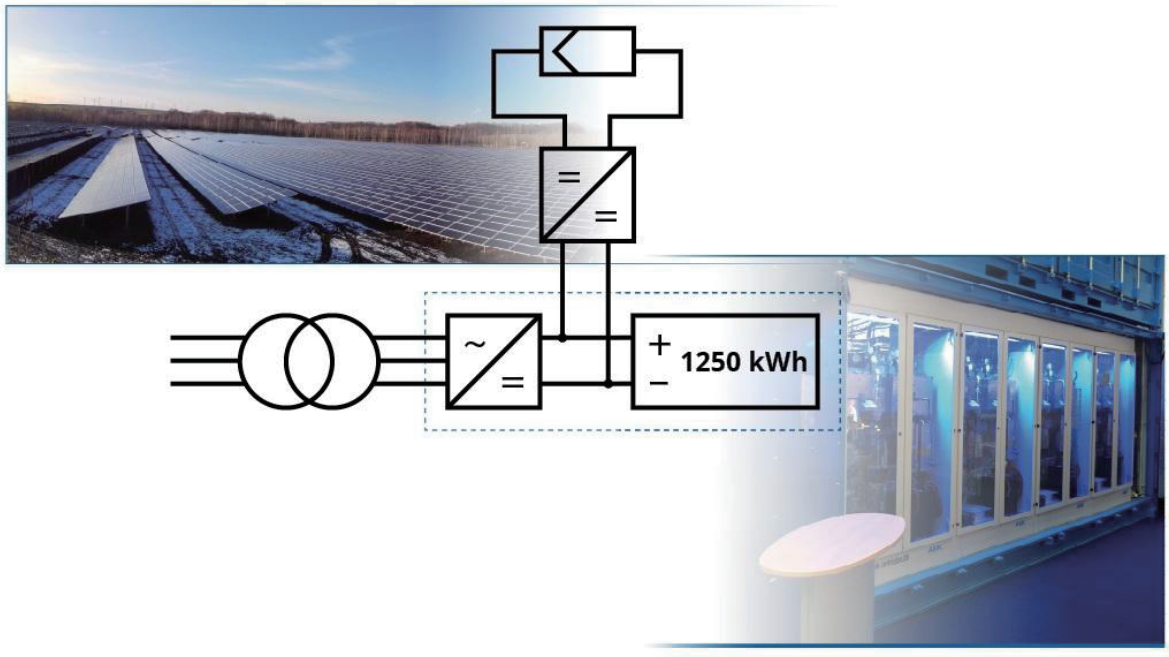
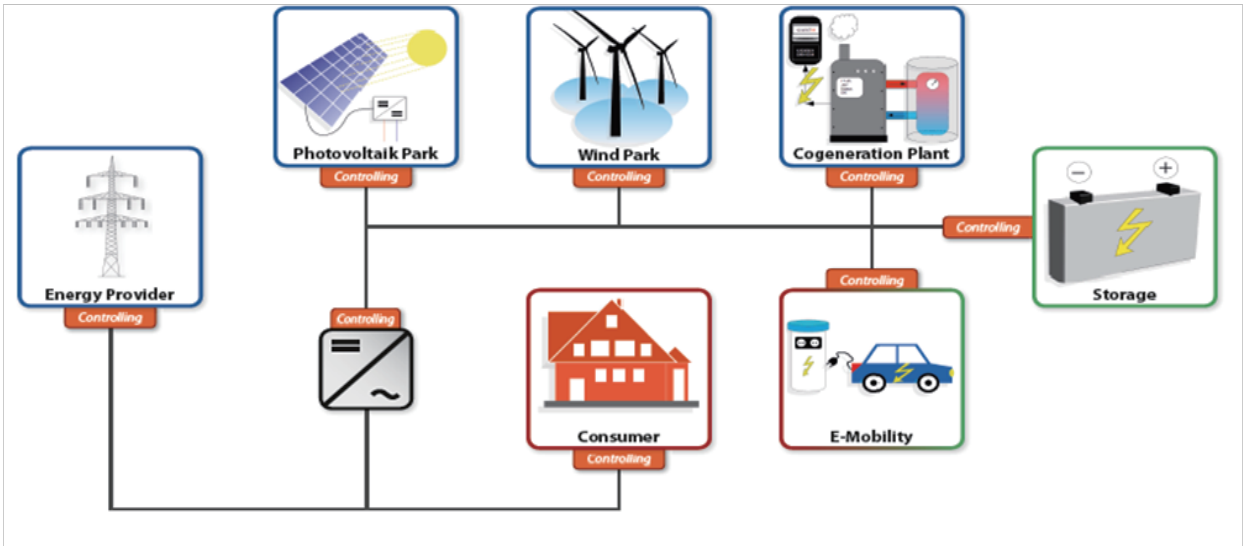
essMoni ® storage
ENERGY STORAGE

short information & questionary of requirement



Application

- helping to support the stability of a grid
- intermediate storage of renewable energy
- decreasing of load tops in industrial companies
- reactive power compensation
- uninterruptible electrical power supply is possible
- using in a smart-grid-system



Technical Data

- Battery based on LiFePO4 (lithium iron phosphate)
  - high battery safety
  - energy density of 3000 W/kg
  - high current rating (0,5C-3C) → fast charge and discharge is possible
  - low maintenance
  - high number of cycles possible
  - own research of a battery management system(BMS)
- individual setting of power and capacity is possible

With regard to the fact that the storage has to be projected individually,
we need wide information for every project.

Information about appliances

Which appliances

no.	name	power in kw	AC or DC?	voltage in v
∑				

Is it possible to operate the AC-appliances with direct current?

☐ yes
☐ no

If so, which?

no.	name	power in kw	voltage in v
∑			

Could you send us the real load profile of your appliances for one day
(if possible 15 minutes mean values) and for one year, please?
Your can request these data from your energy supplier.
Could you please send circuit diagrams of the power distribution of the grid?
Which average energy consumption is used per year by the appliance?

no.	name	energy consumption in kWh/year
∑		

Which maximum and minimum power is needed in your opinion?

max. powerin kVA:	
min. powerin kVA:	

Which number of cycles per year do you need, in your opinion?

number of cycles:	

Which capacity is needed in your opinion?

capacity in kWh	

Which function should the storage comply implicitly?

For which period an uninterrupted electricity supply must be ensured?

period in days:	

Which appliances have to be supplied in this time?

	all appliances
	special appliances, which?

no.	name	power in kW
∑		

Which current sources are available to charge the battery system?
(e.g. pv, windenergy, grid)

no.	current source

Could you send us information (data sheet, etc.) about the installed components?

Does a static VAR compensator exist?

☐ yes
☐ no

If you use appliance, which need or produce reactive power, could you send us information about this appliance?

Information about grid connection and transmission

What is the name of your energy supplier?

Information about the grid connecting point

grid connect power in kVA:	
grid connect voltage in V:	

How long is the distance between the grid connection point and the station?

distance in m:	

If you feed in a medium-voltage-power- grid (1 kV – 75 kV) we will need some information about the power transformer.

name of transformer	
number of the transformer	

How and where does the grid sided measurement occur at the transformer?

Is there an internet connection, at the station?

☐ yes
☐ no

If so, which internet connection is used?

☐ mobile communication
☐ ADSL
☐ another:

Information about the weather

Information about the geographical location

degree of lantitude in° min s	
degree of longitude in° min s	
name of the country	

Which temperature does exist at the location?

maximum temperature in °C:	
minimum temperaturer in °C:	
average temperature in °C:	

Which atmospheric humidity does exist at the location?

average humidity in %:	

Which global irradiation does exist at the location?

global irradiation in kWh/m²:	

Which wind speed does exist at the location?

maximum wind speed in m/s:	
average wind speed in m/s:	

Please answer the next points only if you will be install a PV power plant or a wind power plant!

Which ground covering does exist at the location?

- ☐ flat surface(water, airstrip, grass)
- ☐ suavely hills
- ☐ bushes etc.
- ☐ trees, forrest
- ☐ town
- ☐ metropolis with tall Buildings or skyscrapers

is ther a possibility of clouding?

- ☐ yes
- ☐ no

Which extremely weather phenomena could occur at the location?

☐	earthquakes	point at Richter magnitude scale	
☐	heavy snowfall	snowfall inm	
☐	flood	water line in m	
☐	storms	max. wind speed in m/s	
☐	heat-wave	average temperature in °C	
☐	freeze	average temperature in °C	
☐	avalanche		

Other information

Does a separate technical room exist for the storage components?

☐ yes
☐ no

If so, which maximum and minimum temperatures will be exists there?

max. temperature in °C	
min. temperature in °C	

Does an air condition system exist in the technical room?

☐ yes
☐ no

Could you send us some pictures of the station, please?