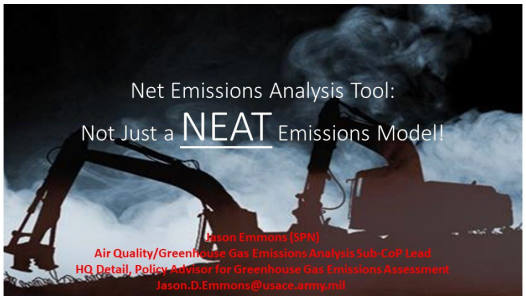
An Introduction to the Net Emissions Analysis Tool (NEAT)
19 October 2023
Q&A Summary



This webinar provided an overview of the Net Emissions Analysis Tool (NEAT). Presenter Jason Emmons (Air Quality and Greenhouse Gas Emissions Analysis Sub-CoP) discussed the quantification of gross and net greenhouse gases (GHG) with their associated social costs, which should be included in National Environmental Policy Act (NEPA) documents per the White House Council on Environmental Quality's Interim NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change. Despite the numerous models available for quantifying emissions, a model is needed that can quantify and integrate air pollutant and GHG emissions from diverse emissions sources to compute the net effects relevant for USACE projects. To this end, the NEAT model was developed to utilize output data from pre-existing air pollutant and GHG emissions models while providing the capability to quantify GHG fluxes from Federal actions such as wetland restoration, flood risk management, and vertical construction. NEAT leverages the benefits of pre-existing models, while innovating new capabilities for quantifying emissions using an expandable tabular methodology that can accommodate additional GHG sources and sinks as needed. NEAT combines results from these sources and sinks to calculate the net emissions for air pollutants and GHG species and their corresponding social costs over a project lifetime. These calculations are essential for project planners in USACE as they quantify net emissions for NEPA purposes.

This summary of the Question/Answer session of the webinar is not a transcription; questions and responses have been edited and reordered for clarity.

NEAT Basics

How can users find references to the information used within NEAT?
All of the literature values used in the NEAT model are documented on the references tab, including paper titles, URLs, and how literature values were augmented and applied for use in NEAT.

How much would the average study team need to set aside to account for time and funding for this type of technical work?
The short answer is: it depends on the size of the project and the quantity of emissions expected. There are some cases (e.g., for Continuing Authorities Program [CAP] projects) where teams could adopt an existing analysis and use a representative equipment list to simplify the process. For larger projects, the team will have a cost engineer and more exact numbers, which will allow for the phasing of an analysis. For a typical CAP project where an existing analysis can be leveraged, 16 hours is likely adequate.

Will NEAT be available as an online platform or will it be a downloadable product?
There are plans to migrate NEAT to an online platform in the future. For now it will be available as a downloadable product for use in Microsoft Excel.

Is it appropriate to discount the future social cost of GHG to present value? For example, is it appropriate to do a price level adjustment from FY20 dollars to FY24 dollars?
No, it is not necessary to convert, for example, from 2020 dollars into current dollars. When new social cost tables become available for use, the dollar value will also get updated at that time.

What should teams do if the state or territory in a study is in an attainment area without a State Implementation Plan (SIP)?
If it is an attainment area, there are no requirements under the Clean Air Act (CAA) for conformity and teams can state this in the NEPA document without including an air quality analysis. If it is a nonattainment area and there isn't a SIP, then teams can still show compliance with the CAA if the emissions are below the thresholds depending on the type of nonattainment area. Without a SIP, it may be harder to engage in the general conformity process. Teams should reach out to Jason Emmons if they looking at a nonattainment area and there is also no SIP.

Measuring Emissions Using NEAT

Does NEAT take into account how mature the wetland is?
Not specifically. The literature values used in the model are for mature wetlands that are already in a steady state. It may be necessary to use various wetland types and delay the starting year to calculate emissions from a successional development over time.

Are emissions from operations and maintenance (O&M) dredging projects exempt from the CAA?
CAA exemptions exist for O&M dredging in cases where emissions were "grandfathered" in. The exclusion is included in Title 40 of the C.F.R. §51.853(c)(2)(ix) which states that conformity determinations requirements shall not apply to…. "(ix) Maintenance dredging and debris disposal where no new depths are required, applicable permits are secured, and disposal will be at an approved disposal site." In addition, §93.153(c)(2)(ix) states: "Actions which would result in no emissions increase or an increase in emissions that is clearly de minimis:" ((c)(2)) and: "Maintenance dredging and debris disposal where no new depths are required, applicable permits are secured, and disposal will be at an approved disposal site" ((ix)).

There may also be information to be found in the SIPs if it got included while they were developed. Note: the exemption does not apply to new work (e.g., deepening a channel, dredging for a new harbor, etc.).

Where is the best place to find emission factors for off-road and on-road vehicles? The California EMission FACtors (EMFAC) model only provides California emissions factors (and CA air quality standards are more strict than other states), and EPA's current MOtor Vehicle Emission Simulator (MOVES) model doesn't provide emissions for off-road vehicles.
EPA's AP42 model, which is older than MOVES, may provide this information if MOVES does not offer the needed capability. Because there is guidance from the EPA stating that MOVES is the standard for any general conformity analyses, in order to deviate from MOVES teams must provide a justification. If MOVES doesn't have the necessary capability for a given area, this is likely a valid justification to use a different model or source. If teams have a specific geographic area they're interested in, they can contact Jason and he can reach out to the EPA MOVES team to ask about whether it might be possible to build in the needed capability.

Do the dredge plan emissions anticipated for NEAT v2.0 include only USACE dredges, or do they also include commercial dredges commonly used under contract?
NEAT version 2.0 is planned to include both USACE vessels and representative commercial dredges.

Are there any MOVES overview trainings available?
Please use the below links for walkthrough videos and overview documents which were recommended by the EPA MOVES team. If/when USACE approves an air quality and GHG course, an overview of MOVES will be included.

- **MOVES3 Overview and Guide to Documentation:** https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1011KV2.pdf
- **MOVES3 Cheat Sheets** and other User Docs at: https://github.com/USEPA/EPA_MOVES_Model/tree/master/docs
- **MOVES FAQ:** https://www.epa.gov/moves/frequent-questions-about-moves-and-related-models

Many civil works projects use a 50-year planning horizon. Can sequestration be calculated for years 10 through 50 in 10-year increments? What would be the best way to approach this calculation?
The NEAT model does not have incremental calculations included for sequestration, but this could be achieved by changing the O&M period under the "Project Data" to reflect a 10-year period.

Future Use of NEAT and Model Certification

Is the NEAT model certified?
NEAT version 1.0 is currently going through the certification process with the ECO-PCX and is expected to be certified in the near future. Once certified, the model will be available on the ECO-PCX Library, as well as on the Planning Community Toolbox.

Will the NEAT model be an optional tool for teams to utilize for analyzing projects, or will it be required?
There is currently no official USACE guidance requiring the use of NEAT. That being said, the model should only provide benefits to study teams, and can be used without taking away from a project's preexisting workflow. Teams should be able to relatively easily take the outputs from any model they're currently using and put them into NEAT.

Is USACE considering certifying other agencies' models (e.g., those that are incorporated into NEAT)?
There are some models that are already in use that are de facto approved but aren't officially certified, such as EPA's MOVES model. However, a decision may be needed in the future about whether these models need to go through the official USACE model certification process.