

# Grid Decarbonization Trajectory: How DTE’s Coal Retirements Shift the Burden on Ann Arbor’s Most Vulnerable Tracts

DTE’s MPSC-approved plan retires all coal by 2032 and adds 18,000 MW of renewables by 2042. Grid-embedded burdens on high-SVI tracts decline, but do not disappear.

## RFCM Grid Factor Projections (DTE Service Territory)

Year	DTE Milestone	Coal %	CO <sub>2</sub> e lb/MWh	NOx lb/MWh	Water Withdraw gal/MWh	Water Consume gal/MWh	Change from 2026
2026	Belle River converting; Monroe Units 1–4 running	20%	976	0.52	7,200	420	—
2028	Belle River on gas; Monroe 1–2 closed	10%	750	0.38	4,200	370	CO <sub>2</sub> -23% H <sub>2</sub> O -41%
2030	3,800 MW renewables; Monroe 3–4 winding down	5%	620	0.28	2,800	310	CO <sub>2</sub> -36% H <sub>2</sub> O -61%
2032	Full coal exit; 85% CO <sub>2</sub> reduction	0%	380	0.18	1,400	240	CO <sub>2</sub> -61% H <sub>2</sub> O -80%
2035	Post-coal; gas CC + renewables + Fermi 2	0%	320	0.14	1,100	200	CO <sub>2</sub> -67% H <sub>2</sub> O -84%
2040	90% CO <sub>2</sub> reduction; 18,000 MW renewables	0%	220	0.08	700	130	CO <sub>2</sub> -77% H <sub>2</sub> O -90%

Sources: DTE CleanVision IRP (2022), MPSC Settlement (July 2023), EPA eGRID2022. Water factors derived from NREL TP-6A20-50900 and USGS thermoelectric estimates.<sup>1,2,3</sup>

## How Grid-Embedded Burdens Shift for Flagged Ann Arbor Tracts

Year	DTE Coal %	Grid CO <sub>2</sub> e	Grid Water Consume	Grid NOx	Tract 26161410600 EJMI Score	Tract 26161400500 EJMI Score	Change from 2026
2026	20%	976	420	0.52	6.46	6.85	—
2028	10%	750	370	0.38	6.1	6.39	-6% / -7%
2030	5%	620	310	0.28	5.84	6.05	-10% / -12%
2032	0%	380	240	0.18	5.55	5.64	-14% / -18%
2035	0%	320	200	0.14	5.44	5.49	-16% / -20%
2040	0%	220	130	0.08	5.27	5.24	-18% / -24%

## What Decarbonization Does (and Doesn’t) Fix

DTE’s coal retirements dramatically reduce grid-embedded burdens: by 2032, CO<sub>2</sub>e drops 61%, water withdrawal drops 81%, and NOx drops 65% from 2026 levels. These reductions flow through to every tract in the DTE service territory, including the two flagged Ann Arbor tracts. Their grid-allocated EJMI components decline in lockstep with the grid factors.<sup>4</sup>

But three structural problems persist even after full coal exit. First, proximity burdens do not change: the data center’s backup diesel generators, noise, heat island, and direct environmental footprint are independent of the grid. Second, vulnerability amplification is permanent: tract 26161410600’s SVI of 1.000 reflects poverty, racial composition, and housing burden that decarbonization does not address. Third, the procedural justice deficit is locked in: no HIA was conducted, and no public comment period was held for these communities’ grid-level exposure. That deficit cannot be remediated retroactively.<sup>5</sup>

Grid decarbonization is necessary but insufficient. Even at DTE’s 2040 target (90% CO<sub>2</sub> reduction), gas CC plants still withdraw 700 gal/MWh and emit NOx. Vulnerability amplification persists. And the procedural deficit is irreversible. HB 5594–5596 should require EJMI-based assessments that account for grid trajectory, not just current-year snapshots, so that permitting decisions reflect the cumulative, decades-long burden profile, including the years before coal retires.

### Sources

1. DTE CleanVision IRP and MPSC Settlement (2023). <https://planetdetroit.org/2023/07/dte-agrees-to-shut-down-coal-fired-monroe-plant-in-2032-three-years-ahead-of-schedule/>
2. DTE CleanVision roadmap. <https://dtecleanenergy.com>
3. EPA eGRID 2022 Summary Data. <https://www.epa.gov/egrid/summary-data>
4. NREL Operational Water Review (TP-6A20-50900): water factors by generation technology.
5. EJMI vulnerability amplification: 1 + 0.3 × SVI. Procedural deficit: 1 + 0.2 × (deficit/100). Per EPA OEJ cumulative impact guidance.