



**STATE OF WASHINGTON**  
**DEPARTMENT OF ECOLOGY**

PO Box 47600, Olympia, WA 98504-7600 • 360-407-6000

## Summary notes ODS Technical Working Group Meeting #2

### Topic #1: Update GWP Values to AR5

What additional context or considerations should Ecology be aware of?

- CAR updated their ODS protocol GWP values to AR5 in 2022
- The EPA is making the move of AR5, and the UNFCCC has issued guidance for members states to move to AR5 by December 2024
- CORSIA established a requirement for AR5 values for CORSIA eligible offsets

Should Ecology use AR5 values? Why or why not? Should Ecology include a scheduled conversion to AR6 values?

- GWP values are a policy decision. AR6 is the most recent and most updated available data. Ecology should look to the most recent science. AR6 values are significantly higher than either AR4 or AR5 values for eligible substances.
- No offset programs are scheduled to adopt AR6 at this time, using different AR's across comparable programs will result in venue shopping
- If Ecology adopts AR5 values while CARB retains AR4, developers have an incentive to develop in California's market as marginally more credits will be attained
- Offset buyers often maintain their own reporting standards and have their own position on AR4/AR5/AR6 values

Does this change contribute to Ecology's programmatic goals of this rulemaking of 1) reflecting advances in policy and scientific understanding 2) removing unnecessary project development barriers, inefficiencies, and exclusions and 3) increase methodological rigor

- Moving to AR5 reflects an advance in scientific understanding but falls short of the current scientific understanding in AR6

### Topic #2: Cumulative emissions rate for refrigerants

What additional context or considerations should Ecology be aware of?

- Cumulative emissions rates will depend on the baseline assumption – stockpiling may be more appropriate as a baseline for some substances, rather than the current baseline of recovery and reuse
- Recovery and reuse markets for CFC's are still active
- The type of equipment where ODS are sourced from has a significant impact on the risk and severity of leaks
- The baseline for HCFC's is more clearly recovery and reuse

What additional sources should Ecology consider to related to cumulative emissions rates?

- Systems that use CFCs now will be 30 years old or older, and thus inherently less efficient
- ACR's 2.0 protocol uses a 100% emissions rate assumption, rather than estimating cumulative emissions over a 10 year period. ACR's protocol also changes the crediting period to match the time of the destruction event, rather than the 10 year crediting period used in the adopted ARB protocol
- The EPA's GHG Inventory assumes that HFC's will leak fully over a 15 year period
- Reclaimed trends for ODS are declining over time
- EPA emissions assumptions include emissions from installation, end of life, etc. in addition to leaks from operation
- 100% of these gases, unless destroyed will be released into the atmosphere at some point (although not necessarily within the 10 year crediting period).

Should Ecology consider a baseline scenario of stockpiling or continued use? Has the reasonable baseline scenario changed since this protocol was last updated?

- Prices for CFCs have continued to rise, indicating a continued market for operational use
- Verra's protocol is currently undergoing revision and may provide alternative approaches or sources to consider

Does this change contribute to Ecology's programmatic goals of this rulemaking of 1) reflecting advances in policy and scientific understanding 2) removing unnecessary project development barriers, inefficiencies, and exclusions and 3) increase methodological rigor

- Removing 10 year emissions factors would remove uncertainty and the need for estimates, as these gases will eventually leak out in the atmosphere
- For some gases, like R-22, an emissions factor may still be warranted as stockpiling of these gases is not common practice

### Topic #3

What additional context or considerations should Ecology be aware of?

- There are more studies available now on landfill emissions rates from foams, including studies used in ACR's 1.2 protocol
  - [2016 Yesiller research](#) was used for ACR's 1.2 protocol
- The foam emissions calculation in the adopted protocol from ARB is very conservative, and includes the assumption that the vast majority of ODS is anaerobically digested in a landfill environment

What additional sources should Ecology consider to update these values?

- ACR's 1.2 protocol

Should Ecology consider a baseline of recovery and reuse for foams, rather than landfilling for foams?

- Recovery and reuse is not common practice for foams, landfilling is the common practice

Does this change contribute to Ecology's programmatic goals of this rulemaking of 1) reflecting advances in policy and scientific understanding 2) removing unnecessary project development barriers, inefficiencies, and exclusions and 3) increase methodological rigor

- Foam emissions rates in current methodology need to be updated
- The EPA makes the same assumption for blowing agents in a landfill environment as for first fill HFC's
  - Landfill emissions rate component (excluding shredding and compaction) of emissions rate could be estimated at 100% based on EPA inventory approach
- May not be enough data to support a 100% emissions rate for foams
- There haven't been foam projects in the US and there is a significant market opportunity, particularly for appliance foams
- There is significant developer interest in foams, but this has not been economically feasible in current protocols