Appendix A – Options for Significance Standard

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This Appendix discusses six options for setting a standard significance thresholds for greenhouse gas emissions under SEPA. This Appendix explores each option and discusses the advantages and disadvantages of each.

I. DEGREE OF REQUIREMENT

- Set in rule, required to be used for determining significance (and possibly used for determining mitigation)
- Presented in guidance, directing agencies to use it for determining significance, but with no "teeth" nor directive for agencies to adopt it.
- Set in law, required to be used for determining significance.
- Set in law, required to be used for determining significance and determining mitigation.

II. QUESTIONS

- Does establishing a significance threshold of zero (or other level) affect the use of categorical exemptions?

  Possible strategies: If regulatory approach is pursued, 197-11 could provide caveats (exceptions) for exemptions. These caveats or exceptions could mention BMPs for climate impacts as a means to remain exempt or could require analysis and limit it to climate change. If the procedural approach is pursued, agencies could create their own exceptions to the exemptions as with critical areas (197-11-908).

- How could the scaling of GHG reduction plans remain consistent with the Emissions Reduction Law?
- What is the relationship between non-project (plans) and project emissions inventories?
- Would the purchase of emissions "credits" through a regional Cap & Trade system be allowed for the purpose of mitigating project and non-project actions? If so, would certification of emission inventories be necessary?
- Does the approach make it easier to minimize project-level SEPA review and emphasize review at the sub-area or planning level?

III STATEWIDE STANDARD

A. Zero Significance Threshold

Description:

This approach sets the GHG emission threshold at zero increase in tons/year. Under this approach any increase in emissions would be significant.

- Projects that result in a reduction of GHG emissions compared to baseline emissions would be less than significant. Projects that result in a net increase of GHG emissions would be required to mitigate their emissions to zero or exceed the threshold.

- This threshold approach is based on the belief that 1) all GHG emissions contribute to global climate change and could be considered significant, and 2) not controlling emissions from smaller sources would be neglecting a major portion of the GHG inventory.

Project: Steps: 1) inventory of GHG emissions generated by project, 2) inventory of energy needs of project, and 3) provide onsite and offsite mitigation to reduce GHG emissions to net zero or exceed the threshold.

Non-Project: Steps:1) provide an inventory of GHG emissions generated within the planning area, 2) provide an inventory of energy needs of the planning area, and 3) develop a GHG Reduction Plan for the planning area that implements the GHG Emission Reduction to zero or exceed the threshold.

Advantages:

- Addresses the cumulative impact of many small GHG sources. While individually many GHG sources are too small to make any noticeable difference to climate change, it is also true that the countless small sources around the globe combine to produce a very substantial portion of total GHG emissions.

- Under this option, all projects subject to SEPA would be required to quantify and mitigate their GHG emissions. All would fall under the SEPA microscope.

- Potentially greater degree of certainty for project proponents

- Possible to establish GHG Best Practices for smaller projects to achieve compliance without forcing extensive analysis for them

Disadvantages:

- Increased administrative costs and pressure on environmental review system capacity given that some projects that previously would have qualified for an exemption could require substantial analysis.
- May be that the increased volume of projects requiring review reduces the quality of consideration given to review worst projects
- Should consider whether meaningful mitigation can be achieved from smaller projects

B. Non-zero Significance Threshold

Note: There are ways that some of the following thresholds could be a zero threshold, but it is not assumed or assured as it is with the zero threshold.

1. **Option 1**: Set x tons/unit threshold, x tons/year threshold, or x tons/person threshold

Description: Set a bright line numerical threshold approach

Project: If the threshold was set at xx tons per year then each project that exceeds that threshold would be considered to have a significant impact (e.g., residential development threshold = 900 tpy, an industrial project could not exceed 25,000 tpy). A project could then use mitigation to bring itself below the threshold.

Steps are: 1) inventory of GHG emissions generated by project, 2) inventory of energy needs of project, and 3) if above XX tpy threshold then provide onsite and offsite mitigation to reduce GHG emissions to below threshold.

Nonproject: 1) provide an inventory of GHG emissions generated within the planning area, 2) provide an inventory of energy needs of the planning area, and 3) if action exceeds numerical threshold, develop a GHG Reduction Plan for the planning area that implements the GHG Emission Reduction to below the numerical threshold or adopt feasible reduction measures to reach GHG reduction target and come below numerical threshold.

Advantages

- Excludes small projects that have a relatively small contribution to state GHG inventory. If limit set at tons per unit, then small projects could be captured.

- Single threshold easier to apply to projects and more easily understood by the public, applicants and lead agencies.

Question: Would a single threshold be applied to all project types? If done on a unit basis, this would not work, would need to be different for each type of project.

Disadvantages

- If set too low may discourage mitigation and if set too high may not capture enough projects to meet state requirements of GHG reduction targets
- Larger projects shoulder greater burden of reductions to compensate for smaller projects not requiring mitigation, in order to reach reduction targets statewide.
- Projects designed to be just under the limit to avoid dealing with the threshold.
- It is not clear that a threshold that allows for unmitigated GHG emissions will meet the emission reduction requirements in RCW 70.235.020(1)(a). If all actions are allowed 900 metric tons per year of GHG emissions, for example, without some sort of required future reduction it is unlikely the required emission reductions could be met.
- Per capita thresholds would not likely meet the emission reduction requirements in RCW 70.235.020(1)(a) since they call for an absolute reduction in emissions whereas per capita thresholds with a growing population will likely allow continued emissions growth.

2. **Option 2**: Meeting WA State GHG Reduction Requirements

Description:

In 2008, the Washington State Legislature set requirements for reducing statewide GHG emissions to 50 % below 1990 levels by 2050. RCW 70.235.020(1)(a). RCW 70.235.020(1)(b) specifically authorizes actions to achieve these reductions under existing statutory authority, which would include SEPA. Since one of the SEPA considerations for when an EIS is required is whether an action is inconsistent with state law, the adoption of limits is significant for SEPA review.

Reducing GHG emission levels 50 % below 1990 levels will require both reductions in existing GHG emissions and new emissions.

Question: What about emission reductions in response to cap and trade?

This threshold option would require a project/nonproject to show that they will meet the required reductions in order to be considered less than significant.

Question: How would percent reduction be chosen in relation to increase state reduction goal? Would the project reduction goal change over time to meet changing state goal?

Project: This threshold approach would require a project to show that they will meet the required reductions based on the average reductions needed from the 1990 emission levels from all GHG sources. The required reductions could be determined on a case-by-case basis by comparing projected future emissions against estimated 1990 emissions and then determining a fair share reduction needed to achieve the necessary reductions. Alternatively, a state agency or local government could allocate the required reductions in the same manner as emissions are allocated for nonproject actions.

Nonproject: A local jurisdiction or state agency determines 1990 emissions, current emissions, and projected emissions. Jurisdiction then calculates the necessary reductions/net emissions to meet 50% below 1990 target requirements. Any proposal that does not meet the reduction (net emissions) state levels, would be considered to have significant impacts on climate, and all the climate change associated indirect effects.

Emissions could be allocated to sectors or geographic areas. The allocation could take into account the feasibility of reductions from a particular sector or use and the most cost effective ways to reduce greenhouse gas emissions. Because the allowed emissions are reduced over time the needed reductions could also be phased as new technologies become available.

Question: Once a project is included in a complying plan, would the project need it's own emissions analysis?

3. Option 3: Uniform Percentage-Based Reduction

Description:

State would adopt a percentage reduction below business as usual necessary to reach set level overall as end strategy (could be part of achieving the state GHG

reduction requirements or another number based on science). (Note: This approach assumes a percentage less than 100 percent.)

This approach is not that different from option 2 except that it presents a different percentage. This different percentage could be applied to different project types.

For a Project Action: A project would be required to meet a percent reduction target based on the average reductions needed from the business-as-usual emission from all GHG sources to be considered less than significant. (E.g., the threshold could be 15 tpy per residential unit (25% below BAU) and 50 tpy per 1000 sq. ft. retail (25% below BAU)).

For a Non-Project Action: Including in Comprehensive planning documents measures necessary to reach percentage reduction in GHG. Such measures could include mitigation in the area of energy efficiency and conservation, recycling and waste management, transportation, water, and land use and design.

Advantages of Options 2-3 Percentage Based Approach:

- Using a percentage/time based requirement as the basis for a significance threshold may be more appropriate to address the long term adverse impacts associated with climate change
- If this goal is connected to the statewide requirements then it presents more likelihood of actually achieving statewide requirements.

***Disadvantages of Options 2-3 Percentage Based Approach*:**

- Difficult to allow for changes in the baseline and future emission inventories estimates Need to provide clarification on role of emission inventories needed.
- Projecting future inventories over the next 15 to 50 years involves uncertainty.
- It is not clear that a reduction over business as usual can achieve the reductions required by state law. RCW 70.235.020(1)(a) requires reductions first to the 1990 level and than to 25 or 75 percent below the 1990 levels. A reduction from business as usual implies that emissions will be allowed to grow, although at a slower rate.

4. **Option 4**: Standard Threshold By Type of Project

***Approach 1**: Quantitative Threshold Based on Market Capture*

Project

a. Residential: Review data from at least 20 diverse cities and counties on pending applications for development. Determine the unit threshold that would capture approximately 90 percent of the residential units in the pending application lists. (E.g., in CA based on data of 90%, thresholds selected would be 50 residential units. GHG emissions associated with 50 single-family residential units is 900 metric tons/yr. So single threshold is 900 metric tons for residential projects.)

b. Office: Similar approach for residential with threshold being 30,000 square feet. So single threshold of 900 metric tons.

c. Industrial: Less amenable to a unit-based approach given diversity of projects within sector. Option would be to adopt a quantitative GHG emissions threshold for industrial projects equivalent to that for the residential/commercial thresholds.

Nonproject: Option would be to adopt a quantitative GHG emissions threshold for nonprojects equivalent to that for the residential/commercial thresholds.

Advantages

- Proposed threshold would exclude the smallest proposed developments from potentially burdensome requirements to quantify and mitigate GHG emissions
- Captures 90 percent of each market to show that cumulative reductions are being achieved
- Requires vast majority of new dev't emission sources to quantify GHG Would require all proponents to quantify to determine if under/over threshold.

Disadvantages

- Requires extensive information on jurisdictional applications for each economic sector.
- Data changes over time
- Necessary data and resources not likely available presently.

- Larger projects shoulder greater burden of reductions to compensate for smaller projects not requiring mitigation, in order to reach reduction targets statewide.
- Under this proposal, ten percent of all development would be exempt from review. This may not achieve the reductions required by state law. RCW 70.235.020(1)(a) requires reductions first to the 1990 level and than to 25 or 75 percent below the 1990 levels.
- Could encourage development of projects just under threshold.
- Dynamic changes in the market by year and by region.

***Approach 2**: Uniform %-Based Reduction by Economic Sector/ by Region*

Description:

This threshold option would use a tons/year GHG threshold specific to the economic sector associated with a project.

For Project Action: There would be specific threshold for each economic sector (residential, commercial, and industrial). E.g., For residential could set at xx tpy which would be set based on percent of projects trying to capture or be set so the existing categorical exemptions would remain exempt.

For Non-Project Action: This uniform percentage based reduction could also be applied to a geographic region for purposes of non-project action. The threshold standard could specify a percentage level for regions of the state. The areas within each region required to plan must then demonstrate that through their plans they are in compliance with the percent reduction goal.

Advantages

- Allows selection of the best regulatory goal for each sector taking into account available technology and costs.
- Avoids over-regulating projects (i.e., requiring emissions to be controlled in excess of existing technology) or under-regulating projects (i.e., discouraging the use of available technology to control emissions in excess of regulations)

Disadvantages

- Requires extensive information on the emission inventories and best available control technology for each economic sector.

- More viable option in the long term but necessary data and resources not likely available presently.

- Larger projects shoulder greater burden of reductions to compensate for smaller projects not requiring mitigation, in order to reach reduction targets statewide.

***Approach 3**: A flexible range based on amount of GHG emissions*

Description:
Local jurisdictions are required to choose a threshold within a designated range.

- *e.g. choose between 500 and 5,000 MTCO2e*
- *e.g. choose between a number of units (5- 20 residential units)*
- *e.g. choose another GHG emissions reporting requirement (2,500 for mobile sources and 10,000 MTCO2e for stationary sources)*

Advantages

- Could capture a certain % of development related emissions or be set so that the existing categorical exemptions remain exempt.

- Could be defined to capture most emissions but exclude small projects

- Could lower burden on small developments

- Could lower burden on SEPA lead agencies

Disadvantages

- Requires knowledge of the type of projects and their GHG emissions that are likely to go through each SEPA lead agency

- Larger projects shoulder greater burden of reductions to compensate for smaller projects not requiring mitigation, in order to reach reduction targets statewide.

- Depending on the threshold, this alternative may not achieve the reductions required by state law. RCW 70.235.020(1)(a) requires reductions first to the 1990 level and then to 25 or 75 percent below the 1990 levels.

Approach 4: *Identify certain types of projects (e.g., industrial projects, mining projects, road projects) as significant without mitigation and prescribe feasible mitigation measures based on project size and type*

This would need to be used in conjunction with another approach for other types of projects that are not automatically considered significant.

Approach 5: Standard Threshold by Size of Project

Description

Projects of a certain size would qualify as exceeding the threshold. E.g., proposed residential dev't of more than x dwelling units, proposed shopping center or business employing more than x number of people or encompassing more than x square feet of floor space, proposed hotel of more than x rooms.

The question with this approach is what is the threshold number the project must mitigate under – does it mitigate to point of reducing GHG emissions to level of project size below threshold. So if the threshold were set at a 40 unit housing development, a 50 unit development would need to mitigate to the same emissions as a 40 unit development, Or a 200 unit mitigate to a 40 unit development

Project: e.g., If the threshold was set at 15 residential units/10,000 sq.ft commercial space, each project that exceeds that size would be considered to have a significant impact. A project could then use mitigation to bring itself below the emissions level of 15 residential units/ 10,000 sq. ft. The thresholds could be set so the categorical exemption would continue to be exempt.

NonProject:

Under this category, a threshold standard could be set for cities and counties based on the size/scale of the local jurisdiction for Comprehensive Plans. The County would then have to show its CP meets the threshold in order to be considered less than significant.

Advantages/Disadvantages

- Same advantages and disadvantages as Option 1 under the Non-Zero Threshold.
- Rigid option with potential for litigation

- Could require detailed list of thresholds by project type.

5. **Option 5**: Tiered Approach/Decision Tree Approach

Description

The goal of this approach is to maximize reduction predictability while minimizing administrative burden and costs. This would be accomplished by prescribing feasible mitigation measures and reserving the detailed review of an EIS for those projects of greater size and complexity.

This approach would "bin" projects based on established characteristics, with increasing requirements for each bin, or tier

Tier 1*: Less than Significant*:

Emissions associated with a project/plan are assumed to have a significant impact unless one can arrive at a less-than-significant finding by at least one of the following methodologies:

a. For Non Project and Project Action, Demonstrate that a planning document is in compliance with State's goal or other stated standard threshold (zero-threshold, uniform % reduction threshold, etc.).

(e.g., A comp plan fully document 1990 and 2020/50GHG emission inventories. If its 2020/50 mitigated emissions are 25% and 50%, respectively, less than 1990 emissions it is considered less than significant.

- (E.g., if the threshold is zero then a project does not have significant impacts if it meets zero net GHG emissions, or if threshold set at Quantitative (tons/year) or Qualitative (unit based on market capture) then project not significant impact if comes below Quantitative or Qualitative threshold due to other legal authority.)

b. For Project Action, Demonstrate the Project is Exempt

- (E.g., for CA projects funded under its Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act and Disaster Preparedness and Flood Prevention Bond Act may be exempt)

Question: How is exemption determined? Need to be careful if exemption is based on funding titles, as definitions of 'safety' and other terms can be squishy and change over time.

OR

c. For Project Action, Demonstrate that the project is on the "Green List".

- The Green List would consist of a list of projects and project types that are deemed a positive contribution to state efforts to reduce GHG emissions. (Ex. A wind farm that had negligible construction emissions; Small hydroelectric at existing facilities that generate 5 mw or less; increase in bus service along an existing bus line; Dev't of bicycle, pedestrian, or zero emission transportation infrastructure to serve existing regions; Extension of public transportation services to currently developed but underserved communities; Recycled water projects that reduce energy consumption related to water supplies, etc.)

OR

d. For Non- project or Project Action, Demonstrate that project is consistent with local and regional jurisdictions' GHG Reduction Plan. Ecology could also do a GHG reduction plan and a project that copies with it could be non-significant.

- Where a project can demonstrate it is consistent with an appropriate planning document's or state agency's GHG Reduction Plan (CGRP), the project can be declared less than significant. Comprehensive and other long-range planning processes would analyze GHG emissions, significance, mitigation, etc. and develop a Greenhouse Gas Reduction Plan (GGRP). A project would start with analysis done at non-project stage and verify that the project was consistent with the plan and that appropriate non-project analysis for GHG emissions was conducted. Requires thorough GHG analysis at non-project level and additional guidance or rule.

If Not Then

Tier 2: *Exceeds Threshold but Mitigated to Less than Significant*:
In Tier 2, those projects that did not meet the threshold analysis would be required to implement a comprehensive set of Level 1 mitigation to bring themselves below the threshold. Quantitative and Qualitative inventories would be required.

a. If applying a zero threshold: A project results in a net increase of GHG emissions, but is mitigated to zero through direct mitigation or offsets. An approach similar to mitigation sequencing could be applied to put mitigation before offsets in priority

b. If applying a Quantitative threshold (tons/year) : A project would implement a comprehensive set of Level 1 mitigation strategies to bring it below the threshold (ex. Parking reduction beyond code, solar roofs, LEED Silver or Gold Certification, TDM measures, intelligent transportation systems, etc.)

c. If applying a Qualitative threshold (unit-based market capture- # of dwu, sq ft space or per capita ratio): Projects with emissions above the standard threshold would be required to implement a comprehensive set of Level 1 mitigation. Projects below Tier 1 threshold would not be required to quantify emissions or reductions.

Tier 3: *Significant and Unavoidable Impacts or Mitigated to Less than Significant*:

If impacts still exceed the Tier 1 threshold an even more aggressive set of Level 2 mitigation measures would be required to reduce emissions below the Tier 1 threshold. In Tier 3 for those projects that did not meet threshold after Tier 2 mitigation and analysis, the project would be required to reduce net emissions using Level 2 reductions, in addition to Level 1 mitigation strategies. This tier would distinguish the larger projects from the smaller ones.

a. Projects may remain significant and unavoidable where mitigation infeasible to reduce emissions to zero (e.g., cost to offsets infeasible for project or offsets not available)

b. For Quantitative approach, more aggressive set of Level 3 mitigation measures would be required (could include such measures as on-site renewable energy system, LEED Platinum certification, required recycled water use for irrigation, etc. that would mitigate to less than significant.)

c. For Qualitative approach, apply Level 3 mitigation and require offsets for remainder (when feasible) in the amount of 90 percent of net emissions after application of Level 1, 2 and 3 mitigation. A variant could be to require mandatory Level 3 mitigation without quantification and offsets

Questions: If emissions are qualitatively discussed, not quantitatively discussed, how can 90 percent of emissions be offset. Especially when entering the carbon market for offsets, emissions will need to be carefully calculated.

Tier 4: EIS

For projects that are cannot mitigate or offset to below the threshold, an EIS would be necessary

Advantages

- Allows flexibility by establishing multiple thresholds to cover a wide range of projects
- Tiers could be set at different levels depending on GHG emissions, size and characteristics of projects
- Could design to support WA state GHG reduction goals

Disadvantages

- Similar disadvantages as explained in approaches above.
- Approach is relatively complex although complexity could be reduced through a well designated flow chart.

Table 1: Option 6 Tiering Approach

	Zero Threshold Standard	Quantitative Threshold Standard	Qualitative Threshold Standard
Tier 1	Project results in a net reduction of GHG emissions below zero = *Less than Significant Impacts*	Project in compliance with state law req't, a Comp. Plan CGRP, on Green List, or below Tier 2 threshold Implement Level 1 Reductions (Reductions like Energy Star roofs and appliances, water use efficiency, etc.) = *Less than Significant if Level 1 Reductions applied*	Project in compliance with state law req't, a Comp. Plan CGRP, on Green List, or below Tier 2 threshold Implement Level 1 Reductions (same as measures under 2B) = *Less than Significant if Level 1 Reductions applied*
Tier 2	Project results in net GHG increase Mitigate to zero (through direct or offsets) = *Mitigated to Less than Significant Impacts*	Emissions above Tier 2 threshold Level 2 Mitigation (Mitigation such as parking reductions beyond code, solar roofs, LEED standards) = *Less than Significant if Level 1 and 2 mitigations applied*	Project meets Tier 2 criteria Level 2 Mitigation Reductions necessary (see measures under 2B) = *Less than Significant if Level 1 and 2 mitigations applied*
Tier 3	Net GHG increase Mitigation infeasible to reduce emissions to zero (e.g., cost of offsets infeasible for project or offsets not available) *Significant and Unavoidable Impacts*	Emissions above Tier 2 threshold with Level 1 and 2 Mitigation Level 3 Mitigation (On-site renewable energy systems, LEED Platinum certification, zero waste/high recycling requirements, offsets/carbon impact fees, etc.) = *Mitigated to Less than Significant with Level 1, 2 and 3 mitigation*	Above Tier 3 thresholds Quantify Emissions, Level 3 Mitigation (see measures under 2B) and offsets for 90% of remainder = *Significant and Unavoidable Impacts*

6. **Option 6**: Decision Tree - Alternative

Tier 1: Are all GHG emissions addressed by a Comprehensive GHG Reduction Plan or a regulatory structure (local, state, and federal requirements requiring reduction in emissions)?

If YES, then no SEPA analysis required.

If NO, then:
Those GHG emissions not addressed by a regulatory structure or a Comprehensive GHG Reduction Plan would undergo SEPA analysis. Do those additional emissions exceed the standard threshold?

If the development regulations do not account for all the emissions associated with the project, you then calculate the remaining emissions. If the remaining emissions do not exceed the threshold determination a DNS would be issued for the project.

Tier 2:
If remaining emissions exceed the threshold determination, then mitigate the remaining emissions to bring below the selected standard threshold. (MDNS) Assuming the SEPA analysis determines mitigation is required the project would then be required to mitigate down to the threshold determination level. At this point the project proponent would be able to select from a pre-identified list of mitigation options to satisfy the required mitigation. (Note: refer to work done by Mitigation Subgroup)

Tier 3: If need further aggressive mitigation or offsets to bring GHG emissions below the threshold, then apply to project/non-project to reach MDNS

Tier 4: For projects unable to meet threshold after mitigation and offset, then EIS.