



# CO<sub>2</sub> Accounting Process Calculations for BP-SD-05, Carbon Emissions Reductions

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NPPD Board of Directors Meeting  
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# BP-SD-05, Carbon Emissions Reductions

- NPPD adopted the goal of achieving “net zero” carbon emissions from NPPD’s generation resources by 2050. This will be achieved by continuing the use of proven, reliable generation until alternative, reliable sources of generation are developed and by using certified offsets, energy efficiency projects, lower or zero carbon emission generation resources, beneficial electrification projects, or other economic and practical technologies that help NPPD meet the adopted goal at costs that are equal to, or lower than, then current resources.
- NPPD Management will report to the Board annually the carbon emissions of generating resources under NPPD “control” on both a total short tons of CO<sub>2</sub> emitted and CO<sub>2</sub> intensity (lbs. / MWh) basis including effects of offsets, etc., as discussed above.

# Calculation Assumptions

		NPPD's Share <sup>1</sup>	Native Load <sup>2</sup>	Notes
Part Sale (e.g., LES)		exclude gen & emissions	exclude gen & emissions	
Generation under NPPD control	GGS	include	exclude pro-rated share of gen & emissions	Tie to the excess market sales generation total
	Sheldon			
	NC2			
	BPS	include	include	
	Wind/Hydro	include	include	
Mkt Purchases		include	include	
QLGs	Retail	include gen	include gen	
	Wholesale	exclude	exclude	Include if purchase RECs
RECs		include gen	include gen	BD, future Monolith
CO2 equivalent	Gen	exclude	exclude	e.g., N2O, CH4, SF6
	Other (fleet, bldg, etc.)	exclude	exclude	Unless directed by Board
Energy Efficiency		exclude	exclude	
Offsets		include	include	No offsets at this time
Net meter		exclude	exclude	
WAPA		include	include	Assume 100% renewable <sup>3</sup>

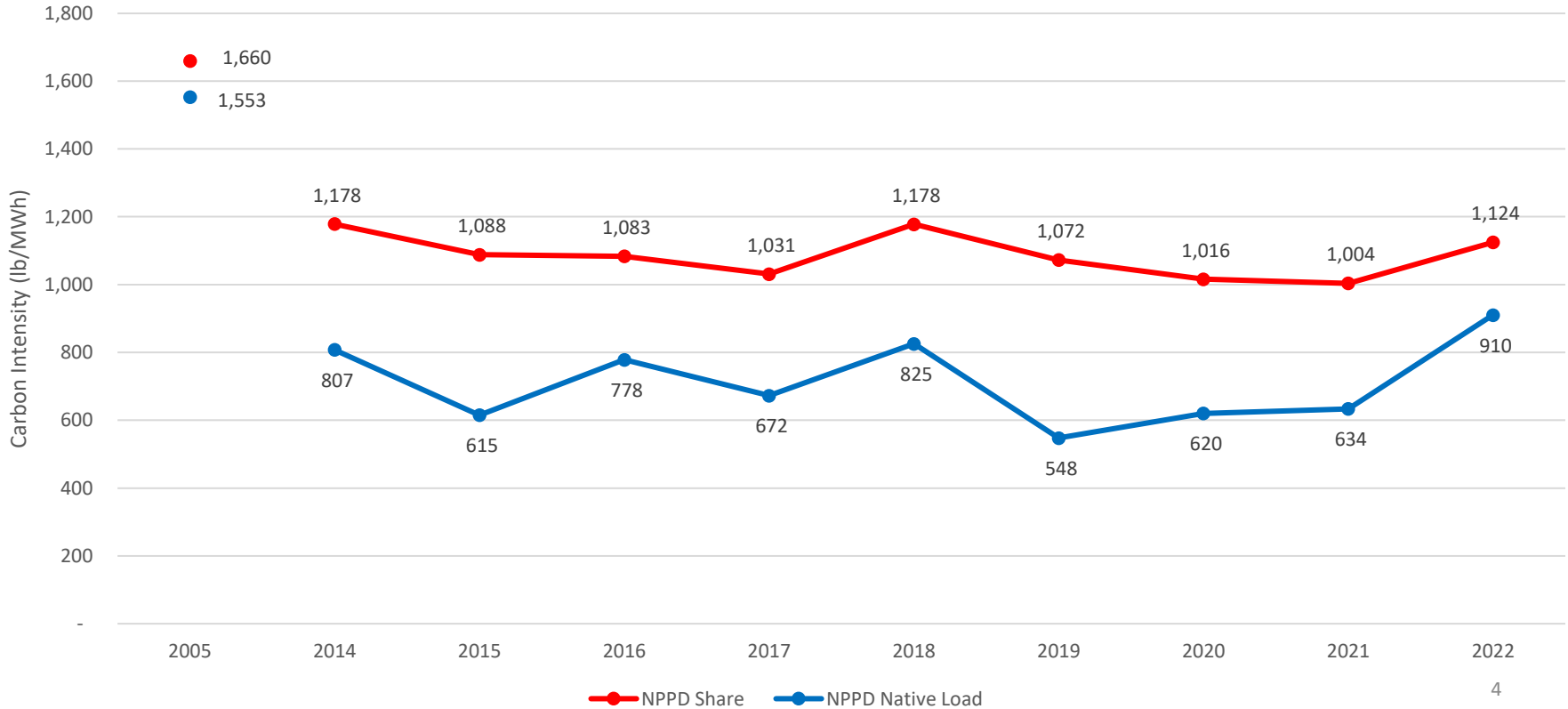
<sup>1</sup>NPPD's Share is primarily generation from owned and purchased resources, excluding participants share and wholesale QLG

<sup>2</sup>Native Load is NPPD's share minus generation from "excess" SPP market sales

<sup>3</sup>WAPA in process of developing REC program which could affect amount of renewable energy.

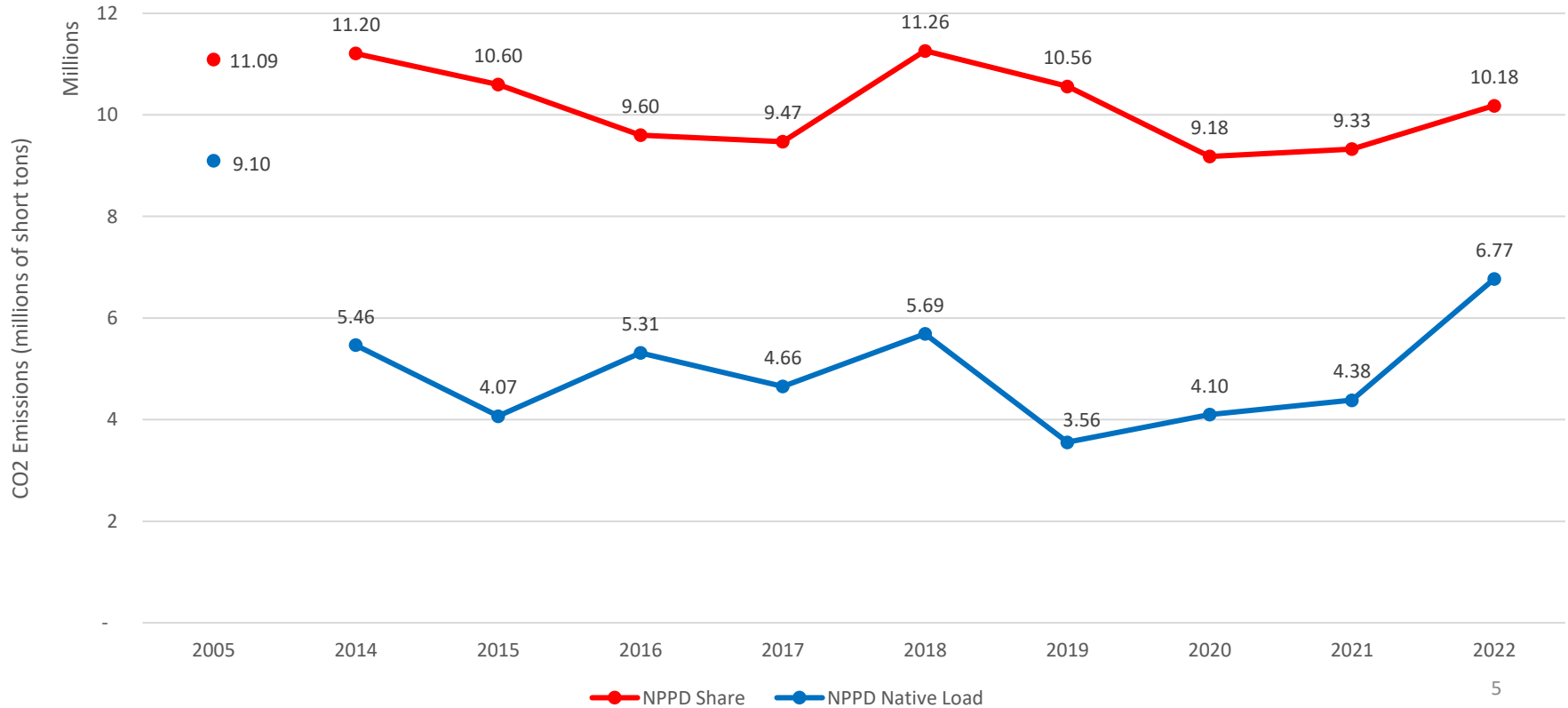
# NPPD Carbon Intensity

NPPD Carbon Intensity



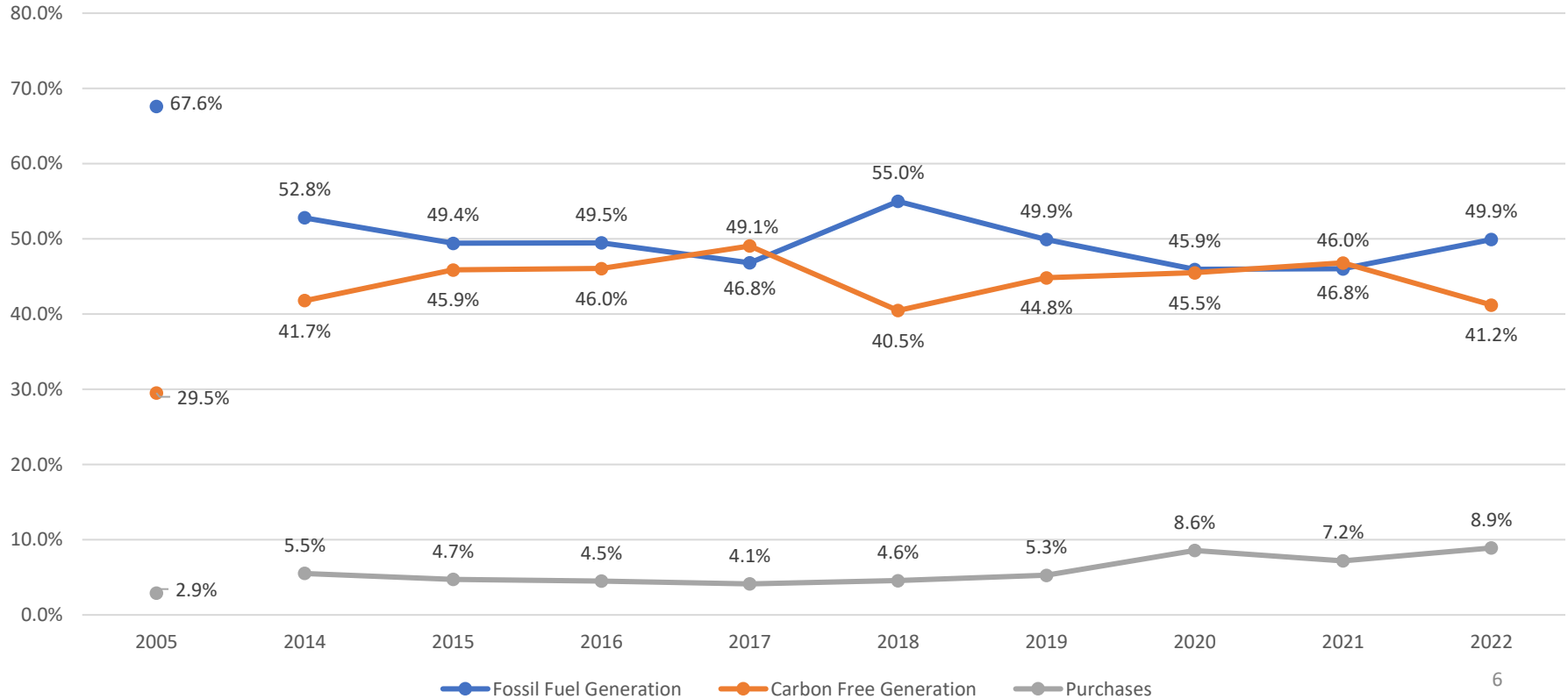
# NPPD CO2 Emissions

NPPD CO2 Emissions



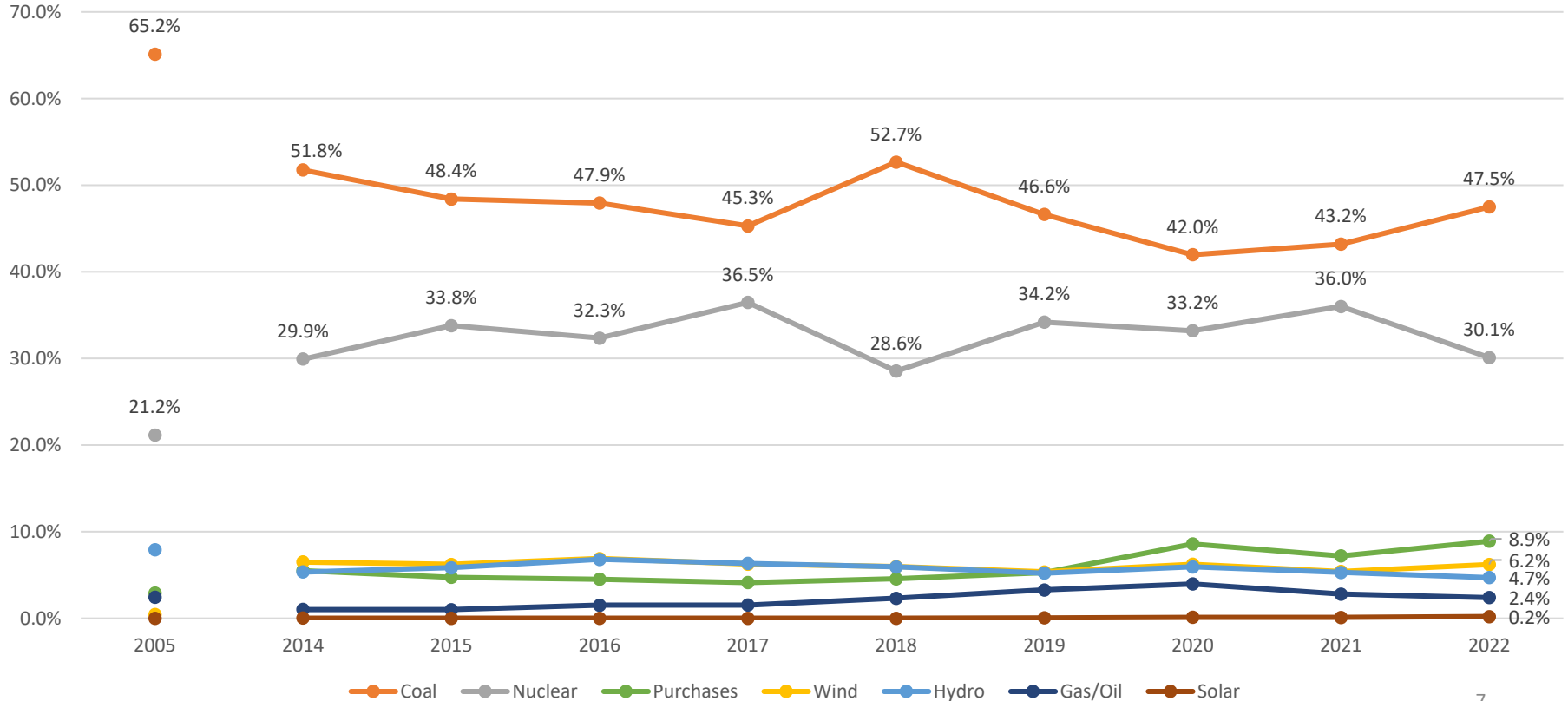
# NPPD Share Generation Mix

Generation Mix - NPPD Share



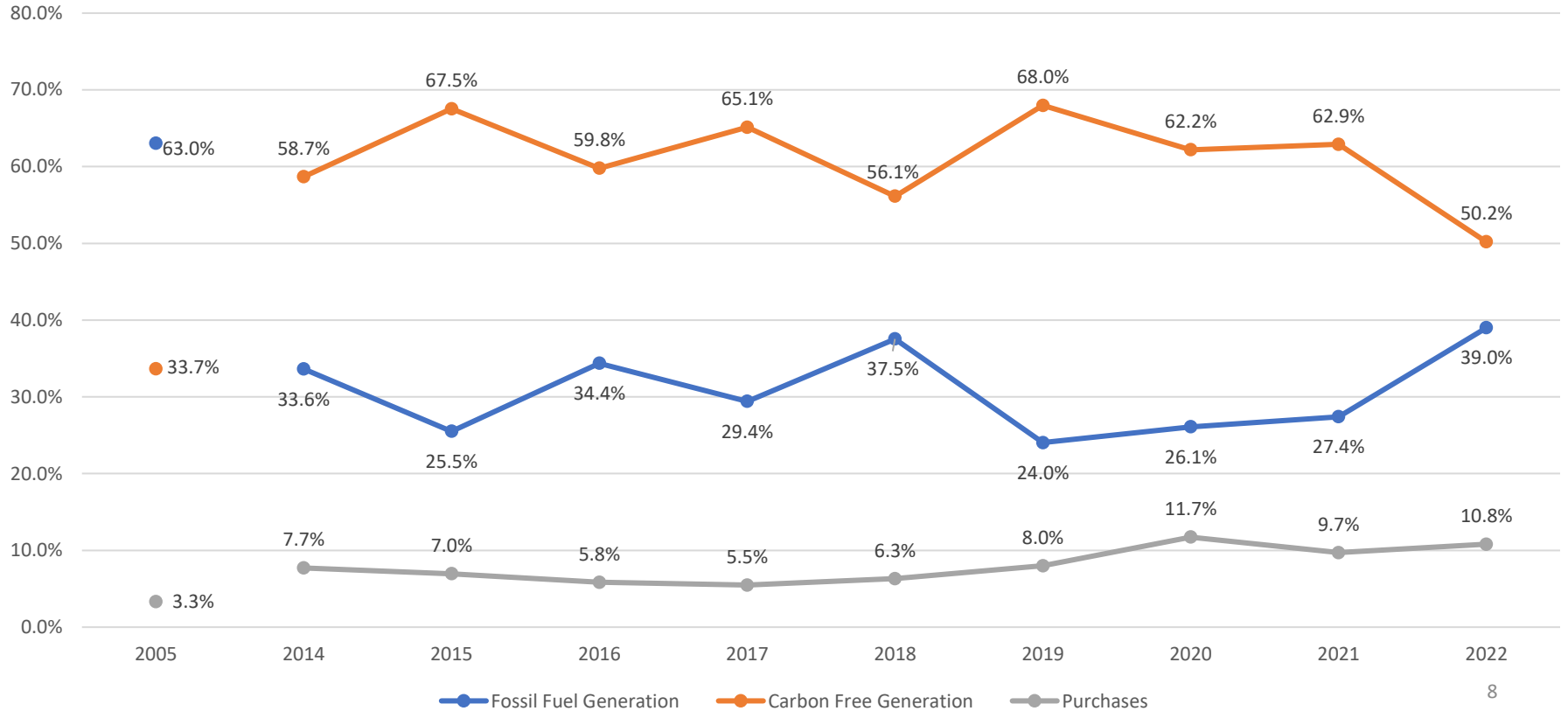
# NPPD Share Generation Mix

Generation Mix - NPPD Share



# Native Load Generation Mix

Generation Mix - Native Load





# Results

	2005	2020	2021	2022	% Reduction from 2005
Carbon Intensity (lb/MWh)					
NPPD Share	1,660	1,016	1,004	1,124	32%
NPPD Native Load	1,553	620	634	910	41%
Carbon Emissions (short tons)					
NPPD Share	11,091,341	9,182,016	9,326,754	10,179,085	8%
NPPD Native Load	9,098,104	4,100,275	4,382,947	6,769,258	26%



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## Questions

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