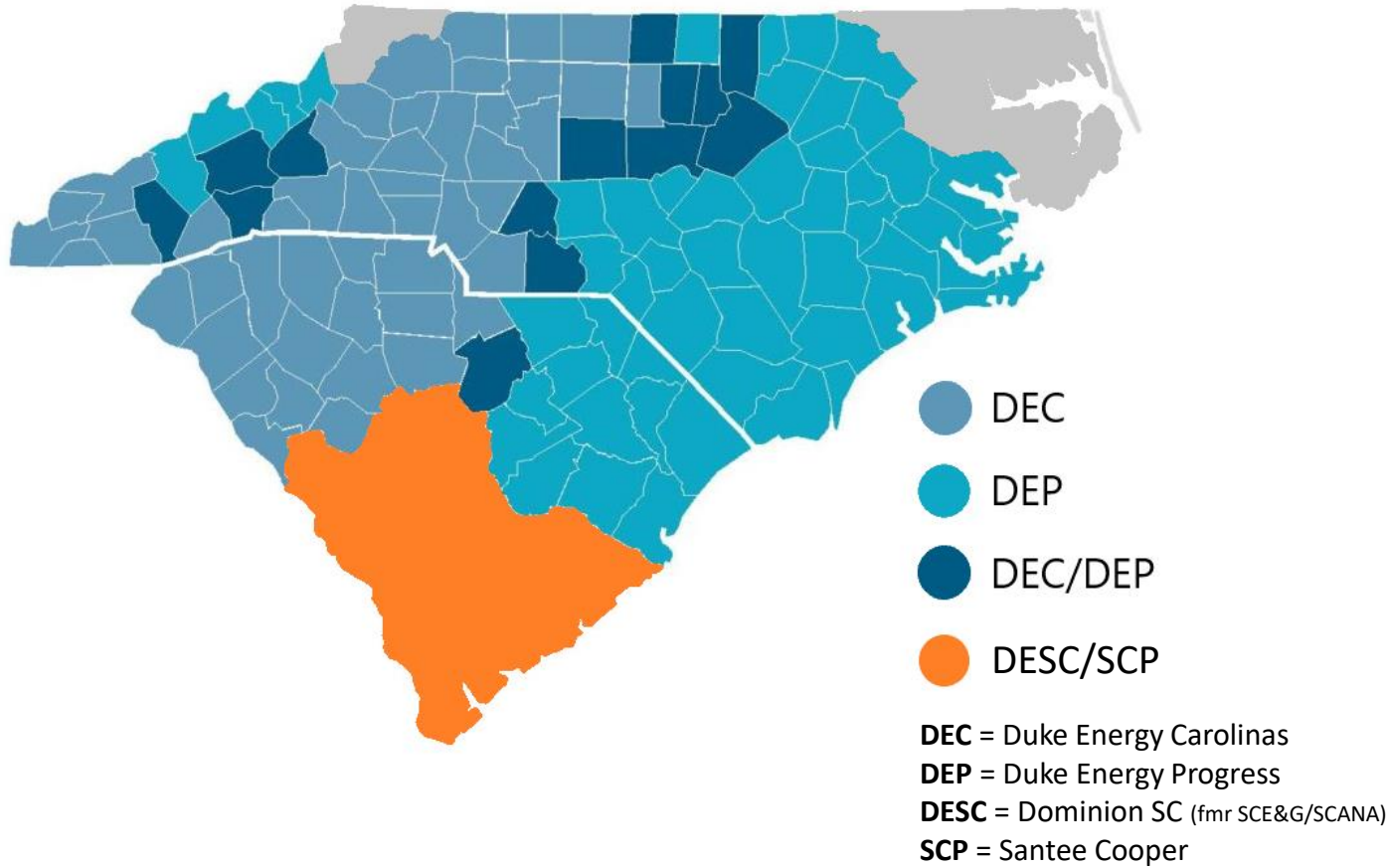
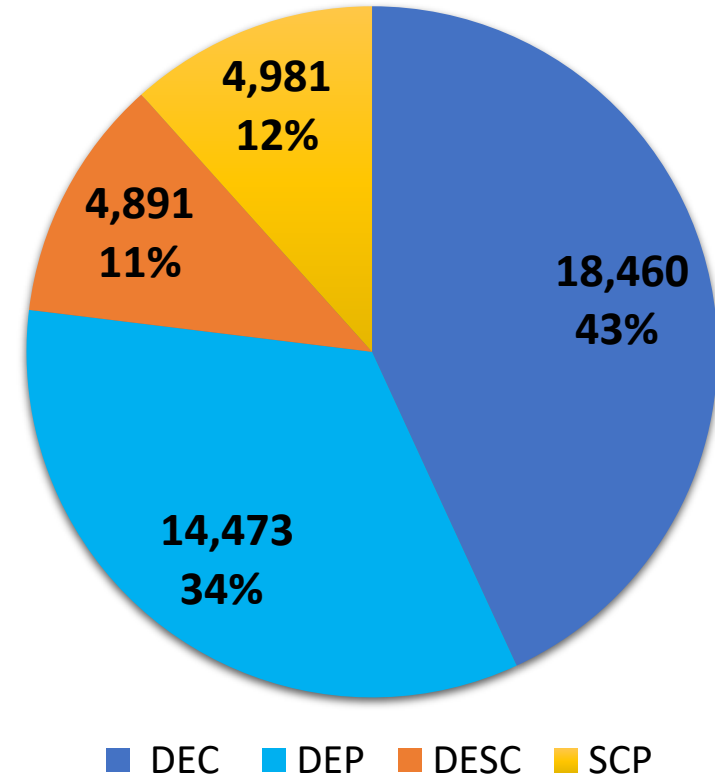


Carolinas Power System

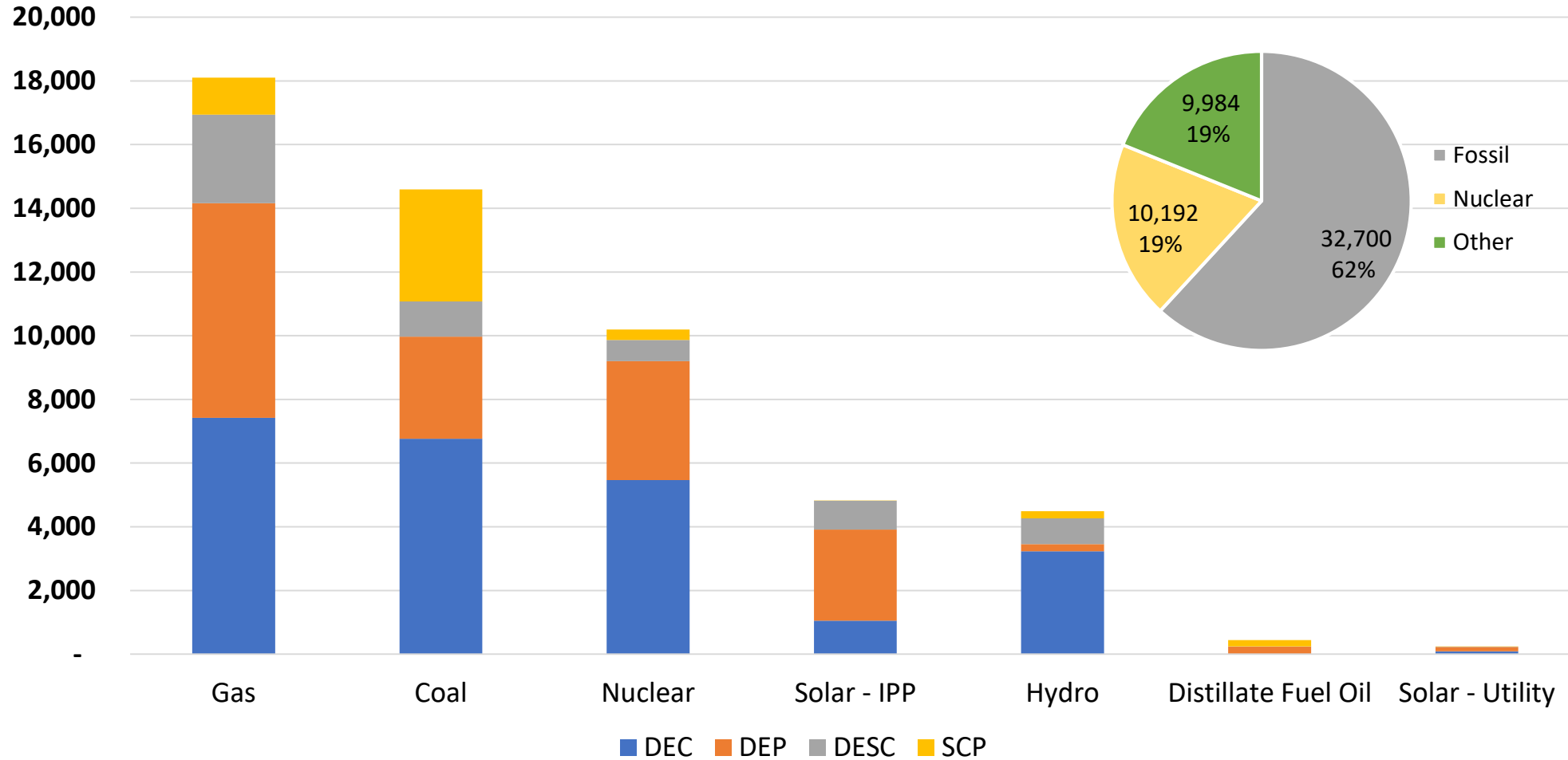


Peak Load MW
Grand Total = 42,805



Carolinas Power System

Generation Capacity by Technology and Utility
(MW)

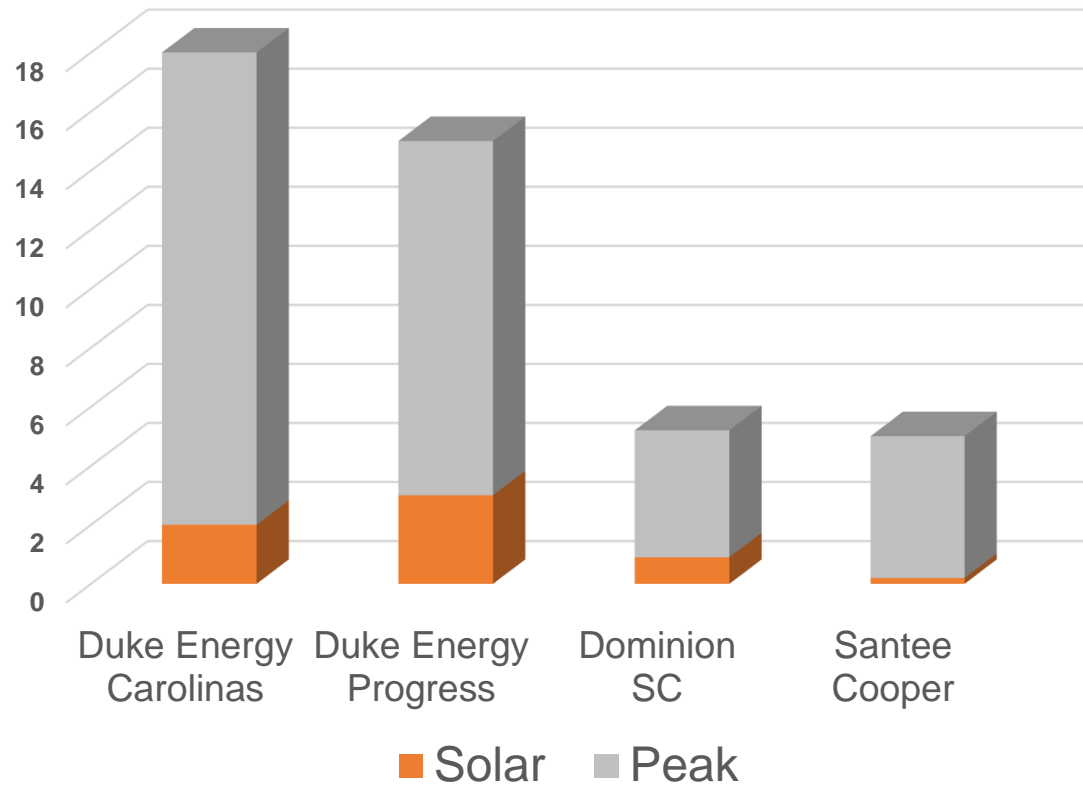


Figures represent utility-owned generation, except for the solar IPP category.

Source: S&P Global Market Intelligence

Carolinas Power System

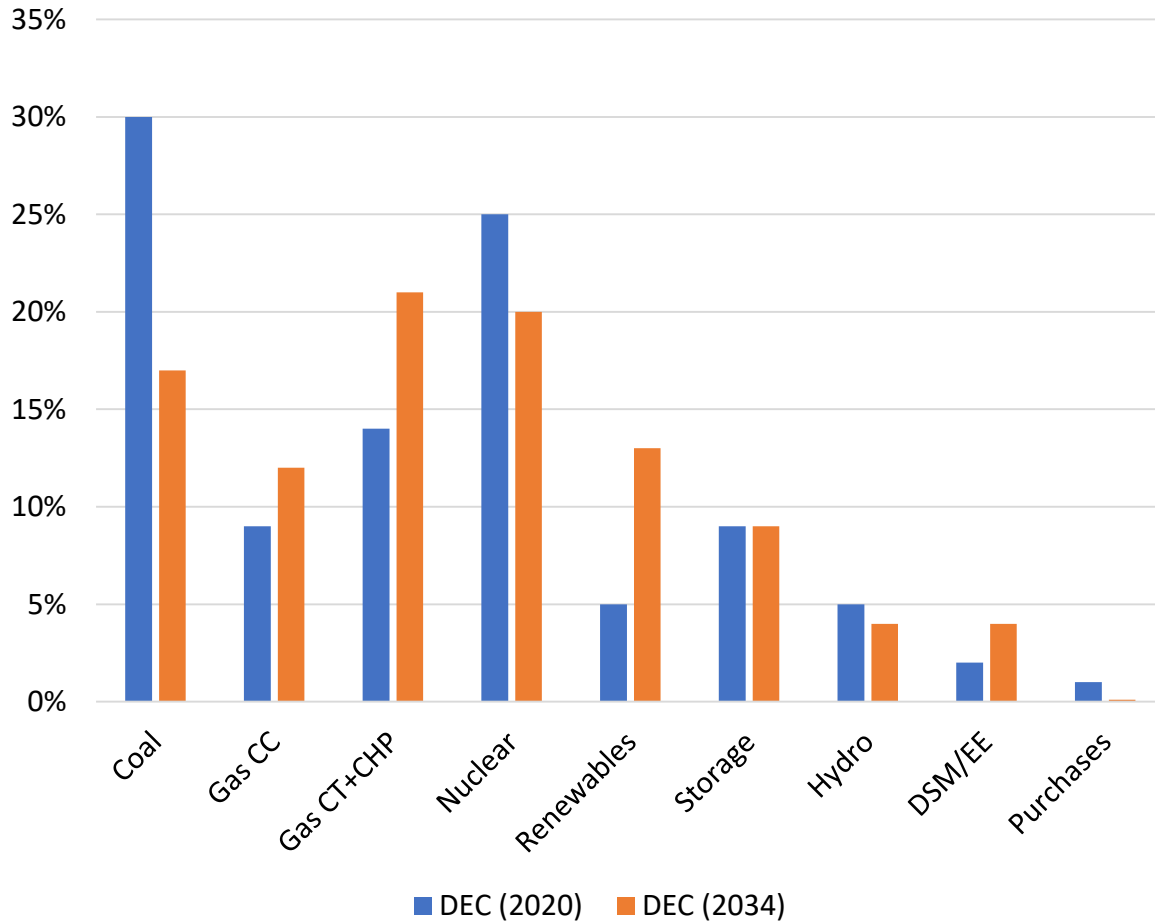
**Procured Solar as Share of Peak Load
(GWac)**



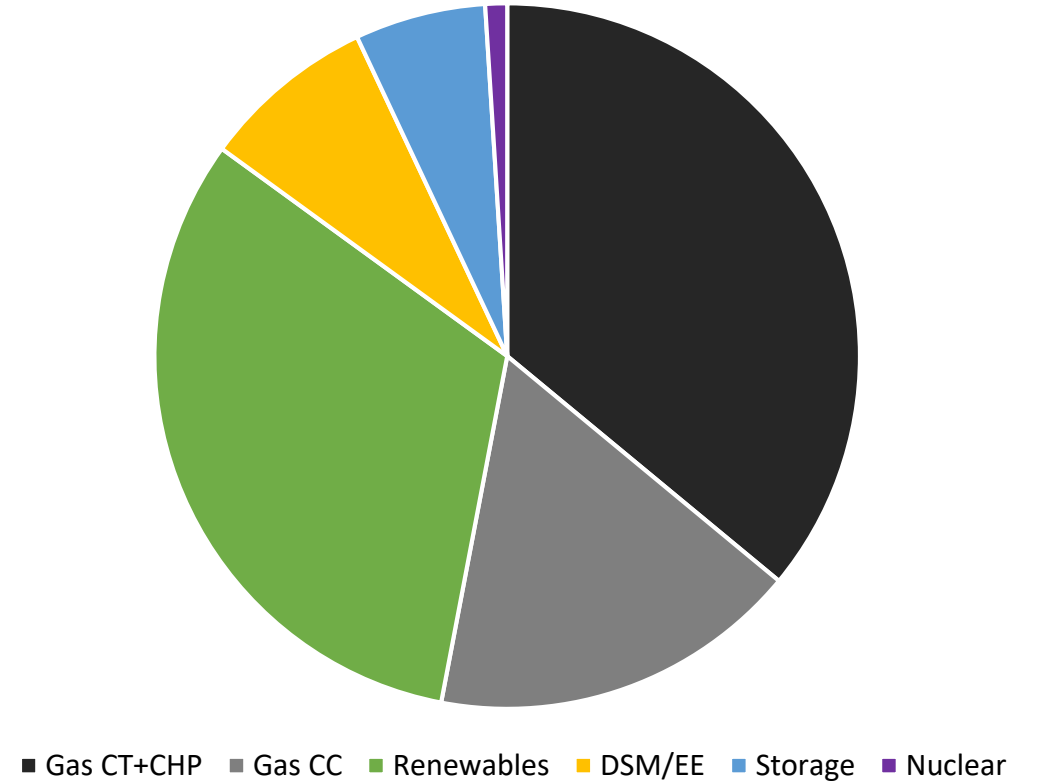
Utility	Peak Load (GWac)	Procured Solar (GWac, approx)	% of Peak Load
Duke Energy Carolinas (DEC)	18.5	2.0	11%
Duke Energy Progress (DEP)	14.5	3.0	20%
Dominion SC (DESC)	4.9	0.9	14%
Santee Cooper (SCP)	5.0	0.2	4%
Total	43	6	14%

Resource Plans - DEC

DEC Resource Plan – Share of Capacity (2020 vs. 2034)

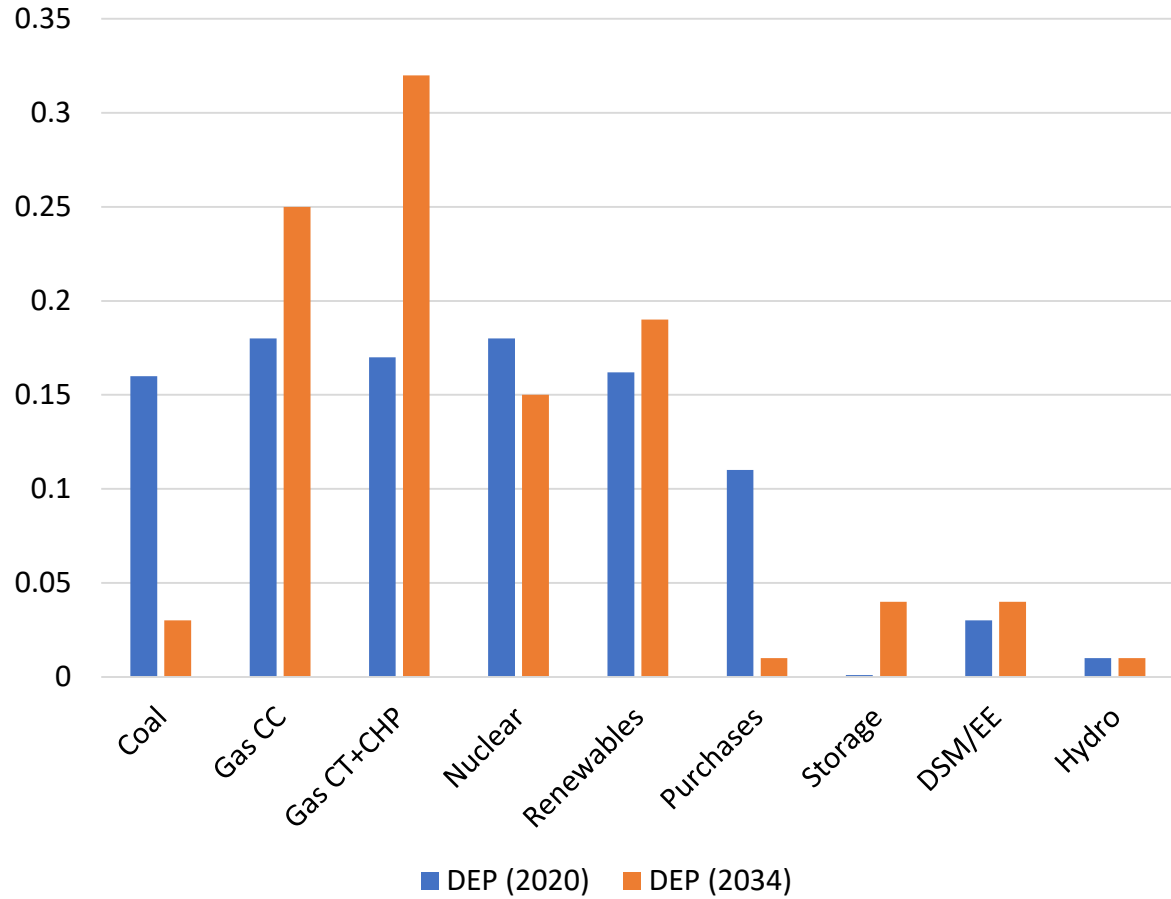


DEC Capacity Additions: 2020 to 2034

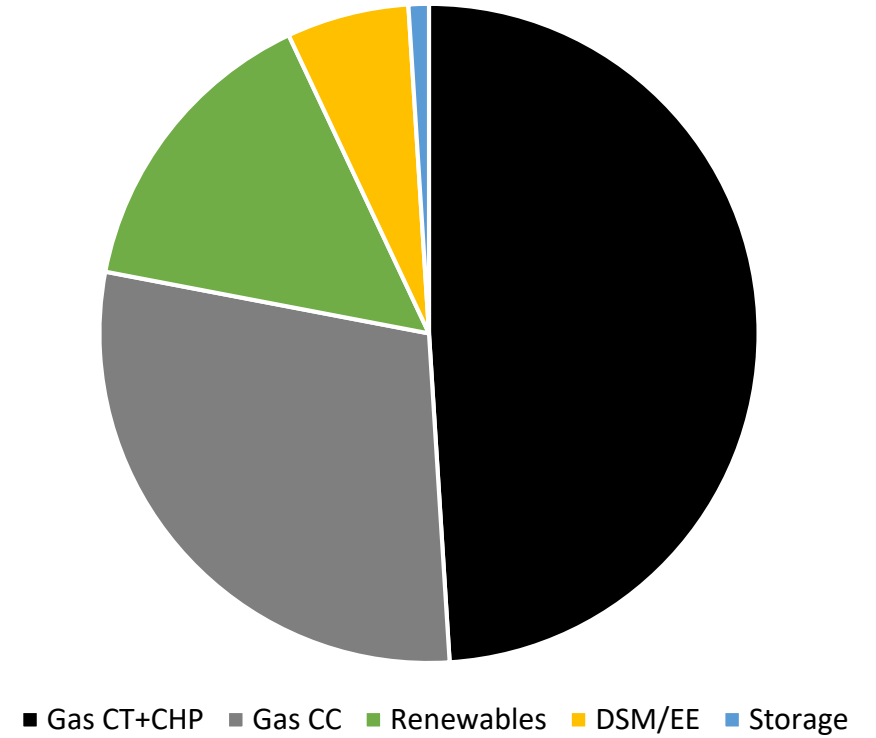


Resource Plans - DEP

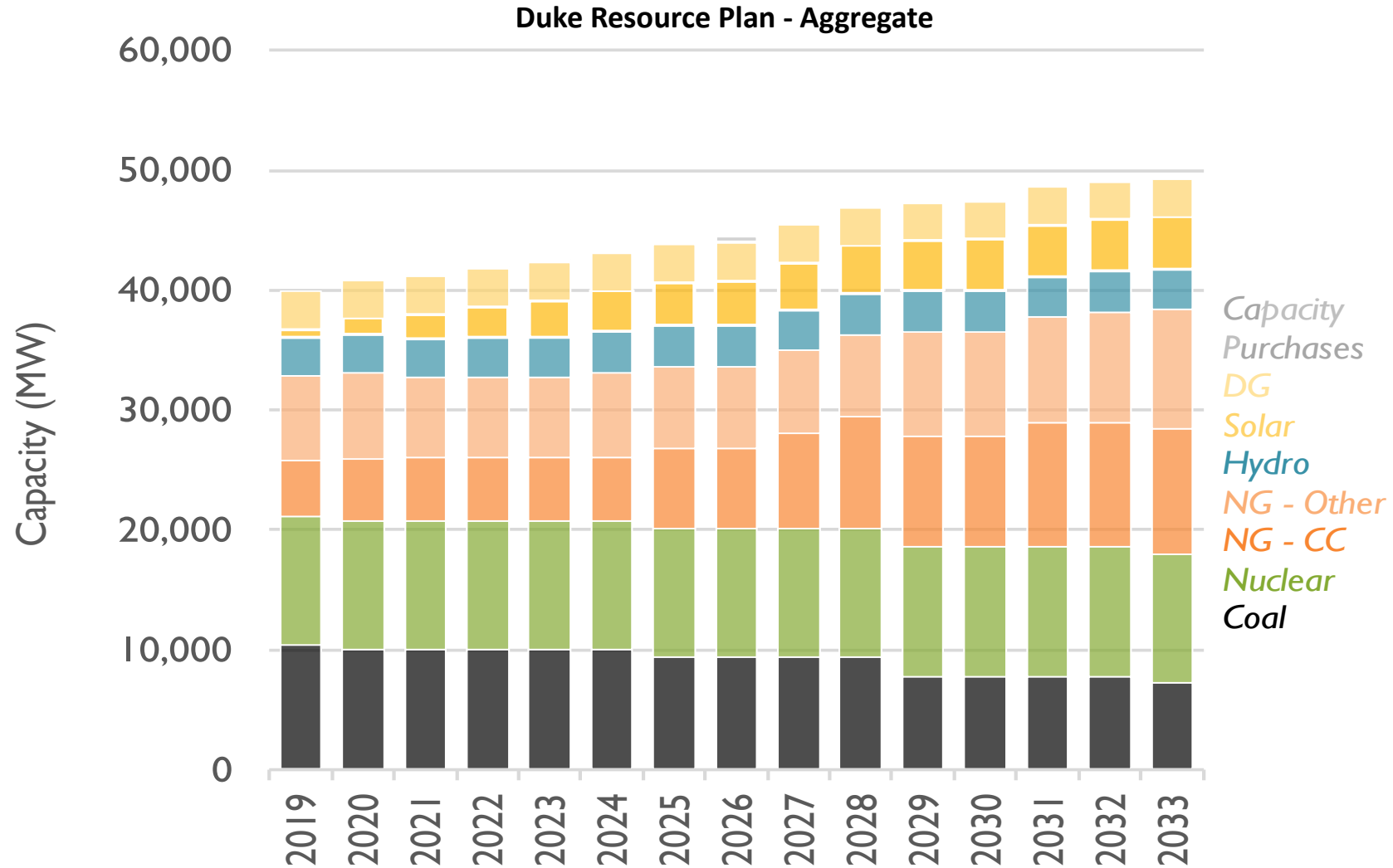
DEP Resource Plan – Share of Capacity (2020 vs. 2034)



DEP Capacity Additions: 2020 to 2034

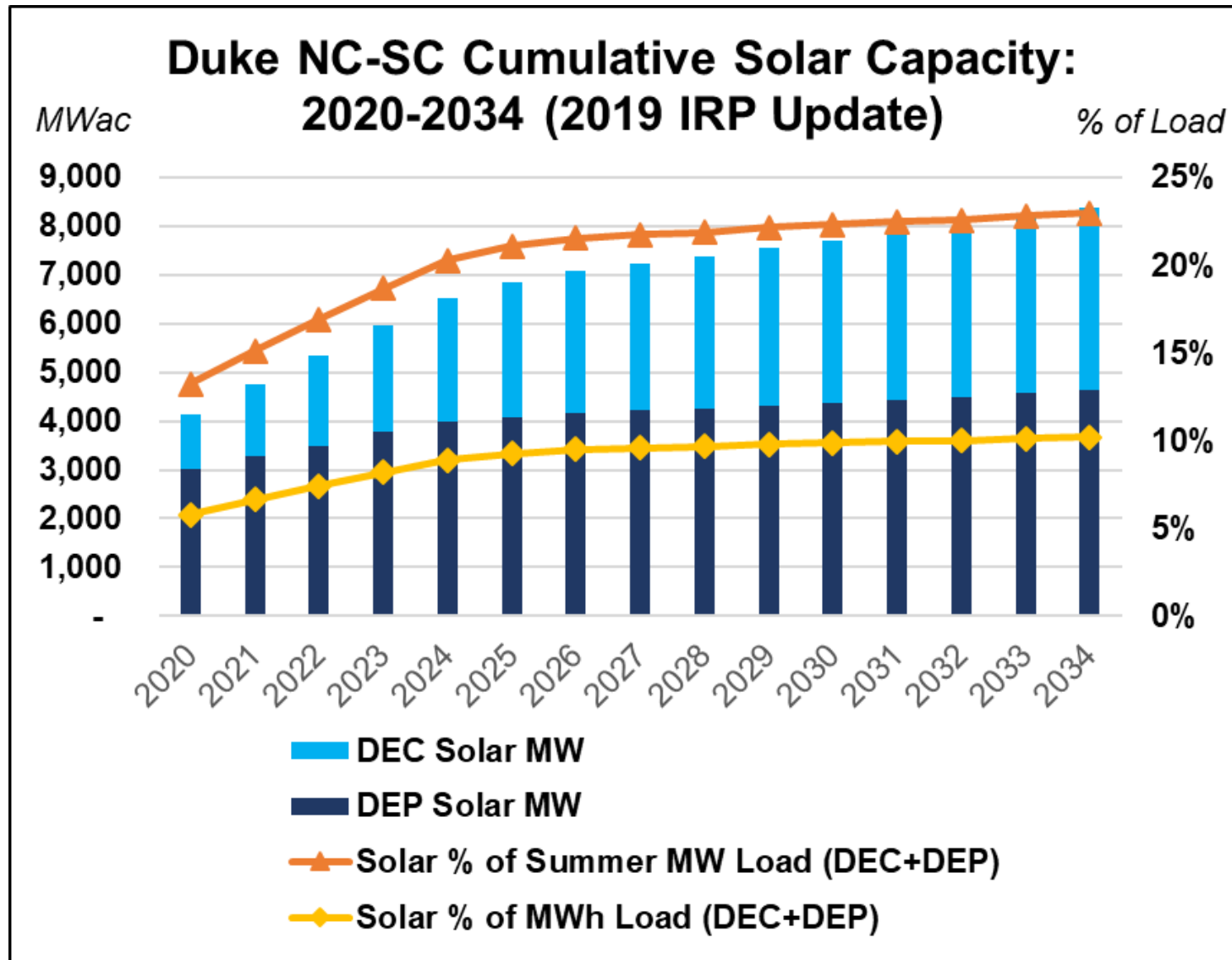


Resource Plans - DEC and DEP



Source: Duke 2019 IRP Update, Synapse analysis

Resource Plans - DEC and DEP



Data Source: Duke 2019 IRP Update

Alternative Duke IRP - Synapse

- **Methodology:** The study used an advanced capacity expansion and production cost model (EnCompass) to reveal that elevated levels of PV, storage, demand side management, and energy efficiency will substantially reduce costs while maintaining system reliability.
- **Key Findings:**
 - **Annual production costs fall by ~40%**, from \$4.2 to \$2.5 billion annually in 2033, with savings resulting primarily from not forcing uneconomic coal units to run.
 - **Coal generation drops from 17% to 5% of the electricity mix** in Duke's IRP for 2033 – a drop of more than two-thirds.
 - **Renewable generation rises from 7% to 21% in 2033**, and renewable capacity grows to 49% of capacity, up from Duke's proposed 23%
 - **Ratepayers save a minimum of .24 cents/kWh** to a maximum of .48 cents/kWh, representing up to ~\$60 per year in savings for the average household

Source: NCSEA Initial Comments, Attachment 1 from Synapse Energy Economics entitled North Carolina's Clean Energy Future: An Alternative to Duke's Integrated Resource Plan, Commission Docket E-100 Sub 157, March 7, 2019.
<https://drive.google.com/file/d/1BXbaHrhTTSak7yq7WwMQwlnkCBG5l35/view>

Alternative Duke IRP - Synapse

North Carolina's Clean Energy Future

An Alternative to Duke's Integrated Resource Plan

Prepared for the North Carolina Sustainable Energy Association
March 7, 2019

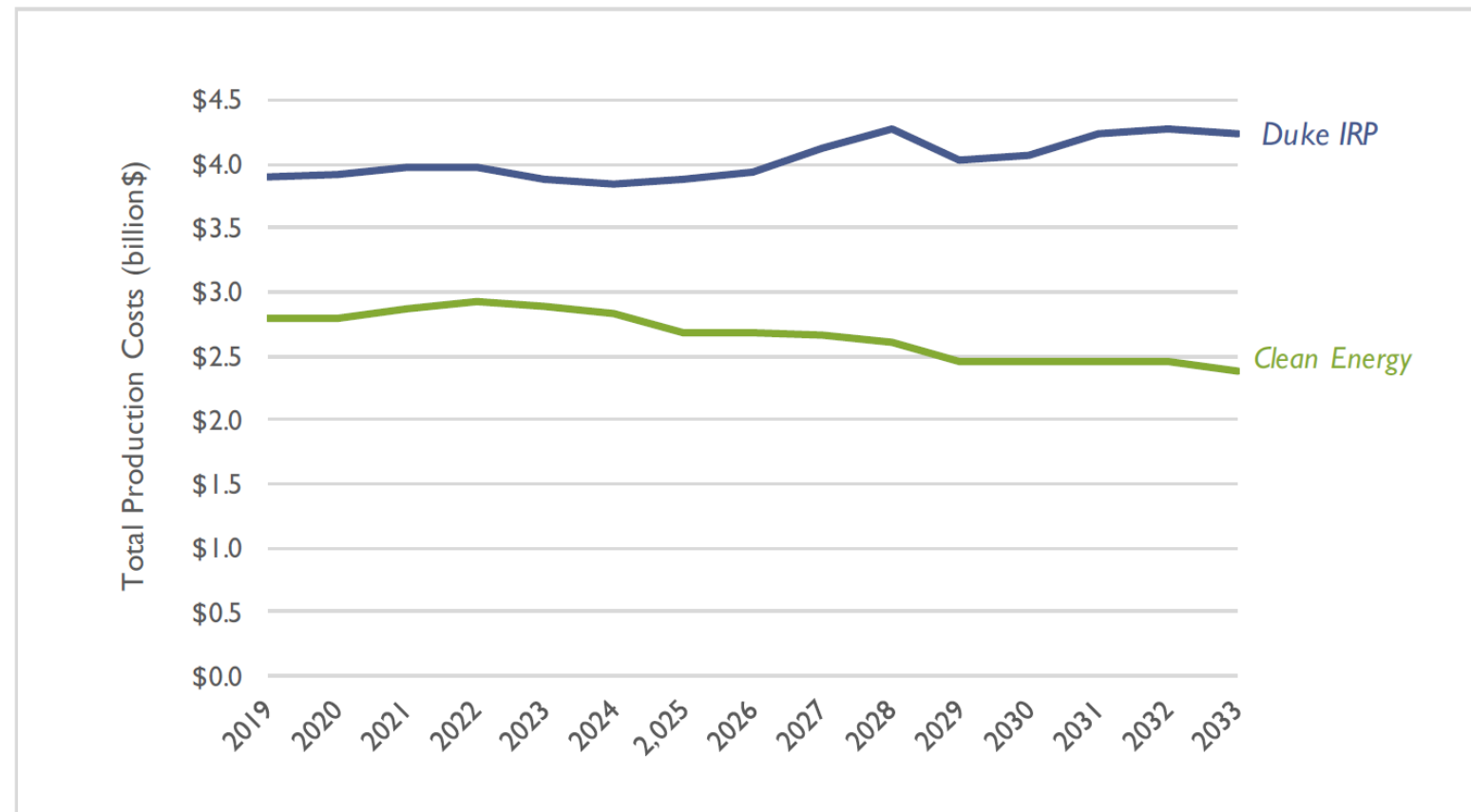
AUTHORS

Rachel Wilson
Nina Peluso
Avi Allison



485 Massachusetts Avenue, Suite 2
Cambridge, Massachusetts 02139
617.661.3248 | www.synapse-energy.com

Figure 4. Duke Energy total production cost by year by scenario



Source: NCSEA Initial Comments, Attachment 1 from Synapse Energy Economics entitled North Carolina's Clean Energy Future: An Alternative to Duke's Integrated Resource Plan, Commission Docket E-100 Sub 157, March 7, 2019.

<https://drive.google.com/file/d/1BXbaHrhTTSak7yq7WsMQwlnkCBG5I35/view>