4. Is there an electricity connection in your house?
    a. Are you connected to grid?
        i. What phase connection?
        ii. How many hours of power cut?
        iii. What electrical appliances do you have at home?
        iv. How much is your average bill?
    b. Are you connected to any other electricity source?
        i. What is the electricity source?
        ii. How many hours of power supply?
        iii. What electrical appliances do you have at home?
        iv. How much is your average bill?
5. What energy source do you use for cooking in your house?

About the facility

6. What services do you avail from the (health/education/livelihood) facility?
7. To your knowledge, who all avails services from this facility (*to understand if there is a segment of the population who uses this facility*)?
8. Do you know what kind of energy solution is installed in this facility?
9. Do you know when the energy solution was installed? Were you using the facility then?
10. Have you noticed any changes in the services offered by the facility after the coming of the energy solution?
    a. Is there any change in operating hours?
    b. Is there any change in the number of staff living here/available when needed?
    c. Is there increase in services offered like vaccinations/deliveries for health, computer education for education?
    d. Is there any change in facilities like lights, fans, drinking water?
    e. Any other changes?
11. Do you use the electricity from the facility? If yes, please explain what it is used for and how it helps you.
12. Do you think the electricity solution in this facility is the best solution? Why/why not? *(probe into why they think any other solution like grid itself would not work in this context)*

Sustainability in the climatic context

13. Does this facility function during natural calamities—extreme heat days, extreme rains, floods, droughts?
14. Have you seen the system breaking down during natural calamities? How frequently does this happen? *(Probe for specifics)*

Financial sustainability of the system

15. Do you know who funded the installation?
16. Was the community involved in the funding?
17. Do you know who funds the O&M of the system?
18. Is there any money collection from the community for O&M?

Operational sustainability of the system

19. Were you or anyone from the community involved/consulted in any way during the implementation process *(Probe: land procurement, village decision-making, construction job, capacity building, etc.)?*
20. Are you happy with the services provided by the facility? What more is required? *(Probe: a greater number of facilities, more services, etc.)*

INTERVIEW GUIDE FOR FUNDING ORGANIZATIONS

Informed consent script:

I am ____ from the Energy Program/ Climate-Resilience Practice at WRI India. We are conducting a study on how energy access solutions address energy needs and contribute to health/education/ livelihood outcomes in energy poor, climate vulnerable areas. We would like to ask you a few questions regarding the energy solution in this locality. This interview will take around 1 hour. The information we capture will be used for research purposes only. The information will be treated as confidential and any individual-identifying details will be anonymized before publication. May we have your consent to proceed?

(Record verbal consent)

Interview details

1. Project/program/site name
2. Project/program/site details (number of sites, locations, duration of this project/program)
3. Interviewed by
4. Date
5. Name(s) of the interviewee(s), organization(s) and role(s)
6. Contact details

About the location

1. What are the climate vulnerabilities or natural calamities faced by the communities and institutions living here *(Probe: like floods, droughts, extreme rainfall/temperature, soil or water contamination, land erosion)?*
2. What energy issues are faced by the areas covered by this project/program?

Motivation/context for implementation

3. Tell us about your organization and its work in the energy-development space
4. How do you perceive your role in the implementation—as a funder of energy access, as a funder of a development project, monitoring and evaluation role, ecosystem support, etc.?
5. Why did you decide to invest in this?
   a. Geography
   b. Implementation model
   c. Implementation organization
   d. Energy solution
6. How and when did you decide on funding this project/program/site?
7. Is this part of your long-term strategy to invest in the upliftment of the area?
8. What financial and non-financial returns do you expect out of this investment ?
9. What is the time frame for returns you are looking at for making these kinds of investments?
10. When are these decisions taken (specific times in a year, frequency)?

FOR INTERVIEWER'S REFERENCE

Objective of these interviews

- To understand whether the *energy solutions are resilient* to any climate events/conditions in the region, *address the energy needs and contribute to development outcomes* (like health, education, livelihood)
- Capture communication stories

Stakeholder categories

1. Implementing organization: Responsible for coordinating various activities for implementation of the energy solution in/not in the climate vulnerable areas and bringing different stakeholders together. Questionnaires may need to be administered at both the headquarters and the field level.
2. Funding agency: Organization that partially or fully funds the implementation and/or bears the financial risk.
3. Vendor: Organization responsible for design, installation and O&M, if applicable.
4. Beneficiary: Those who benefit from the facility.

Financial sustainability of the system

11. Are you contributing to the one-time CAPEX or CAPEX + on-going O&M or to O&M only?
12. If you are contributing to one-time CAPEX:
    a. What was the one-time CAPEX for this project/program/site (as applicable)?
    b. What was/is your contribution to the CAPEX for this project/program/site? *(what % of the cost was borne by this funder?)*
    c. For the one-time CAPEX, did you provide a grant/loan/equity investment/other like revolving fund?
13. Who apart from you contributed to the funding of this project/program/site?
14. Was this the funding model for other partners—same or different from your model?
15. Why do you think this is the best-suited model for this implementation?
16. Who is taking care of the O&M (finance element) of the system?
    a. If no one is taking care of O&M expenses, how do you ensure the long-term sustainability of the project?

Sustainability in the climate context (impact of natural calamities during and after installation)

17. Do you know if the vendor has taken any precautions to ensure the project/program/site is not affected by natural calamities or conditions?
18. Did you see any negative impact of climate vulnerabilities, natural calamities on project/program/site post installation or during installation? (*probe further*)
19. Did that have any impact on the financial returns from the project/program/site?

Impact in the context of climate vulnerabilities and natural calamities

20. What do you think is the impact of this project/program on the facilities/communities?
21. How do you assess the impact of this project/program? Are you happy with the same? If not, why?
22. Do you see any changes in impacts during (a) chronic climate events/conditions (b) climate-related disruptions? (Please explain)
23. Based on your experience, have other organization like yours expressed interest in learning about this intervention and contributing to this or other similar interventions?
24. Do you currently have plans to scale this up/invest further in similar?
    a. Geography
    b. Implementation model
    c. Implementation organization
    d. Energy solution
    e. Why/Why not?
25. What are the overall learnings for you from this investment? *(Probe: what worked, what didn't work, what needs to be changed)*
26. Have you taken/plan to take any measures to reduce the risks of climate events/conditions in your projects/investments?
27. Are you interested in investing in similar projects in these areas/other areas?

INTERVIEW GUIDE FOR VENDORS

Informed consent script:

I am _____ from the Energy Program/Climate-Resilience Practice at WRI India. We are conducting a study on how energy access solutions address energy needs and contribute to health/education/livelihood outcomes in energy poor, climate vulnerable areas. We would like to ask you a few questions regarding the energy solution in this locality. This interview will take around 1 hour. The information we capture will be used for research purposes only. The information will be treated as confidential and any individual-identifying details will be anonymized before publication. May we have your consent to proceed?

(Record verbal consent)

Interview details

1. Project name
2. Interviewed by
3. Date
4. Name of the interviewee(s), organization(s) and role(s)
5. Contact details

About the location

1. Name of the district, block, village
2. Climate vulnerabilities or natural calamities faced by the communities and institutions living here *(Probe: like floods, droughts, extreme rainfall/temperature, soil or water contamination, land erosion)?*
3. What energy issues were faced by the site?
4. In the context of these vulnerabilities and energy issues, what challenges was the client facing in delivering services?

FOR INTERVIEWER'S REFERENCE

Objective of these interviews

- To understand whether the *energy solutions are resilient* to any climate events/conditions in the region, *address the energy needs and contribute to development outcomes* (like health, education, livelihood)
- Capture communication stories

Stakeholder categories

1. Implementing organization: responsible for coordinating various activities for implementation of the energy solution in/not in the climate vulnerable areas and bringing different stakeholders together. Questionnaires may need to be administered at both the headquarters and the field level.
2. Funding agency: Organization that partially or fully funds the implementation and/or bears the financial risk.
3. Vendor: Organization which has installed the energy intervention. The same may be an integrator, distributor, developer of the technology. The vendor may/may not be the organization doing the O&M of the system.
4. Beneficiary: who benefits from the facility

ISSUE	INTENSITY	COMMENT
Not connected to grid		
Connected but no power	(hours of outage)	
Connected but no power and depending on DG set	(hours of outage) (hours of DG set operation)	
Voltage fluctuations	(frequency and range)	

About the solution

5. What is the energy solution?
6. When was it installed?
7. Why was it installed? To solve what problem (according to vendor)

8. What was the motivation for you to take this project?
9. Where is it installed (what type of institution)? Who owns the space where it is installed?
10. Technical specs of the energy solution—please fill in the table below:

COMPONENT	CAPACITY	MAXIMUM AMBIENT TEMPERATURE	MAXIMUM AMBIENT WIND SPEED	OTHER VULNERABILITIES (E.G., AMBIENT HUMIDITY)
Solar panels				
Battery				
Inverter				
Balance of system (electrical wire/panels)				
Power backups if any				
Any other specs				

11. Are you empaneled by MNRE or any other agency?
12. What energy demand did you take into consideration while designing the system?
13. If there is an increase in energy demand in the future, how will your system respond/change?
14. Civil engineering specifications
    a. Where is the system installed—on rooftop/ground/other
    b. Space occupied
    c. Please fill in the table below:

COMPONENT	HEIGHT FROM GROUND	MATERIAL	MAXIMUM WEIGHT SUPPORTED	MAXIMUM AMBIENT WIND SPEED
Mounting structure				
Any other component of civil structure				

Sustainability in the climate context (impact of natural calamities during and after installation)

15. What precautions have you taken to ensure that your project is not affected by natural calamities or conditions?
16. What was the impact of climate vulnerabilities, natural calamities on design of the system?
17. What was the impact during the installation period?
18. How did you deal with the same and bring the project back on track after the disruptions (if any)?
19. Have you seen any impact of the climate vulnerabilities, natural calamities on O&M of the system?
20. How do you deal with the same and ensure the system performs as planned?

Financial sustainability of the system

21. What was the total cost of the installation and how was it funded? *(Probe: grant, loan, self-funded and their breakdown by source)*
22. Who funds the O&M of the system?
23. Who will fund post completion of the AMC tenure?

Operational sustainability of the system

24. Which stakeholders came together to design the project?
25. Who takes care of the O&M (human resource)?
26. Do you have an AMC in place for this system?
27. Until when is the AMC valid?
28. After AMC ends, who will ensure operation of the system?
29. Did you do local capacity building for day-to-day trouble shooting
30. Is there remote monitoring of the system—its performance and disruptions caused by climate vulnerabilities or natural calamities?
31. Do you have plans to scale up this model? *(Probe: in other geographies you work, increase system capacity in existing geographies, with other partners, etc.)* Why/Why not?
32. If similar projects come up in such locations, would you be willing to take them on? If not, why?

Impact in the context of climate vulnerabilities and natural calamities

33. How do you think the working of the facility changed after the installation?
    a. Increased no. of working hours
    b. Staff living on site
    c. Staff retention going up
    d. Increased number of footfalls (hospital), retention rates (schools)
    e. New services added
    f. New equipment purchased
    g. More of the same equipment purchased
    h. Increased no. of hours spent on equipment
    i. Income increased
    j. Expenditure reduced
    k. Improved living conditions
    l. Other
34. Have you conducted an impact assessment of the energy solution installation? If so, can you share the findings?
35. What are the overall learnings for you from this implementation? *(Probe: what worked, what didn't work, what needs to be changed)*

Installation process

36. Please describe the process of installation of the system (Probe: site assessments, system design, procurement of panels, transport and logistics, civil work, etc.)

Motivation/ context for implementation

37. What services do you offer? *(Probe: focus on household, productive, social, minigrid loads, what technologies—solar PV, water heater, biomass, biogas etc.)*
38. What are your geographies of interest?
39. How did you come to know of this project?
40. What convinced you to take this project on?

Impacts/learnings from the implementation

41. Are you monitoring the performance of the system? How?
42. How many hours of electricity supply does the facility get now?
43. Does the voltage fluctuate?
44. Does the facility currently use backup power? *(Probe: if there is backup, what backup, fuel availability, cost on backup, hours of usage)*
45. How do you think the working of the facility changed after the installation?
    a. Increased no. of working hours
    b. New equipment purchased/new services added
    c. More of the same equipment purchased/services added
    d. Increased no. of hours spent on equipment
    e. Income increased
    f. Expenditure reduced
    g. Improved living conditions
    h. Other
46. Do you think the installation of the energy solution has impacted community members in any way? If so, please explain how.
47. Has energy access solution helped the facility address community needs better during natural calamities or conditions? *(Probe: like floods, droughts, extreme rainfall/temperature, soil or water contamination, land erosion)*
48. Have you conducted an impact assessment of the energy solution installation? If so, can you share the findings?
49. What are the overall learnings for you from this implementation? Would you be willing to take up another similar project with the same partners? *(Probe: what worked, what didn't work, what needs to be changed)*