2023

How Utilities View Key Decarbonization Barriers

NPUC
National Public Utilities Council

motivepower

INTRODUCTION

Last year, the National Public Utilities Council released our Annual Decarbonization Report to assess the state of decarbonization efforts among North American utilities.

Among the litany of data in the report, utilities identified some of the key barriers to accelerating their decarbonization efforts including community buy-in, access to technology, and workforce training. For this benchmark survey, the NPUC and Zpryme have surveyed over 60 utilities to determine how they are moving forward towards addressing these challenges to a zero carbon future.

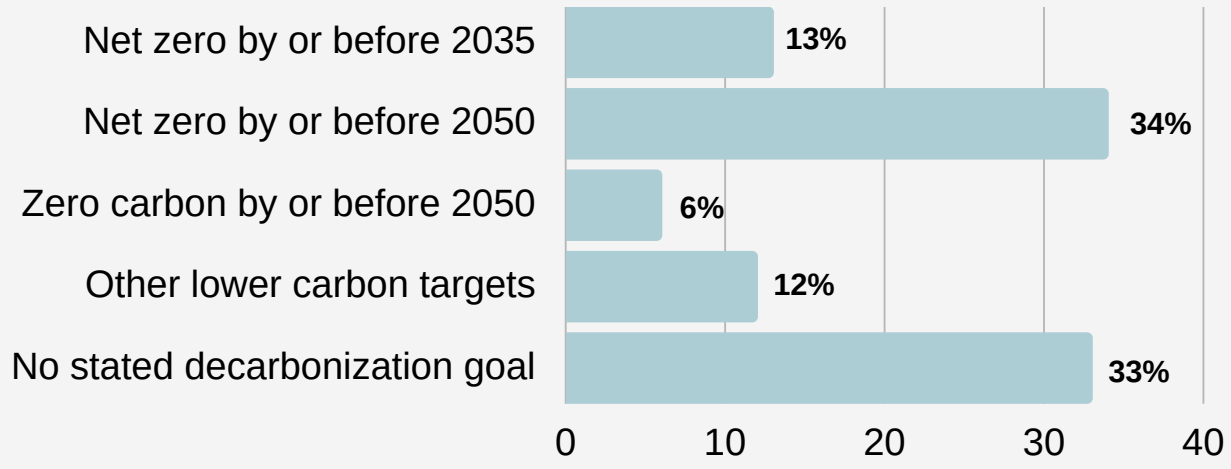
GOALS & CONCERNS

To begin with the state of decarbonization goals, 67% of respondents have carbon reduction goals, which is a positive step for a lower carbon grid (Figure 1).

That being said, zero carbon goals being only at 6% is a concerning sign for the acceleration we're looking for to stem catastrophic climate change. Only 47% even have a net zero goal, and the plurality have a far off goal of 2050.

Figure 1

What's your utility's decarbonization goal?



The various decarbonization plans directly target emissions, which can be broken down into three scopes. According to the Greenhouse Gas Protocol:

Scope 1 emissions:

are direct emissions from owned or controlled sources.

Scope 2 emissions:

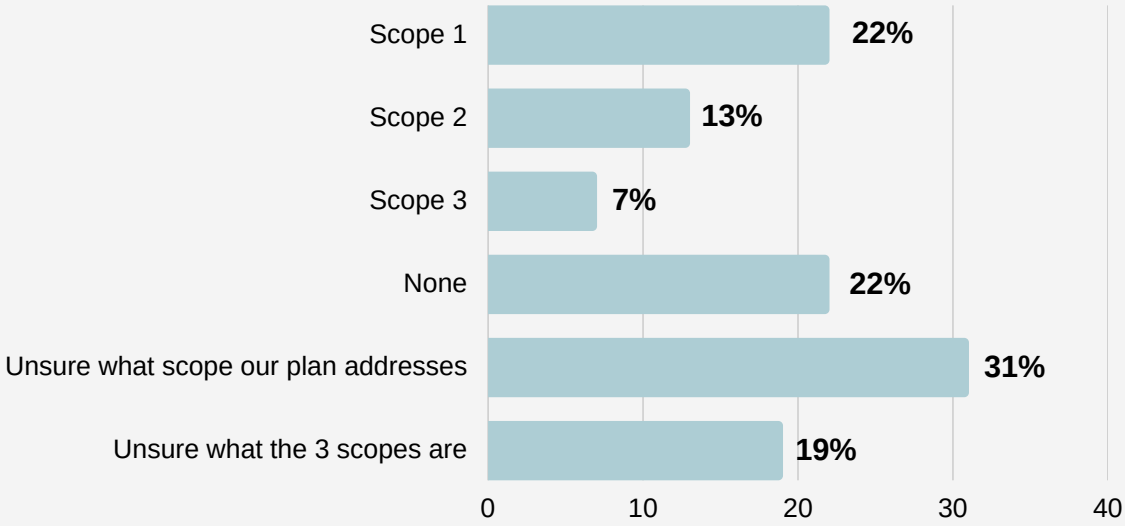
are indirect emissions from the generation of purchased energy.

Scope 2 emissions:

are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

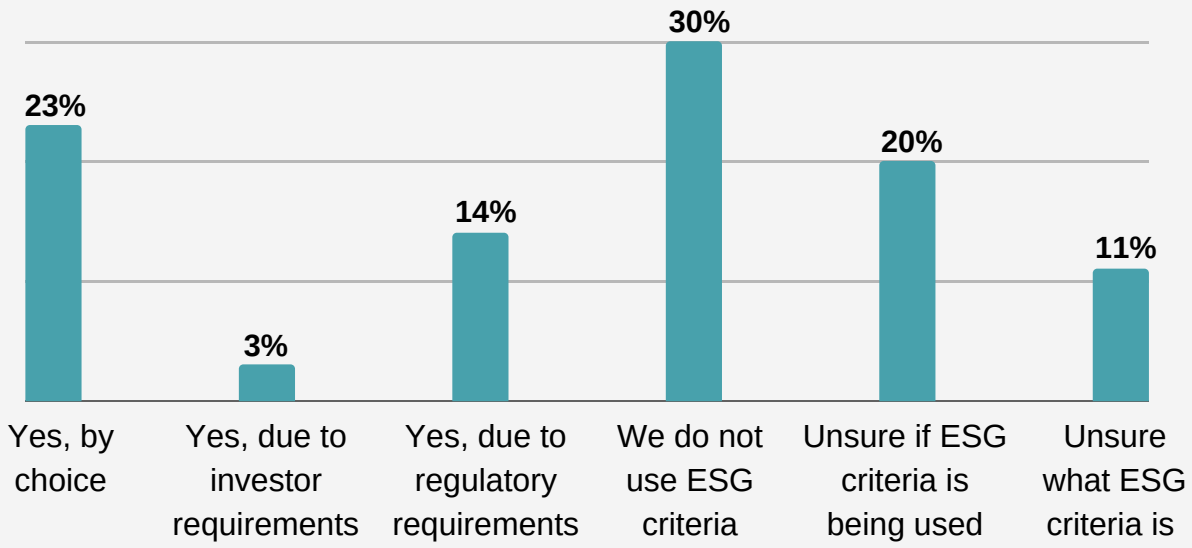
Figure 2 shows the breakdown of emission scopes represented by our respondents. Half of respondents were unaware of how their plan affects each scope, which indicates knowledge gaps in organizations that we have covered previously. Furthermore, while it is unsurprising that utilities would focus on the emissions they have the most control over in the first 2 scopes, the fact that only 7% are addressing Scope 3 shows that the utility supply chain may need more attention for decarbonization.

Figure 2 **Which scopes of emissions is your utility's decarbonization plan largely designed to address?**



ESG (Economic, social and corporate governance) criteria, initially used for financial investment decisions, has become a more pronounced aspect of decision-making at utilities, likely because balancing the financial, environmental, and social aspects of strategy and investment is core to the business and community role of utilities. 40% of respondents use these criteria in their business, most of which have done so voluntarily (Figure 3).

Figure 3 **Does your utility follow ESG criteria?**

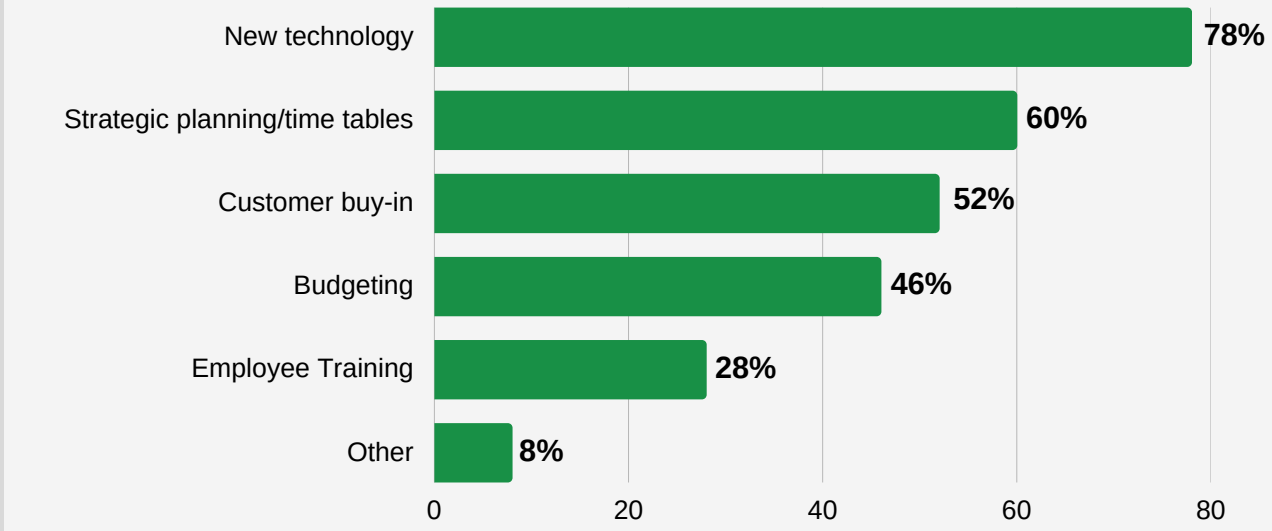


The NPUC is founded on the idea that information sharing and collaboration between utilities is the best way to learn how to overcome challenges and develop standards in decarbonization solutions and practices.

We revisited the key challenges from the annual report and asked utilities which decarbonization areas would gain the most from industry-wide collaboration (Figure 4). It seems that collaboration would benefit conversations around new technology (78%), strategic planning (60%) and customer buy-in (52%)

Figure 4

What are the top three decarbonization areas your utility could most benefit from more information and collaboration?



A quick note on nuclear...

Nuclear generation has been floated as a high-efficiency zero-emission solution to decarbonization challenges at scale. There are plenty of arguments for and against nuclear as a generation strategy, but given its increased relevance we wanted to see where utility's heads are on the subject. Our findings are that they are, in a word, trepidatious.

Figure A

Does your utility have nuclear generation in its portfolio?

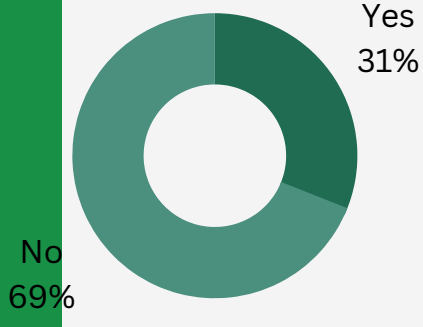
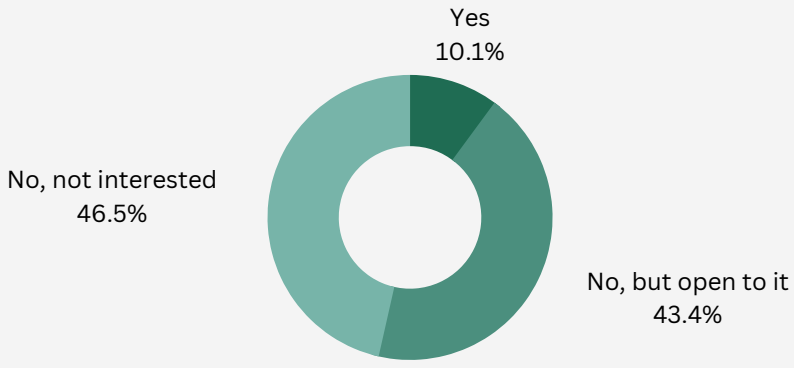


Figure B

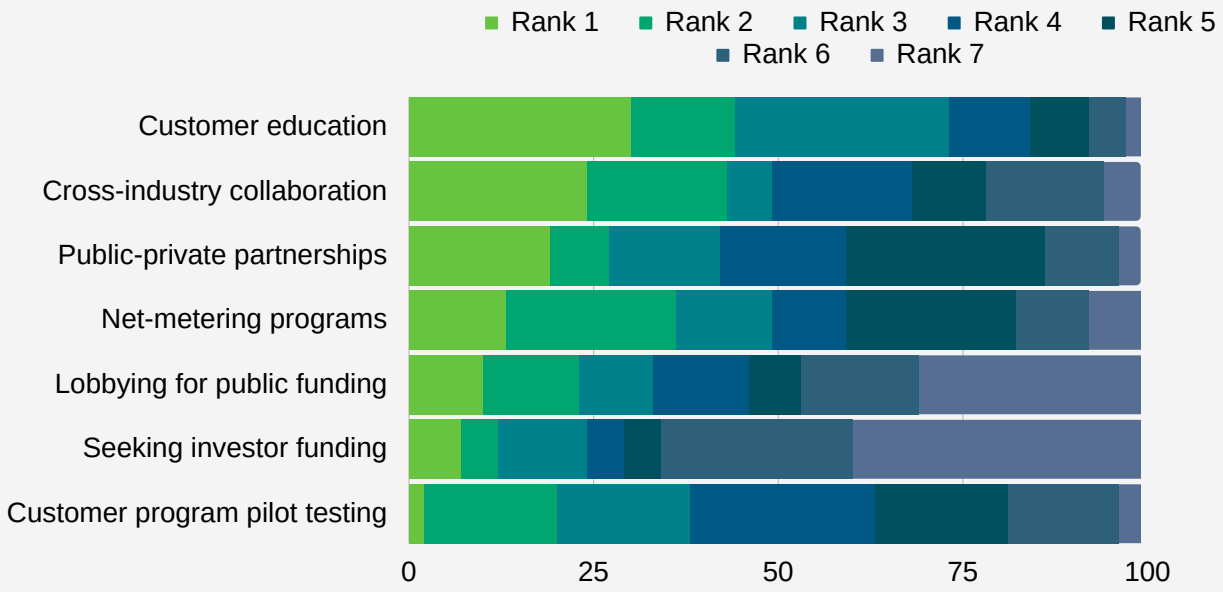
Is your utility looking into increasing its nuclear generation or purchasing of nuclear generated power?



STRATEGIES

We asked utilities to rank 7 strategies that help tackle some of the key issues identified in the annual report (Figure 5) as well as their commitments to workforce development to prepare them for the future grid that these strategies intend to create (Figure 6).

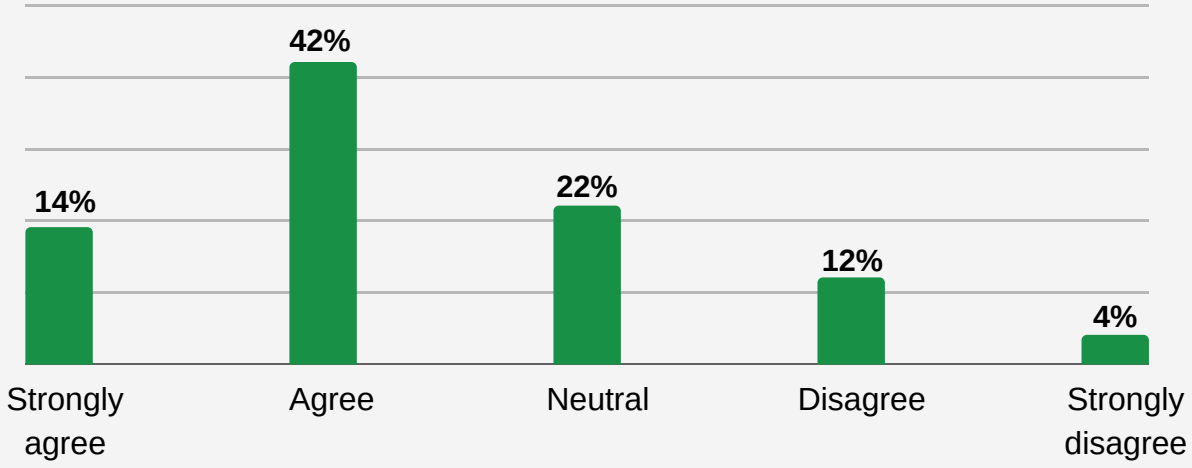
Figure 5 **Rank in order of importance the following strategies in your utility's approach to tackling the socio-economic challenges of decarbonization**



Customer education is far and away the most important strategy rated by respondents with 30% ranking it as their top concern and 73% ranking it in their top 3. Cross-industry collaboration and public-private partnerships were ranked most important strategies by 24% of respondents and 19%, respectively, indicating opportunities for partnership among groups outside the industry.

Figure 4

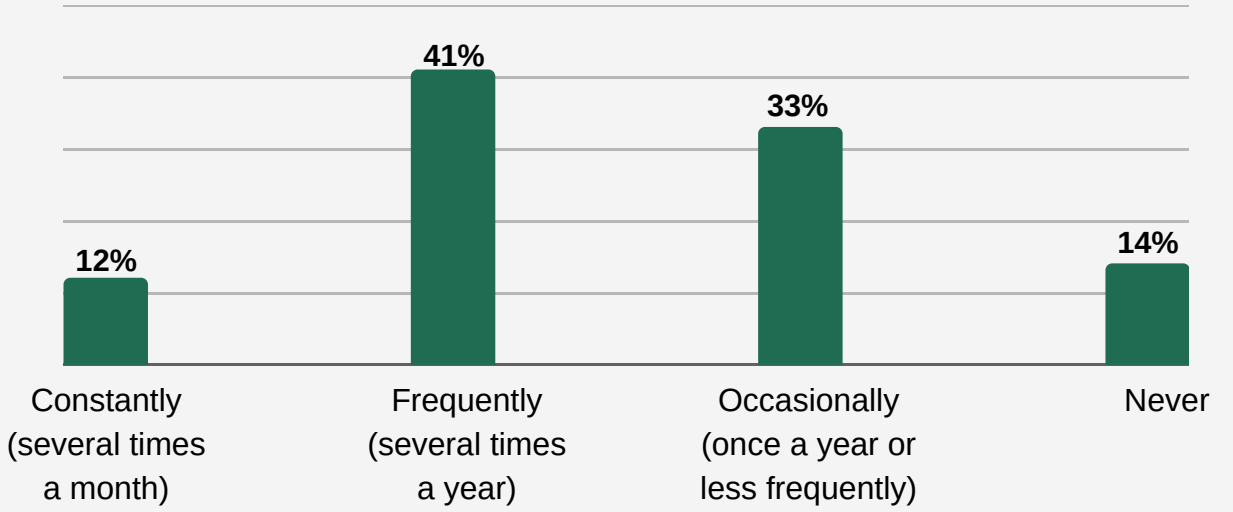
My utility invests in workforce development programs for retaining and upskilling workers to prepare for the shift to cleaner energy



Finally, we always want to keep tabs on the state of the decarbonization discussion and the collaboration (Figure 7). The good news is that only 14% of respondents never discuss decarbonization strategies with other utilities. However for 33%, the collaboration only happens on a yearly basis or less. It is imperative that the frequency of such discussions increases across the industry to create a greater base of knowledge and understanding of decarbonization strategies.

Figure 4

Do you discuss decarbonization strategies or collaborate with other utilities to optimize solutions and avoid pitfalls?



CONCLUSION

Decarbonization is the driving force of grid modernization in the 21st century and the landscape is both urgent and filled with challenges.

Addressing barriers to a decarbonized grid will require utility leaders discussing best practices and failures honestly and supportively. Different utilities prioritize different strategies and approaches that best suit their unique needs and challenges of course, but the largest problems affect us all globally and so it behooves us as an industry to do whatever is in our power to accelerate our rates of decarbonizations. That begins with the discussion.

The data suggests there is will, now it is time for action.

Contact

Motive Power

320 7th Street Petaluma, CA 94952
Phone: 415.308.7847
Fax: 415.789.4592
npuc@motive-power.com