



Hybrid System Questionnaire

Please provide us with the information requested below in order to assist us to understand and evaluate the project specifics. Please try to address all issues to the extent possible. All information provided is and will remain confidential. **Highlighted cells** ■ indicate mandatory responses to proceed with a basic design.

General Data				
Project Name				
Country / City / Location (or nearest city)			Latitude (if available)	
			Longitude (if available)	
Type of Application that power system will support	Telecoms	Mini grids for rural electrification	Grid SupplyM	ining
	Oil & Gas	Hotel / Residence	Industrial (Captive)	Other (Please explain below)
Client KPIs (eg. diesel replacement, OPEX reduction, 100% off grid operation etc)				
Client Name / Contact Details				
Financing / Availability				
Indicative Timeline (when works will start? When the project is required to be ready etc)				
Describe shortly the works that are expected to be included in METKA's IPS scope (EPC, Main Equipment Supply, PV park Erection, Power Equipment, Batteries)				
Main Equipment to be supplied by METKA IPS in the project (Choose all that is applicable)	PV panels-modules	Power Conversion System (eg. MPPT Charger / Rectifier/ Inverter)	Batteries	Generator Set
	Additional (Please explain)			
Additional Scope of Works & Services (e.g. access road, electricity line, Substation, pipelines, transmission lines)				
On-Site Installation Details				
Available Power Sources On Site	Public Grid	Generator Set	PV	Batteries
	Other (Please specify)			

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Place for PV modules mounting (if applicable)	Rooftop	Certified	Available area for PV modules mounting	m ²	Orientation	
		Not Certified			Slope	
	Ground Mount Fixed		Ground Mount Tracking			
Place for Power Conversion Equipment (e.g. Inverter, MPPT)	Indoor	Available area for Power Conversion Equipment installation		m ²		
	Outdoor					
Place for new Batteries (if applicable)	Indoor	Open Rack	Available area for batteries installation	m ²		
		Cabinet				
	Outdoor					
Requirement for Remote monitoring	Yes		No			
Internet Access / Wi-Fi Availability	Yes	Mobile	Downloading quality	4G		
		Landline		3G		
	No			2G		
Public Grid Data						
Fill in if Grid is available						
Public Grid Availability	Yes	1-phase	Outage / Hours			
		3-phase				
	No	Provision for future connection to grid	Yes	No		
Public Grid Configuration	LV only (e.g. 400V)		MV only (e.g. 11kV)	LV with MV distribution		
Grid Current Condition / Status	Isolated / Island Grid U		Instable Grid Connected	Stable Grid Connected		
LV Nominal Voltage (line-to-line for 3-phase)	V		MV Nominal Voltage	kV		
New Power system will be connected at:	LV point	MV point	Nominal Frequency	Hz		
Distribution Network on site	ExistingN		ew (to be provided by others)	New (to be provided by METKA IPS)		
Load / Consumption						
DC Load Direct Supply	48V DC		Continuous DC load	kW _{cont}		
			Maximum load	kW _{max}		
			Maximum Peak Load	kW _{peak} (inrush current)		
			Minimum Load	kW _{min}		
			Total average daily consumption	kWh		
			Night average load	kW		
	Other Specify below V DC		Continuous DC load	kW _{cont}		
			Maximum load	kW _{max}		
			Maximum Peak Load	kW _{peak} (inrush current)		
			Minimum Load	kW _{min}		
			Total average daily consumption	kWh		
			Night average load	kW		

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AC Load Direct Supply	230 V AC (only for 1-ph load)	Continuous AC load	kW _{cont}	
		Maximum load	kW _{max}	
		Maximum Peak Load	kW _{peak} (inrush current)	
		Minimum Load	kW _{min}	
		Total average daily consumption	kWh	
		Night average load	kW	
	400 V (only for 3-ph load)	Continuous AC load	kW _{cont}	
		Maximum load	kW _{max}	
		Maximum Peak Load	kW _{peak} (inrush current)	
		Minimum Load	kW _{min}	
		Total average daily consumption	kWh	
		Night average load	kW	
Load Profile				
Seasonal Variation	Yes	Explain (e.g. Summer/Winter)		
	No	Average Load Power Factor	Equipment with special requirements (e.g. high starting currents, Motor, etc.)	
Generator Set		Fill in if Genset exists or required		
Genset availability on site	Existing	Manufacturer - Type / Model (Please indicate engine and alternator brand if available)		
		Genset Remote Turn on/off	Manual	Automatic through AMF
		Genset Controller Manufacturer	Genset Controller Model	
		Fuel type (e.g. diesel, natural gas etc.)	Price / litre	
		Power Rating	kVA	
		Nominal Voltage (line-to-line for 3-phase)	V	
		Annual Fuel Consumption	litres	
		Operating hours	hours	
		Average Maintenance Cost (fuel cost should be excluded)		

Genset Availability on site	New (to be provided by others)	Fuel type (e.g. diesel, natural gas etc.)		Price / litre
		Power Rating	kVA	
		Nominal Voltage (line-to-line for 3-phase)	V	
		Fuel Consumption	Litres / hour	
	New (to be provided by METKA IPS)	Available fuel type on-site (e.g. diesel, natural gas etc.)		Price / litre
		Requested Power	kVA	
		Allow METKA IPS to recommend		
	Not required	Other comments to be mentioned		

Batteries

Batteries availability	Existing	Type of batteries (e.g. VRLA, NiCd)		
		Battery Nominal Voltage (e.g. 24V, 48V)	V	
		Total Nominal Capacity of Battery Bank	Ah	
	New (to be provided by others)	Type of batteries (e.g. VRLA, NiCd)		
		Battery Nominal Voltage (e.g. 24V, 48V)	V	
		Total Nominal Capacity of Battery Bank	Ah	
	New (to be provided by METKA)	Supported load by batteries	kW	
		Total Nominal Capacity of Battery Bank	Ah	Allow METKA IPS to recommend
		Required Back-up Time	hours	
		Needs for battery cabinet	Yes (will be provided by METKA IPS)	No (exists or will be provided by Client)
	Not required	Other comments to be mentioned		

Photovoltaics

Availability of PV panels / modules	Existing	Total Power	kW _p		
		Nominal DC Voltage	V		
	New (to be provided by others)	Total Power	kW _p		
		Nominal DC Voltage	V		
	New (to be provided by METKA IPS)	Total Power	kW _p		
		Allow METKA IPS to recommend			
	Not required				

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Documentation

Documentation to be provided (if available)

Single Line Diagram of electrical distribution

PV module Datasheet

Location draft top view (e.g. google earth)

Genset Datasheet

Hourly Load Profile

Battery Datasheet

Miscellaneous - Comments

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