

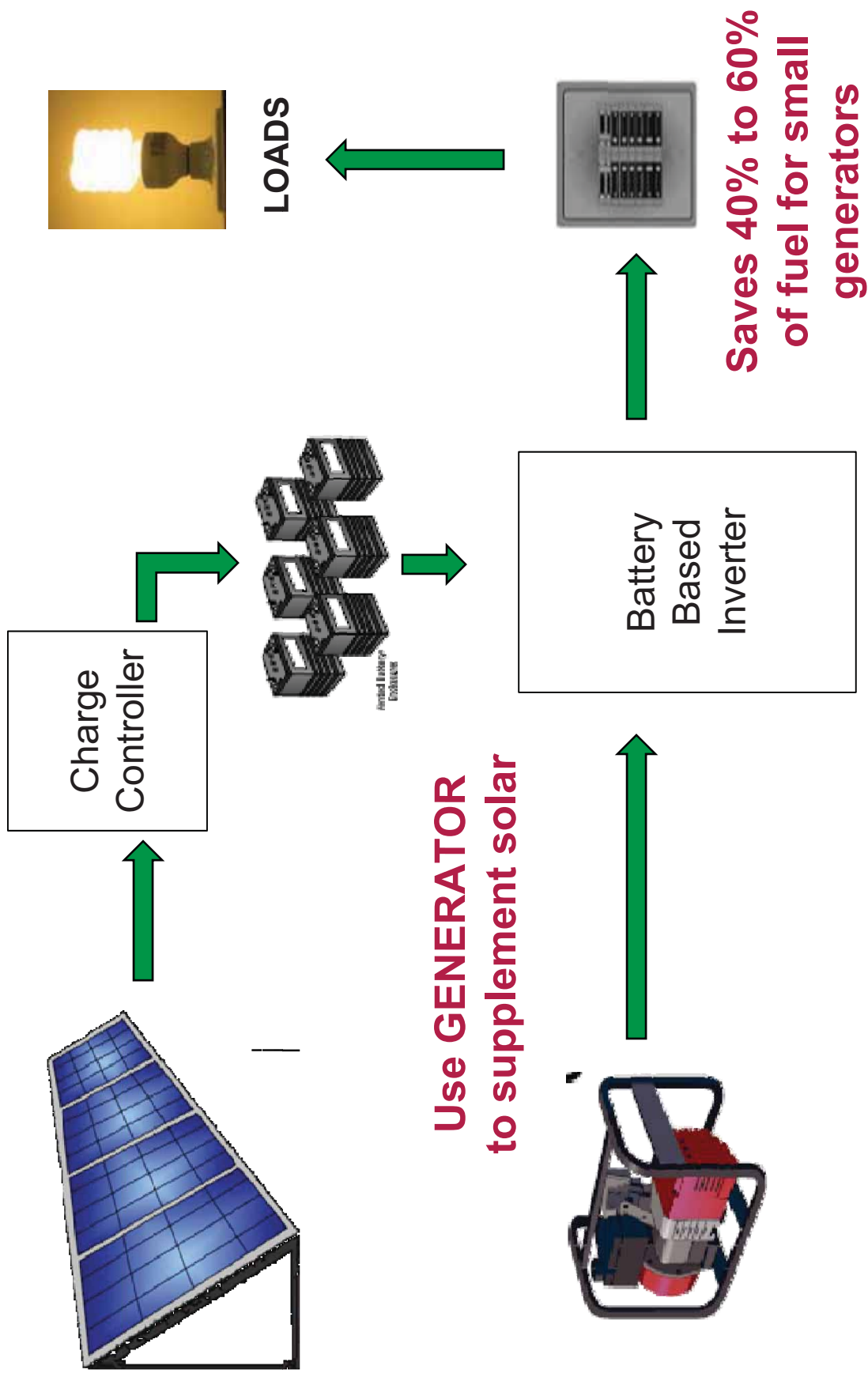


XW Battery Based and Generator Grid-Tie

Community
PV-Diesel Mini-Grid



XW OFF-GRID SYSTEM



Hybrid PV/Generator Off-Grid Battery Based Inverter System



Small Propane Generator Fuel Consumption



Generator Fuel Consumption



Summary of the example gensets running continuously to meet the load.

Capital \$	O&M (\$/hr)	Fuel \$/day	O&M \$/day	Batt \$/day	Op \$/day	Cap \$/day	Total \$/day	Total \$/kWh	Fuel L/kWh
2300	0.8	9.58	19.04	N/A	28.62	0.6	29.2	4.1	1.5
4000	0.9	34.04	22.00	N/A	56.04	1.1	57.1	7.9	6.8
10000	0.5	12.61	12.00	N/A	24.61	2.7	27.4	3.8	1.9

Gasoline:

Propane:

Diesel:

Summary of the example gensets running as PV Hybrids

PV (W)	Capital \$	O&M (\$/hr)	Fuel \$/day	O&M \$/day	Batt \$/day	Op \$/day	Total \$/day	Total \$/kWh	Fuel L/kWh
0	8306	0.8	5.28	2.62	1.36	9.25	11.53	1.60	0.81
500	11806	0.8	3.98	1.97	1.36	7.31	10.55	1.46	0.61
1000	15306	0.8	2.68	1.33	1.36	5.37	9.56	1.33	0.41
1500	18806	0.8	1.38	0.68	1.36	3.42	8.58	1.19	0.21

Gasoline:



Propane:



Diesel:



Ref. Natural Resources Canada, "PV/GENSET/Battery Hybrid Power for the Remote Home: Cost Sensitivities and the Demonstration at Xeni Gwet'in", Andrew Swingler, Mark Edmunds

Pay-as-you-go pre payment meter for the system

Strawbale, #2 (Red)
Account# 345

Starting Value of Card	\$0.00
Purchase	\$2.00
Cash	\$2.00
Total Received	
Arrears	\$0.00
Previous Arrears	\$0.00
Paid to Arrears	\$0.00
Arrears Remaining	
Net Credit From Purchase	\$2.00
Current Card Value)	\$2.00

HAVE A GREAT DAY!



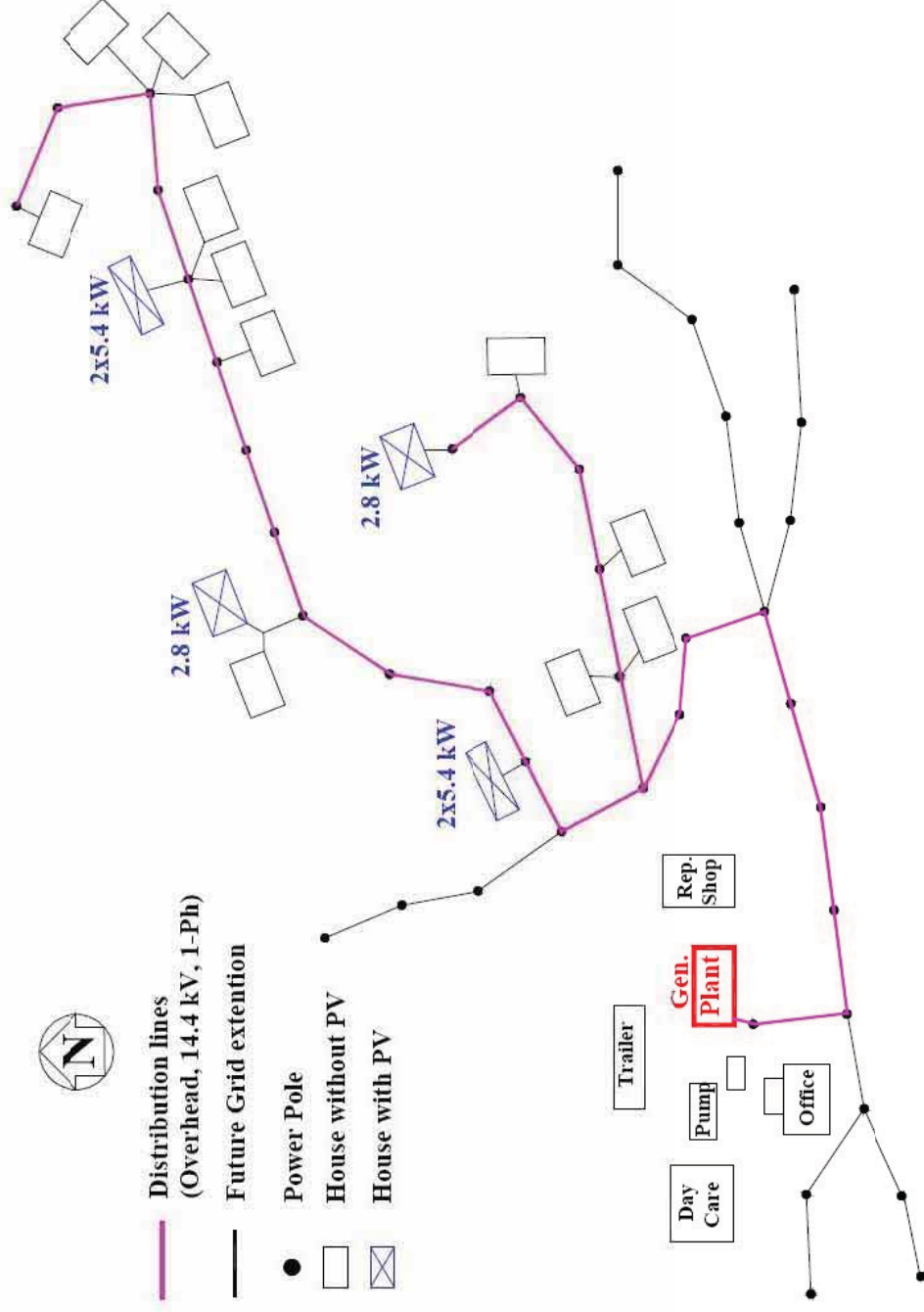


Grid Tie on Community Generator

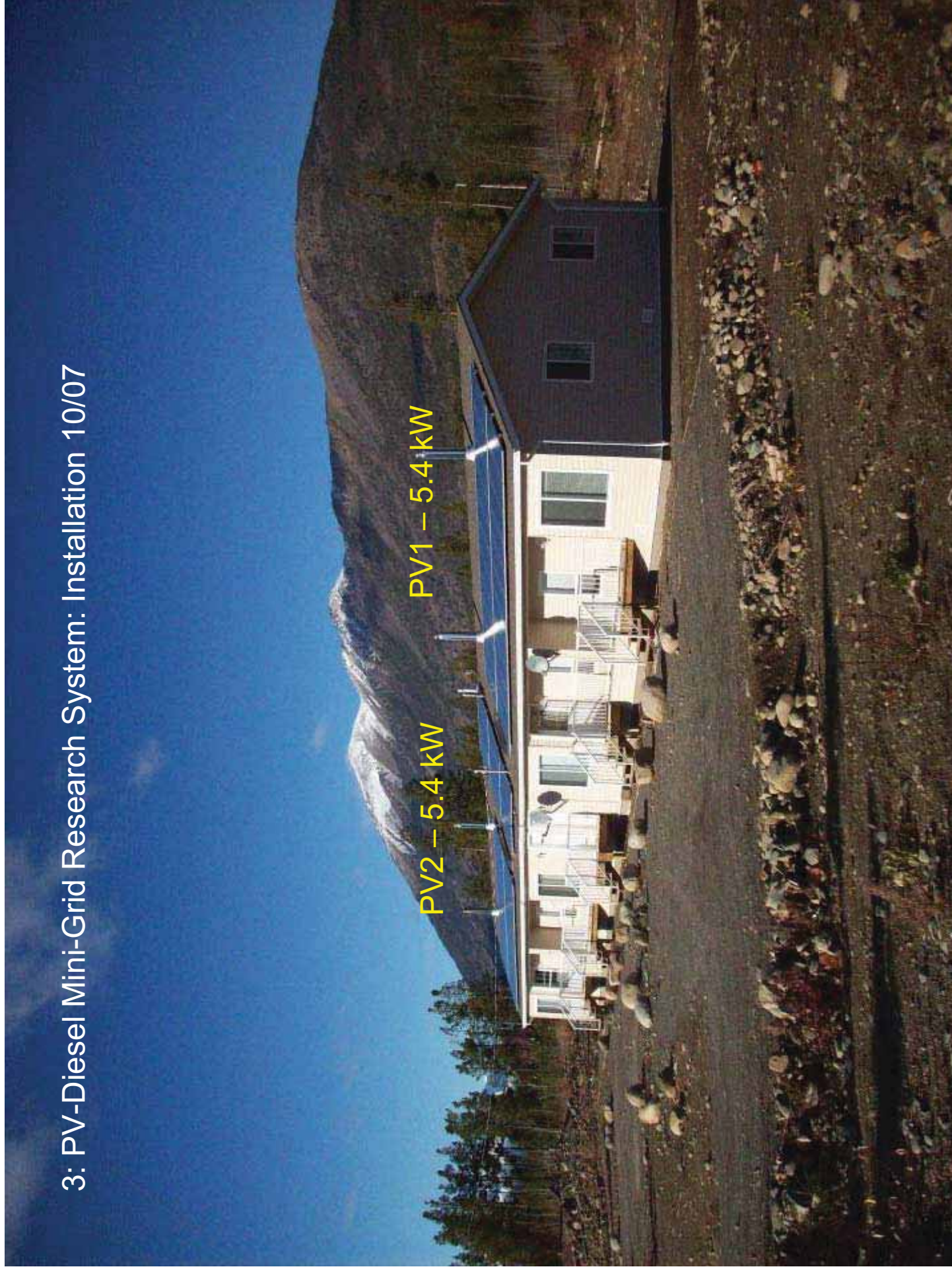
The Nemiah Community Diesel 'Mini-Grid'



The Nemiah 'PV Mini-Grid' Approach



3: PV-Diesel Mini-Grid Research System: Installation 10/07



3: PV-Diesel Mini-Grid Research System - Installation Oct 2007

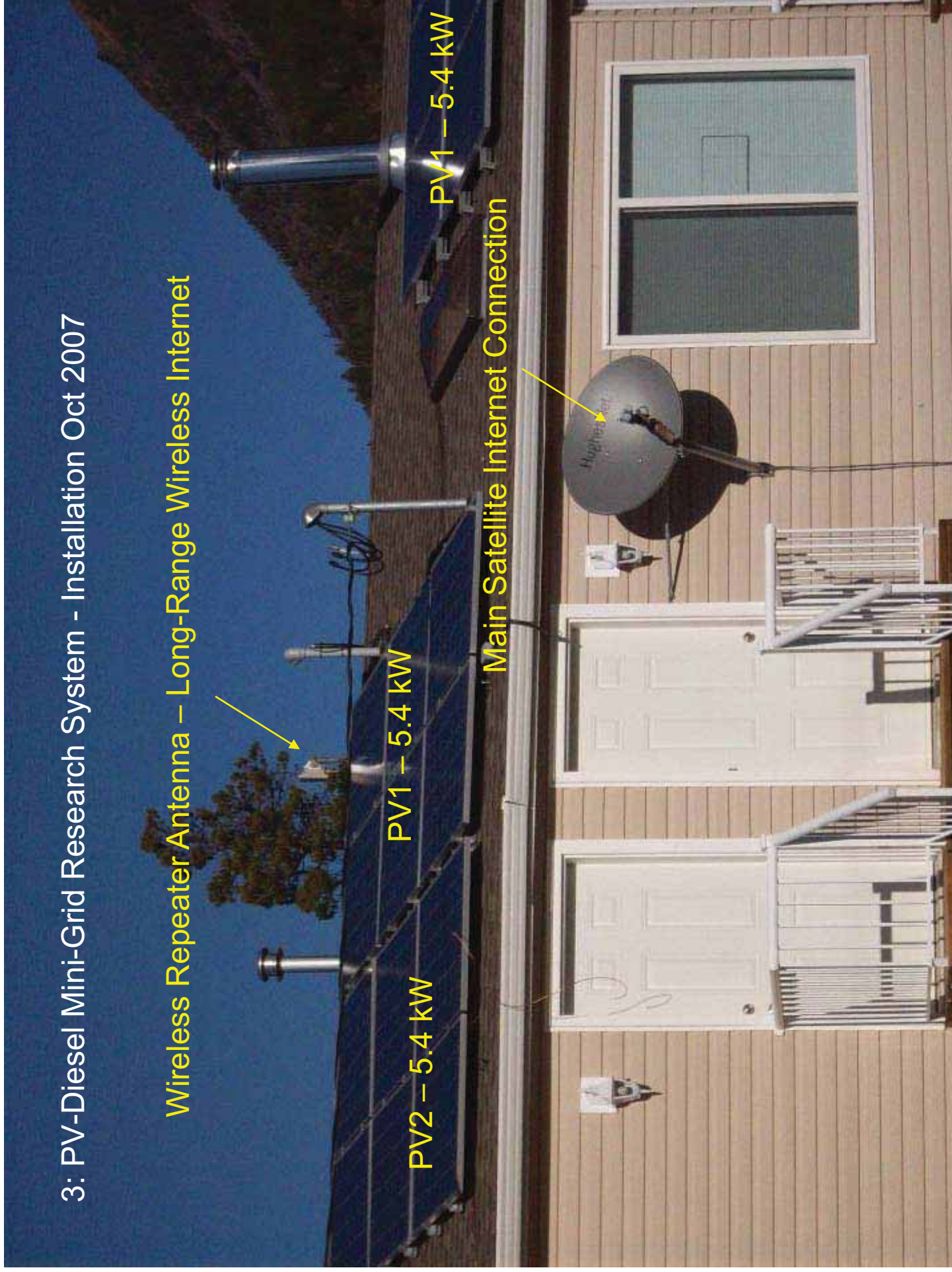
Wireless Repeater Antenna – Long-Range Wireless Internet

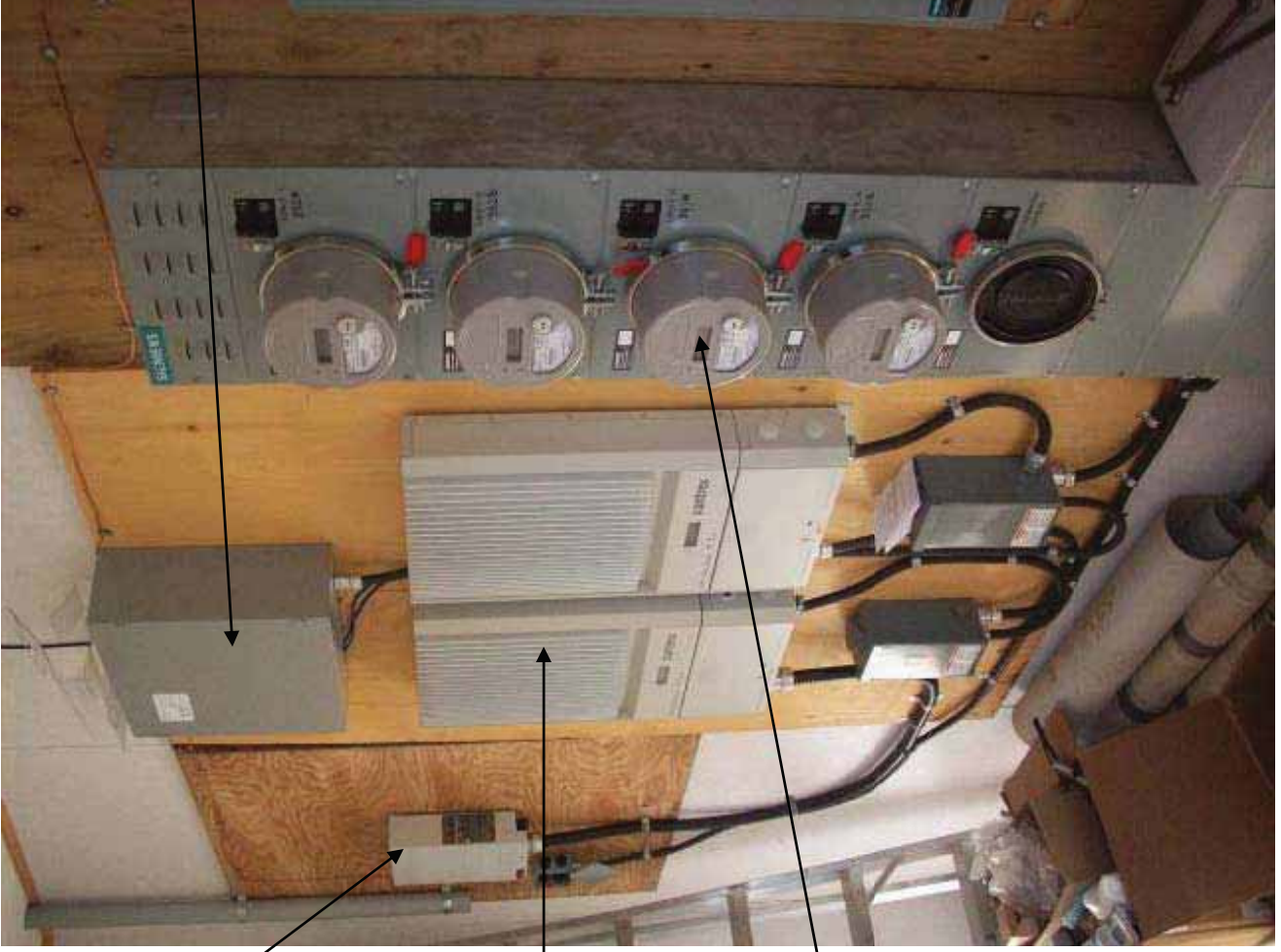
PV1 – 5.4 kW

PV2 – 5.4 kW

PV1 – 5.4 kW

Main Satellite Internet Connection





Indoor
Wireless Monitoring
Interface

Adjustable voltage
combiner box for
PV2 and PV4

Indoor Grid Tie
Inverters
(PV4 and PV3
shown respectively)

Pay as you go
meters for the
four residences



Power Monitoring
and controls for the
study

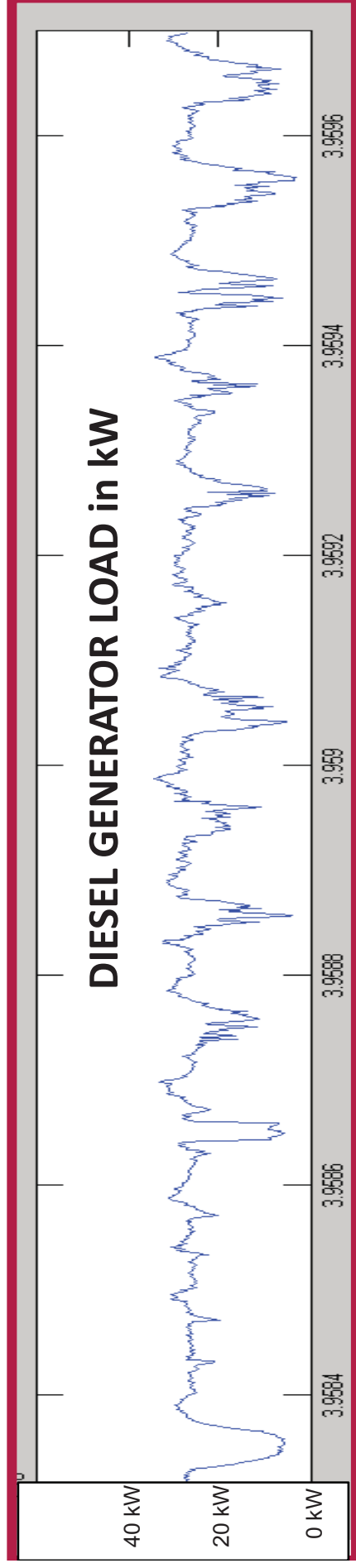
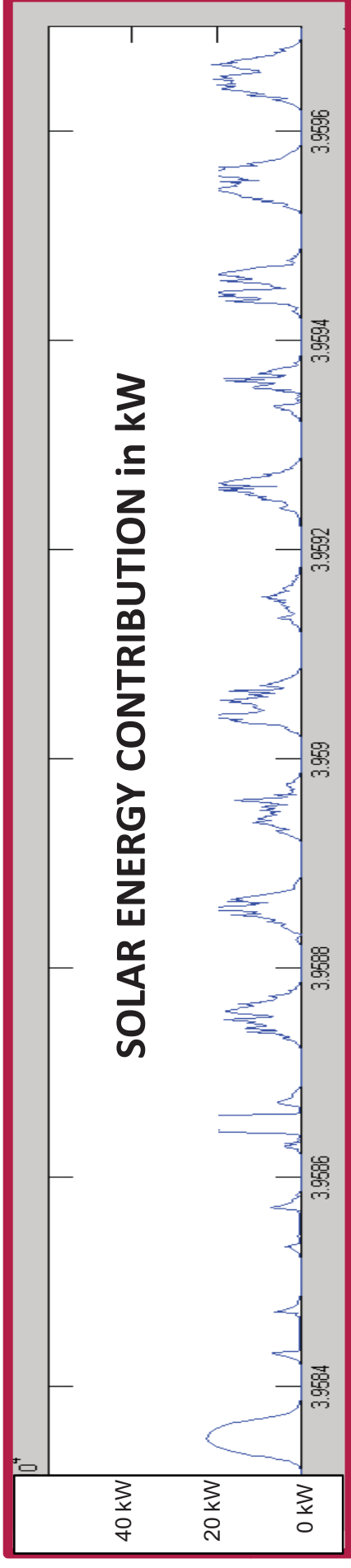
Schneider Electric – Solar Business



90 kW Deutz Diesel
Gensets

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PV Assisted Fuel Reduction



Discussion