

Consideration of Climate Change Impacts in CWA Actions

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Possible Venues for Considering Climate Change Impacts under CWA

- Water Quality Standards
- TMDLs
- NPDES Permits
- Effluent Guidelines
- Pretreatment Standards
- Secondary Treatment Requirements

Water Quality Standards

- Example – Chicago Area Waterways System UAA rulemaking
 - New recreational uses with disinfection effluent standard: upgrades would result in extra electricity consumption equal to that of 10,600 households
 - New aquatic uses with numeric DO standards: energy use for aeration stations would add annual GHG emissions equal to emissions from 9,600 cars

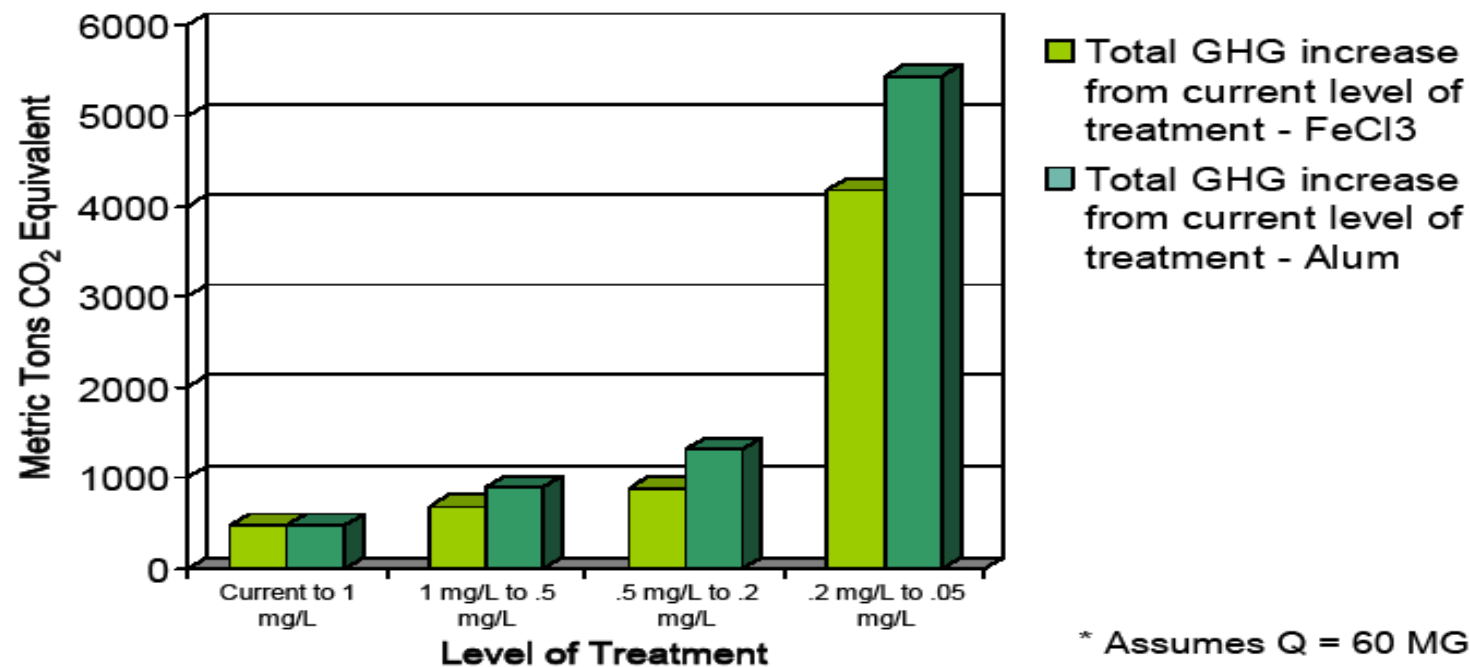
Water Quality Standards – UAA Tests

- How to factor in carbon footprint or other climate change impacts?
- At least two UAA tests in 40 CFR 131.10(g) could apply
 - Test : man-made factors prevent attainment of use, or would cause more environmental damage to correct
 - Test 6: attainment of use would result in substantial and widespread economic and social impact – maybe this is social impact?
- Also consider requirements in state law that agency consider environmental impacts and other factors

Total Maximum Daily Loads (TMDLs)

- Example: Lower Boise River
 - Tributary covered by Snake River/Hells Canyon TMDL for total phosphorus
 - State did allocation for Lower Boise in TMDL, then did implementation plan to allocate load among sources
 - EPA disagrees with state decision to give POTWs 200 ug/l limit, wants 70 ug/l limit instead
 - Difference in limits would mean extra GHG impacts – 6200 metric tons CO2-EQ per year for City of Boise

Sustainability – Environmental Cost



* Assumes Q = 60 MGD
and year round limit

TMDLs – Regulatory Program

- Once TMDL target set, states have broad leeway in deciding how to allocate load among sources
- State could decide to focus reductions on those sources for which new controls would have smaller carbon impact
- Fits well with adaptive management – try those sources first, then evaluate

NPDES Permits

- Example – Upper Blackstone (MA)
 - New limits for TP and TN pre-TMDL
 - Results could include:
 - 20% increase in power consumption
 - 5 extra chemical tanker trucks per day
 - Use of 150,000 gal of methanol annually
 - 50% increase in sludge/400% increase in ash
 - Use of more than 20 mil cubic ft natural gas
 - 14% increase in NOx emissions from furnaces

NPDES Permits – Regulatory Tools

- Water Quality Trading
 - Most useful for nutrients
 - Can allow for reallocation to sources with lower carbon footprints
 - Challenges in point/nonpoint trading
- Variances – use same regulatory tests as UAAs, but shorter-term relief

ELGs & Pretreatment Standards

- ELGs – BAT must consider energy use and non-WQ environmental impacts
- Pretreatment standards – required to be set based on BAT, so if carbon impacts are part of BAT analysis, should also be part of PSES
- EPA has considered those factors before, but has not used a carbon footprint analysis yet
- Watch future rules – utility plants, health care industry – to see if/how this gets done

Changes in CWA or Policies

- EPA Climate Change Strategy notes that it may make sense to ease some CWA requirements to reduce carbon footprint impacts of compliance
- Reaction of NGOs – opposition to any concept of trading one enviro impact for another – want both goals met
- Does Act need to be changed to clearly identify when and how carbon impacts can/should be considered in developing and implementing CWA actions?

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