

Thursday Prep: What the Cited Studies Actually Say

Honest review of the 5 sources behind the health-fear arguments circulating in Bethune — not a debunking exercise, a factual one. Two of these are genuinely rigorous science; treating them as junk would backfire if Connell or anyone else scrutinizes it.

The headline finding

One of these is almost certainly the exact "Harvard report" Gracie Kane criticized at the 7/14/26 hearing — and her critique was partly right, partly needs a correction of her own.

The Fluvanna/Expedition Generating Station report is a Harvard T.H. Chan School of Public Health analysis (Dominici Lab — genuinely top-tier biostatistics faculty, published in NEJM/JAMA/Science Advances), prepared for the Southern Environmental Law Center, of a proposed **1,540 MW** combined-cycle gas plant in Virginia. Kane's testimony described the Harvard report she was rebutting as modeling a **2,200 MW** plant, "more than four times larger" than Ballast's 500 MW. 1,540 MW isn't 2,200 MW — close enough in spirit (both are 3-4x Ballast's size) that this is very likely the same report family, but the specific number she cited doesn't exactly match this document. Worth confirming before repeating either figure Thursday: either there's a different, larger Harvard/SELC report out there, or the 2,200 figure was a misstatement in the heat of live testimony. Don't let our own side repeat an unverified number the way we're criticizing others for doing.

Source-by-source, honestly

Fluvanna / Expedition Generating Station

HIGH RIGOR

Harvard T.H. Chan (Dominici Lab), for SELC · Dec 2025 · 1,540 MW combined-cycle, Virginia

Method: Real EPA eGRID emission factors from an actual comparable plant (Greensville County Power Station — Dominion, combined-cycle + SCR), dispersion-modeled with InMAP, health costs run through EPA's own COBRA tool. Transparent about assumptions and limitations; explicitly calls its own numbers a conservative lower bound.

Headline result: \$27-50M/yr in health damages, 1.7-3.3 premature deaths/yr, disproportionate Black-resident exposure (26.6-27.4% of exposed tracts vs. 12.5% national).

What doesn't transfer to Ballast: it's a 1,540 MW plant, roughly 3x Ballast's 500 MW — and critically, it assumes combined-cycle + SCR emission controls, which we still don't know Ballast is actually using. If Ballast is a simple-cycle or reciprocating-engine plant instead, its per-MW emissions could be considerably higher than this report's assumptions, not lower. If Ballast IS combined-cycle + SCR, a straight linear scale-down ($500/1540 = \sim 32\%$) would put a comparable estimate around **\$9-16M/yr, roughly 0.5-1.1 premature deaths/yr** — still real, but meaningfully smaller than the raw \$27-50M figure that gets quoted without the scaling caveat.

Honest framing for Thursday: not "this study is junk" (it isn't — it's legitimate Harvard biostatistics work). The defensible pushback is "this models a different plant at 3x our size, and we don't yet know if Ballast is using the same emissions-control technology this analysis assumes — the raw dollar figures don't transfer without that information."

Nemadji Trail Energy Center (NTEC) ADVOCACY MEMO

Stanford Law School Law & Policy Lab, for Clean Wisconsin · Mar 2025 · 625 MW, Wisconsin

What it actually is: a student-authored policy clinic memo whose explicit recommendation is "RUS should deny the loan" — this is advocacy work product commissioned by an environmental group, not an independent scientific assessment. Authors are law students, not epidemiologists.

What doesn't transfer: most of its argument is climate-policy alignment, stranded-asset economics, and Tribal treaty-rights concerns specific to that Wisconsin site (which already hosts a gas terminal and oil refinery — a cumulative-burden context Bethune doesn't share). Only a fraction is a direct local-health claim, and that portion cites 90 tons/yr PM_{2.5}, 83 tons/yr NO_x, 16 tons/yr SO_x for a 625 MW plant — again a different size and unconfirmed technology type.

Honest framing: fair to note this is explicitly advocacy-commissioned, not peer-reviewed epidemiology — a real, legitimate distinction to draw, unlike with the Harvard/Fluvanna report.

PSE Healthy Energy — CA gas stove leak study HIGH RIGOR, WRONG COMPARISON

Peer-reviewed, Environmental Science & Technology · 2022 · 159 CA homes

What it actually found: unburned natural gas piped into homes contains benzene (found in 99% of samples) and other VOCs; leaky stoves — even when off — can push indoor benzene to levels comparable to secondhand smoke; statewide, CA gas leaks emit as much benzene/yr as ~60,000 cars.

This is not the same thing as Connell's stove-vs-plant PM_{2.5} comparison. This study is about unburned gas VOC/benzene leaks from home appliances — a completely different pollutant class and exposure pathway than combustion-stack PM_{2.5}/NO_x/SO_x from a power plant. If Meridian repeats "gas stoves are worse than the plant" citing this kind of study, and someone who's actually read it points out it's about benzene leaks, not combustion PM_{2.5}, that's an easy, embarrassing correction for the other side to make. Recommend not leaning on this specific comparison without separating the two claims clearly.

Bottom line for Thursday

QUESTION	HONEST ANSWER
Is the Harvard/SELC study "fake" or bad science?	No — legitimate Harvard biostatistics methodology. The honest pushback is scale (3x our size) and unconfirmed technology assumptions, not credibility.
Is the Stanford/NTEC memo comparable?	Less so — it's explicit advocacy work product from a law clinic, not epidemiology. Fair to name that distinction.
Does the stove-leak research support "gas stoves are worse than the plant"?	Not as cleanly as it's being used — it's about a different pollutant pathway (VOC/benzene leaks vs. combustion PM2.5/NOx/SOx). Reuse with that caveat or not at all.
What's the one fact-check to run down before Thursday?	Confirm Ballast's actual generation technology (combined-cycle+SCR vs. simple-cycle vs. reciprocating) — it's the single input that would let any of these reference-plant estimates scale honestly to Ballast, and nothing in the record so far specifies it.

Sources reviewed 2026-07-15: Harvard/Dominici Lab-SELC Fluvanna report (Dec 2025), Stanford Law Nemadji Trail memo (Mar 2025), PSE Healthy Energy CA stove-leak study + blog summary (2022). All logged in mrx_bethune.gasplant_sources. Local copy: MGW.reference.thursday-connell-briefing.071526.v1.html.