Terms

Adaptation/impacts related terms are defined in different ways. One commonly accepted set of definitions (taken largely from PEW Climate) is as follows:

Adaptation—actions by individuals or systems to avoid, withstand, or take advantage of current and projected climate changes and impacts. Adaptation decreases a system's vulnerability, or increases its resilience to impacts.

Adaptive capacity—a system's inherent ability to adapt to climate change impacts

Impact—An effect of climate change on the structure or function of a system.

Resilience—the ability of a system to withstand negative impacts without losing its basic functions.

System—a population or ecosystem; or a grouping of natural resources, species, infrastructure, or other assets.

Vulnerability—the potential for a system to be harmed by climate change, considering the impacts of climate change on the system as well as its capacity to adapt.

The general idea is that exposure to climate change and other factors results in potential impacts to sensitive systems. The adaptive capacity of these systems then is an important determinant of how vulnerable, or susceptible, systems are to these impacts. In turn, vulnerability combined with the probability that impacts will occur can be interpreted as the risk to the system, or the probability of harm.

We are not going to be dogmatic—but rather common-sensical—in our use of terms in this report, but it is helpful if the TWGs have a common understanding and generally adhere to the concepts above.

HC1. OPTION TITLE (subhead)

Note: the ordering below works well for an option that does not have a lot of pieces. For options that are more strategic in focus and so have multiple pieces, the structure will likely need to be modified. For example, some TWG options have an overall goal and several programs or actions that in combination reach that goal. If that is the case, it may be better to have a structure wherein each action is discussed—along with design, implementation, and possible other discussions—before moving onto the next action.

For example:

1. Option description
2. Sub option 1
 - a. Design
 - b. Implementation
 - c. Related policies and programs
3. Sub option 2
 - a. Design
 - b. Implementation
 - c. Related policies and programs
4. Feasibility
5. etc.

Other options may be broad policies and so difficult to provide this level of detail for.

Option Description

This is a very short introduction and overview of the option, including:

- Issue to be addressed by this specific option
- Overview of the option—what is it?
- How does the option address the issue of concern, including identifying the goal of the option
- Why is this option necessary--why do current trends or projections indicate that these goals are unlikely to be realized without the intervention of this option

Option Design

This is the heart of the option discussion. It is suggested that it be divided into the following sections.

Structure/design: what is the option? How is it structured and designed?

Targets/goals: may include specific quantitative targets or goals, if any

Timing: when would the policy/program/action take place, how long would it take, over what time frame can results be expected.

Participants/Parties involved: Individuals, federal/state/local government agencies, non-governmental organizations, private foundations, corporations, and others involved in this issue. Describe how they are involved.

Evaluation: what type of monitoring and evaluation of the adopted policy, once implemented, would be needed to gauge effectiveness and any corrections that would be needed over time

Research and Data Needs: what R/D will be needed before this option can be implemented effectively (note that this will float over to the RN WG as well as remain here). RN can be anything from information about climate change, ecosystem functions, human activities, socioeconomic data, etc., short term or long term. Please give a sense of whether the RN identified are high or low priority (and why).

Implementation Mechanisms

This is an indication of how the option could be implemented, for example:

- Steps that would be taken to get it in place (does a feasibility study need to be done first?).
- Is new legislative authority needed?
- Does a new agency or group need to be formed? A new activity added to an existing government agency, or expansion of an activity already undertaken by a non-governmental entity?
- Is there anything else that needs critically to happen before this option can be implemented?

Related Policies/Programs and Resources

Related Policies/Programs/Actions: Do current governmental, non-governmental, or private programs exist that are relevant to this policy option? Please list them and describe in some detail. Err on the side of including too much information and too many potentially relevant programs/actions (these can be trimmed down later). Are there potential synergies with other efforts being undertaken in other sectors, states, or otherwise? Are these other actions or efforts ongoing? Episodic? Are there other participants or stakeholders in these efforts? Who are they?

Available Resources: What resources already exist to address this issue. Are there funding mechanisms in place to institute this policy? Is the necessary expertise available? Does an existing governmental body

have the necessary authority and/or practical ability to implement this policy option? Are there unconventional resources available, such as indigenous knowledge or social networks?

Feasibility

Feasibility: Can the state realistically implement the proposed action. Is the proposed action within state authority or is it more appropriately the role of the federal government, localities, individuals, etc? Do the necessary legal, administrative, financial, technical, and other resources exist, and are they available for use on this proposed state action? This discussion does not need to cover political feasibility, which may be addressed by the Sub-cabinet.

Include in this discussion other aspects of the context for the option, such as substantive or procedural issues involved with this policy option, including potential conflicts of interest, different levels of governmental or non-governmental involvement in this issue.

Constraints: Are there potentially limiting factors for this policy option? Does the policy require public buy-in? Are there stakeholders with competing views? Will there be a long delay between actions taken and benefits realized? Are there other potential logistical, geographical, financial, technical, or procedural constraints?

Note that the discussion does not need to be broken into two separate sections as indicated above. The sections are more of an indication of the types of issues that can be raised in the feasibility section.

Adaptation Benefits and Costs

NOTE: THIS SECTION IS NOT NEEDED FOR THE INITIAL PROPOSAL

To be added, but likely will include:

- Qualitative or quantitative estimate of effectiveness of option
- Qualitative discussion or quantitative estimate of cost of option (both governmental and private sector, if the option involves private sector investment or other costs)
- Co-benefits—non-impact related, or ancillary, benefits
- What governs effectiveness of adaptation options?
- Key assumptions about effectiveness and key uncertainties
- Documentation of data sources used for estimates

TWG Approval and Deliberations

This is particularly of interest for the AAG. This section indicates the level of approval within the TWG, and is a place to indicate any minority views on the option, as well as caveats or ideas to keep in mind as implement the policies. This will likely appear only briefly in the final appendix of options, but is important for the AAG.