

Example Questions to Ask Technical Experts

- What are the pros and cons of developing internal GSA capacity versus hiring external technical experts?
 - What are the differences in terms of cost, access to data and model, frequency of model runs, variety of scenarios?
 - Who would oversee the internal expert?
- Are there any possible conflicts of interest?
 - Conflicts of interest could include everything from nepotism to financial gain from a certain outcome. They should be avoided. At a minimum, engineers or consultants who are developing the GSP should not be involved in or allowed to bid on the planning, designing, or construction of water projects. This would create an obvious incentive to state or embed a preference for particular outcomes.
- How will the expert communicate to ensure that the GSA and stakeholders have the necessary information to understand the project process and results?
 - SGMA requires a communications plan that lays out how the GSA will interact with stakeholders. At a minimum, technical experts should be asked to understand and comply with that communications plan. In addition, a separate communications plan should be created for communication around technical issues.
- Is the expert working with other groundwater basins, particularly neighboring groundwater basins?
 - If working with neighboring basins, how would you help to ensure that we use the same data and assumptions?
 - If not working with neighboring basins, how would you ensure that we use consistent data and assumptions?
- Is the expert familiar with integrated surface water-groundwater models?
 - If yes, how have you used them in past projects? If no, what kind of tools would you use that would be considered “equivalent” to an integrated surface water-groundwater model?
- Does the expert use public domain open source software or proprietary software?
 - If the expert uses proprietary software, you should ensure that the expert provides publicly available supporting documentation and calibration data, as required. In addition, the expert must provide proof that the model was already developed before January 1, 2016 in order to use proprietary software in support of a GSP.
 - If the expert uses proprietary software, you should ensure that there are user licenses available for the GSA and stakeholders to understand and access the model’s code. You may wish to require a lifetime license, so that license costs do not become untenable over time.
 - In either case, you should consider how the GSA will retain control over the data and model through 2040. Regular updates will be necessary for the purposes of annual reporting and the five year GSP updates.
- How will the expert help to ensure data coordination and sharing?
 - Within basins, all GSAs must rely on the same information and have a coordination agreement that describes how data will be collected and shared for 7 water budget components:

- Groundwater Elevation Data.
 - Groundwater Extraction Data.
 - Surface Water Supply.
 - Total Water Use.
 - Change in Groundwater Storage.
 - Water Budget.
 - Sustainable Yield.
- Between basins, a coordination agreement is not required but it will be beneficial to have agreement around boundary conditions and a shared understanding of the impacts of one basin's management actions on a neighboring basin's ability to reach their sustainability goals.
- How will the technical expert share data sources and model assumptions?
 - How will information about data sources and uncertainty around individual water budget components be communicated? It is important to ensure that the GSA and stakeholders have a chance to understand and assess the information and assumptions that inform model outcomes.
- How will the technical expert share results?
 - It can be difficult to understand model results, therefore, having some kind of model or data visualization platform can be very useful for communication purposes. Models like C2VSIM have a "graphical user interface" that allows them to be visualized using mapping software. Experts should be prepared to provide a number of different future scenarios, rather than just one result, this is what will help a community decide between different management options. Therefore, it is useful to ask an expert how he/she will share the differing assumptions that drive different scenarios and their results.
- Who owns the intellectual property contained in model data, processing, and outputs?
 - It will be important to ensure that GSAs own the intellectual property, not experts or consultants so that they can update, expand, and improve data over SGMA's 20 year timeline.
- How will the expert ensure meaningful stakeholder input in setting sustainability goals?
 - The role of a technical expert is to integrate community values into technical tools and provide information about the potential consequences of different management actions. In order to do either effectively, the expert must have information from stakeholders about community values and preferences.