Minutes from meeting of IRP Stakeholder Technical Advisory Group (STAG)
Meeting 2 – July 19, 2023

Overall takeaways:

1. STAG members are very interested in having more information to inform scenario development. Areas where additional context is required include what resources can be developed inside Glendale vs. outside Glendale and how to consider Glendale's transmission constraints.
2. The group seemed to agree that they were not interested in seeing further development of fossil resources in their scenarios. But they differed on when Glendale should achieve its clean energy goals. Some members suggested 2035, others early 2040s.
3. The group seemed to share an interest in focusing heavily on resources that could be developed inside Glendale, given GWP's transmission constraints. This can include a focus on customer-sited resources or local utility-developed resources.

Introductions:

1. STAG members re-introduced themselves and shared one thing they got out of the last STAG meeting. Some takeaways included:
    a. Having learned more about GWP's energy system
    b. Concern and interest in Glendale's transmission constraints and its dependence on other utilities to solve that challenge
    c. Commitment to the STAG process and to engage the community in the IRP more broadly
    d. Recognition of the complexity of this type of planning and the balance in priorities.

Presentation from Strategen Consulting:

1. See the accompanying PowerPoint PDF for the slides presented by Strategen.
2. Strategen presented answers to STAG member questions raised since the last meeting, provided a readout of the results of the first townhall, and gave an overview of modeling considerations to help in STAG scenario development.
3. Questions and discussion points among the STAG related to this presentation included:
    a. Customer types, energy use, and rates:
        i. One member asked why electricity costs are lower for industrial and commercial customers than for residential customers, if they're using so much more electricity than residential accounts. They noted that it doesn't seem that the percentage of costs allocated to each customer type match what they pay.
            1. Strategen responded that electricity rates are typically allocated by the costs it takes to send electricity to each customer type. That's usually more for residential customers (considering individual homes vs. larger industrial units), which is typically why rates are higher.
            2. GWP noted that this is a complex topic. This dynamic isn't isolated to Glendale and is typically the same across the board.
        ii. Another member asked why certain charges are set at a given time of year, then carried out throughout the year, versus there being a twice-a-year calibration. For instance, it could be winter, but customers still pay summer prices.
    b. GWP's scenarios

i. After presenting GWP's intended modeling scenarios, several members asked for clarification on how finalized these scenarios are.
    1. GWP answered that there are more details to be determined for each of these scenarios (mainly the inputs and assumptions that will drive the model) and that those have not yet been decided. The STAG can have input on some of these factors. GWP also does not intend to put too much detail in its scenarios, as it plans to let the model identify the lowest-cost portfolio that could meet the confines of each scenario goal.

c. Reactions to townhall 1 community resource preference activity:
    i. Some STAG members wondered how representative the attendees at the first townhall were of the Glendale community, and whether the responses were mostly from environmental advocates who might have felt more strongly against natural gas usage.
        1. Other members pushed back on the assumption that environmental advocates aren't representative of the Glendale population.
    ii. Several STAG members raised questions about how feasible it would be to site certain resources in Glendale, for instance small modular nuclear reactors (SMR) or hydrogen.
        1. GWP responded that Glendale likely doesn't have the available land or storage for SMR, so it's not a feasible option for development in the city. While there is also some land for utility-owned solar development, it isn't enough for what people think of as true utility-scale solar.
        2. GWP and Strategen will be more specific in future conversations about what resources are options for development in Glendale vs. outside.
    iii. Some STAG members asked about why townhall attendees might have put so many red stickers on green hydrogen.
        1. Strategen responded that it did not have time to ask people that question at the townhall.
        2. One STAG member responded that people might be worried that 'green' hydrogen might not actually be green, but rather just industry marketing.
        3. Another responded that it might be better to store energy in a battery rather than through hydrogen, given the energy lost in conversions (converting renewable electricity into hydrogen, then back to electricity).

Group discussion on scenario planning

4. Questions on LA's 100% clean energy study:
    a. Has GWP looked at the LA100 study (100% clean energy by 2035)?
        i. GWP responded that the utility has looked at it. They noted that GWP doesn't necessarily agree with the results of the study, given that it depends on some assumptions that may not be guaranteed (for instance, the ability to generate hydrogen in the LA basin).

ii. GWP shared that it did its own similar study in 2019 that looked at the feasibility of 100% clean energy by 2030. For this study, they only considered options available today. That means they didn't consider hydrogen availability or new hydropower. The study found Glendale could get to 89% clean by 2035.

b. One member commented that maybe taking hydrogen out of that study wasn't something City Council would've wanted us to do, so we could've considered it in the way LA did. Would a scenario that includes hydrogen be realistic?
    i. GWP responded that hydrogen could provide dispatchability for its system, meaning it could ramp up and down quicker (like natural gas) and react to the GWP network.
    ii. One member asked a question about whether hydrogen burns with nitrogen oxide (NOx) emissions. GWP responded that it does, but that there are processes in place that could manage for that, as is done at current natural gas units.

5. Questions about the modeling process:
    c. How much time, effort, and cost does it take to run another scenario through the model? (For instance, if STAG developed an idea, got results, then wanted to tweak it and run it again.)
        i. Ascend Analytics responded that it could take several days, but it would depend on how different a new scenario is from an existing scenario. For instance, adding or taking out a resource is a fairly simple change. Changes that are more foundational (like assuming Glendale's energy demand is 20% higher) would alter the results more and take more time (1-2 weeks).
        ii. GWP responded that they will make modifications to scenarios after initial results and see how model responds. But that each scenario doesn't only get one "run" through the model—there are hundreds of runs that are undertaken in combination for each scenario that ultimately create results.
    d. Is it possible through the model to let cost results determine when the best date is for a 100% clean energy goal? So STAG could choose the most optimal date for that goal after results, versus before modeling?
        i. The IRP team responded that this isn't possible with the way the model is configured. The group will have to input the date it wants to achieve 100% clean energy first.
6. Conversation on transmission and local vs. remote resources:
    a. Multiple members raised questions of how to develop scenarios in a way that considers Glendale's transmission constraints.
        i. The IRP team described that STAG can consider constraints by, for instance, placing emphasis on customer-sited or local utility-owned resources in its scenarios. But the model already takes Glendale's transmission capacity into consideration, so all results will automatically consider transmission constraints.
        ii. GWP suggested that members not plan for any new transmission capacity when developing their scenarios, given the length of time it takes for projects to be approved and built.

b. Some members suggested that this might indicate STAG should focus more heavily on the resources that are in Glendale's control inside the city. A few members are less concerned with what Glendale gets from outside city limits.
    i. GWP noted this is a fundamental problem because a significant portion of Glendale's resources come from outside the city. There are multiple reasons for that, including the scale of external projects and the need for regional and resource diversity.
    ii. GWP shared that the spot market for energy purchases is sometimes all that's available to GWP to meet local load.
    iii. GWP shared that they have less control over external resources because these depend on how quickly the outside is moving to renewables and where those are located.
c. One member suggested that the focus on inside vs. outside resources can be a distraction from the larger point of the STAG, which is to provide GWP with guidance on its priorities, like affordability and renewable energy.
    i. GWP responded that STAG can do a mixture of both. If STAG didn't focus on resource location, it could just suggest developing more renewable energy. That could be developed internally as much as possible, then whatever's not possible could go external.
    ii. GWP also expressed interest in STAG's opinion on when to achieve 100% clean energy, for instance by 2035 or later, noting that this date will have implications for system costs.
d. One member raised that it might be more of a challenge to think about providing renewable energy locally than remotely, because GWP can just buy clean power from the market.
    i. GWP explained that if the utility was just buying any type of energy (not necessarily renewable), it's a buyer's market. But it gets more challenging when buying renewable energy because every utility in California is trying to do the same thing. As a result, it's harder to buy renewable energy on the open market.
e. One member noted that transmission capacity is a legal and political matter, not just a technical one. They described that conversations were had between leaders of Glendale and LA on getting more transmission capacity for the city and the answer was no. They noted that STAG could potentially make different assumptions about these politics.
f. One member asked about future transmission projects in the pipeline.
    i. GWP responded that there's an upgrade happening to a transmission line between Utah and CA, with that upgrade tied to the Intermountain Power Plant in Utah (which GWP participates in).

7. Scenario ideas presented by STAG members:
    e. Could STAG form this IRP just around meeting the 2030 renewable portfolio standard goal of 60%?
        i. The IRP team responded that the plan must be written for the next 20 years, so the group will have to look beyond the 2030 timeframe.

f. One member suggested STAG scenarios should set an earlier date for 100% clean energy than is mandated by California law, recognizing that projects often don't finish in time. Maybe could plan to get there in 2042 or 2043.
g. One member suggested using City Council's 2035 clean energy target as the baseline for both scenarios.
h. STAG members generally seemed to agree that they were not interested in developing new fossil resources, beyond what's already baked into GWP's portfolio.
i. One member suggested thinking of newer technology alternatives to solar + storage, for instance vehicle-to-grid charging through electric vehicles.
j. One member asked how scenarios could consider heat management strategies like pavement cooling paint, which could reduce energy demand rather than focusing on generating electricity. They asked how that can be done through city planning.
    i. One member responded the City plans to increase urban tree canopy cover over the next 10 years and is looking at local projects for street and freeway painting.
    ii. The IRP team responded that these strategies generally require coordination among multiple city departments and are a challenge to model in the IRP process.

8. Additional information STAG requested to inform scenario development:
    k. What is the maximum transmission capacity for Glendale? How much is that capacity as a percent of the load GWP anticipates in the future?
    l. How much rooftop space is there for solar, and how much of that space is feasible for development?
    m. What times of day and in what seasons is GWP most dependent on natural gas? Do we expect it to be the same in the future?
        i. GWP responded that the city is most dependent on natural gas in the summer, and particularly in summer evenings. They do not expect this trend to be the same, considering electrification efforts.