

# Paris Session 2022



## Challenges & Opportunities related to DERs in rural power systems

**C6\_3.4**

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Question 3.4 What are the main challenges and opportunities in operating rural or islanded power systems with a high share of renewable generation? To what extent are energy storage systems helpful? What is an optimal share of renewables and storage in islanded or remotely operated power systems? (C6 report)

## Challenges:

- Not enough demand for utilities to build heavy CAPEX infrastructure
- Leads to the requirement of higher incentives either in local or federal govt. level
- Results in lower economic growth and expansion in the communities

## Opportunities:

- Microgrids can provide an optimal solution
- Example: <https://www.energy.gov/sites/default/files/2021-11/session-3%20-1-Igiugig-Village-Council.pdf>
- Storage is the key aspect here to store energy from a local source of energy and help distribute energy and other use-cases

Share:

- Energy storage plays a big role in replacing fossil-fuel based cleaner sources of energy:
- An example from NREL:

Source:

<https://sustainableamerica.org/blog/are-microgrids-the-answer-to-helping-rural-areas-be-more-sustainable/>

<https://www.nrel.gov/docs/fy19osti/67821.pdf>

## Group Discussion Meeting

Fig. 11

DER	Existing	New
CHP	0%	0%
Solar PV	0%	9%
Natural Gas	0%	3%
Diesel	15%	11%
Fuel Cell	0%	0%
Energy Storage	0%	38%
Wind	21%	3%
<b>Sum</b>	<b>36%</b>	<b>64%</b>