Fun with Charts

Green Energy in System Monitor

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Akademy 2023

Paid like 40€/mo in electricity

Something bad happened in early 2022

Got myself a solar installation \o/

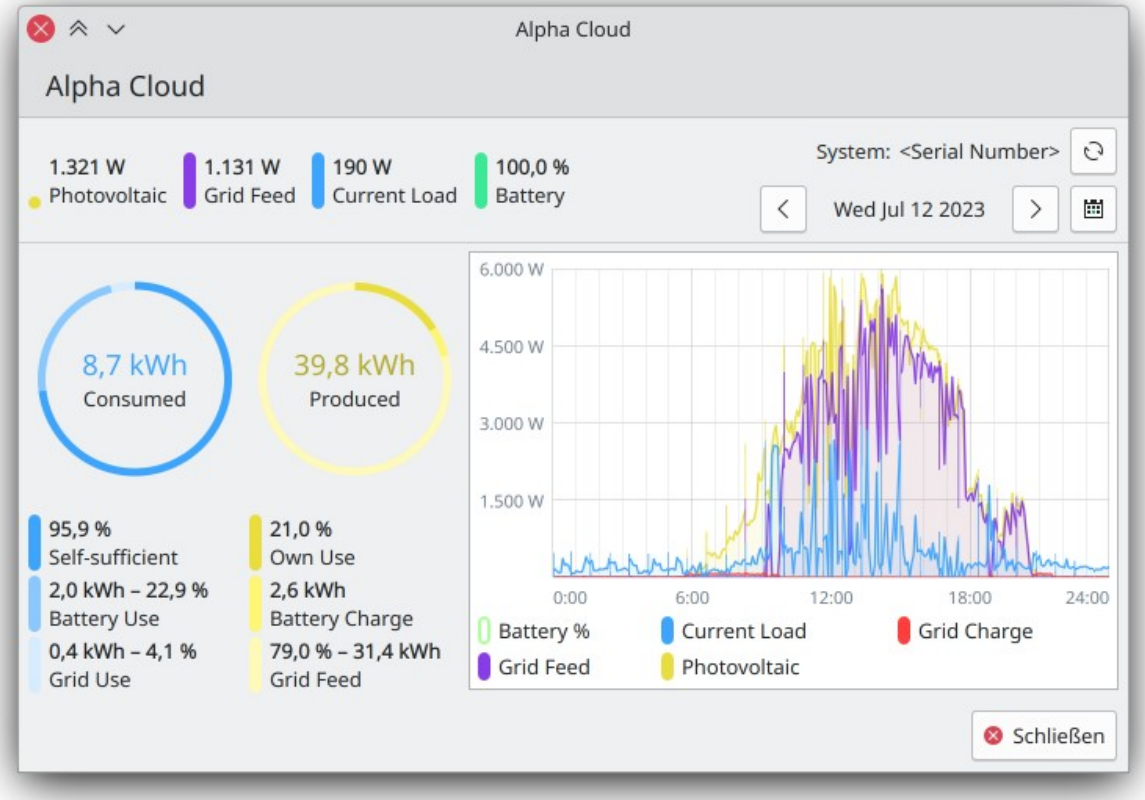
Comes with a proprietary vendor cloud...

Features

Features

KInfoCenter Module

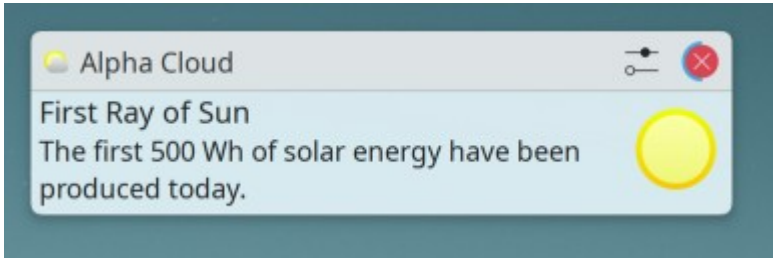
- Historic daily data in a plot
- Live data
- Self-sufficiency vs. grid use
- Own use vs. grid feed

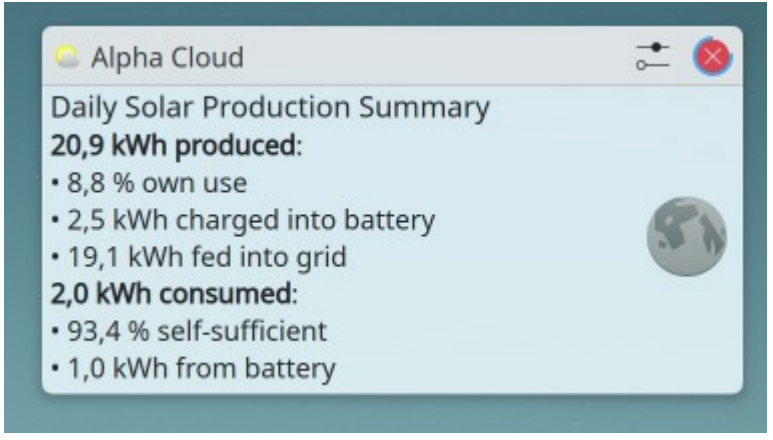


Features

KDED Notifier

- First Ray of Sun
- Storage battery SOC
- Summary at end of day
- Go start the dishwasher now!





Features

CLI

- Fetch system info,
  live, historic, cumulative data
- Basic conditional checks
  for scripting
- JSON output possible

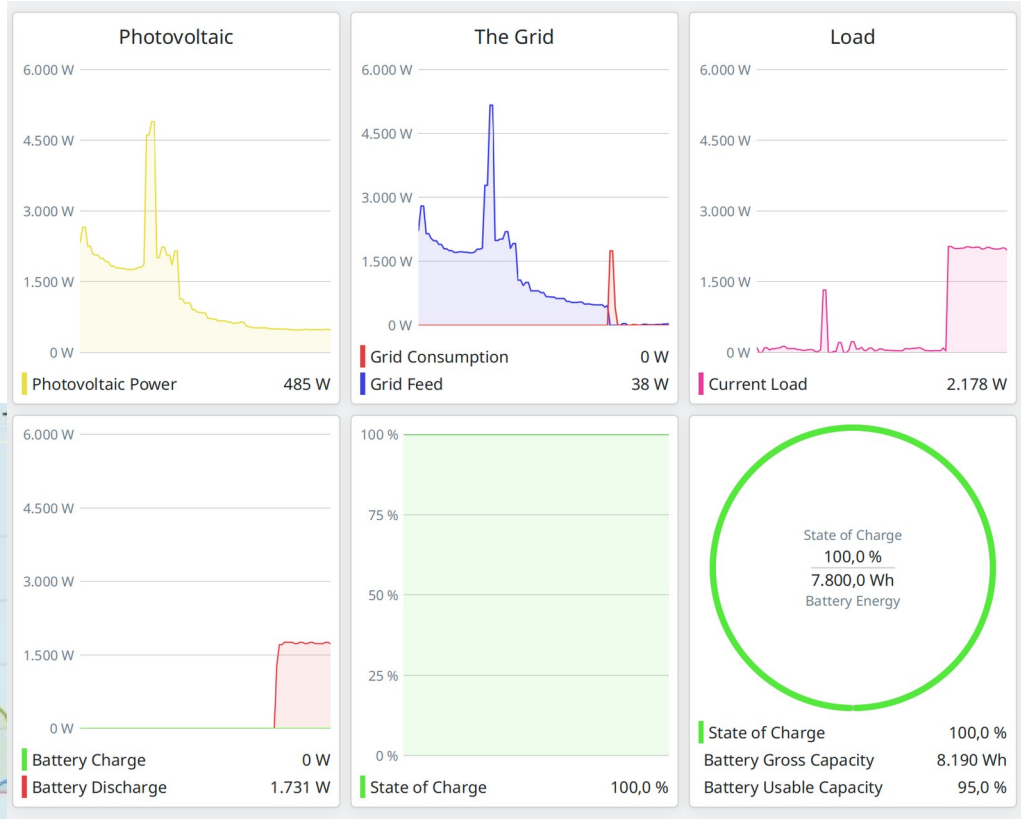
```
$ qalphacloud live
QAlphaCloud CLI
[…]
Read last power data:
Fetching primary serial number...
photovoltaicPower: 1774
currentLoad: 213
gridPower: -1561
batteryPower: 0
batterySoc: 100
```

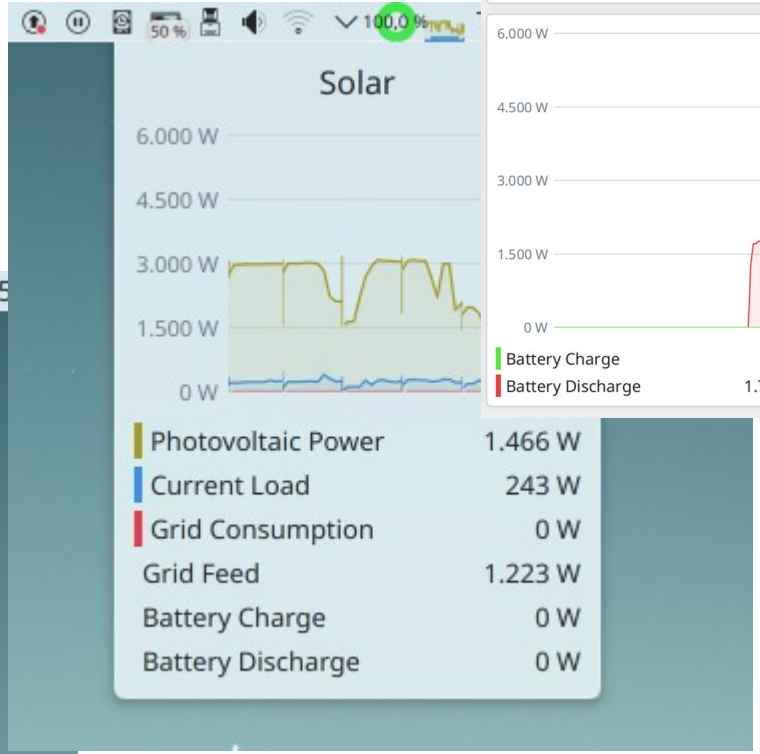
```
$ qalphacloud --property photovoltaicPower -gt 2000 live
QAlphaCloud CLI
[…]
Read last power data:
Fetching primary serial number...
Condition (photovoltaicPower) 1774 > 2000 is NOT met
$ echo $?
1
```

Features

KSystemStats Plug-in

- Live data
- Daily cumulative data
- System info
- Full flexibility of System Monitor





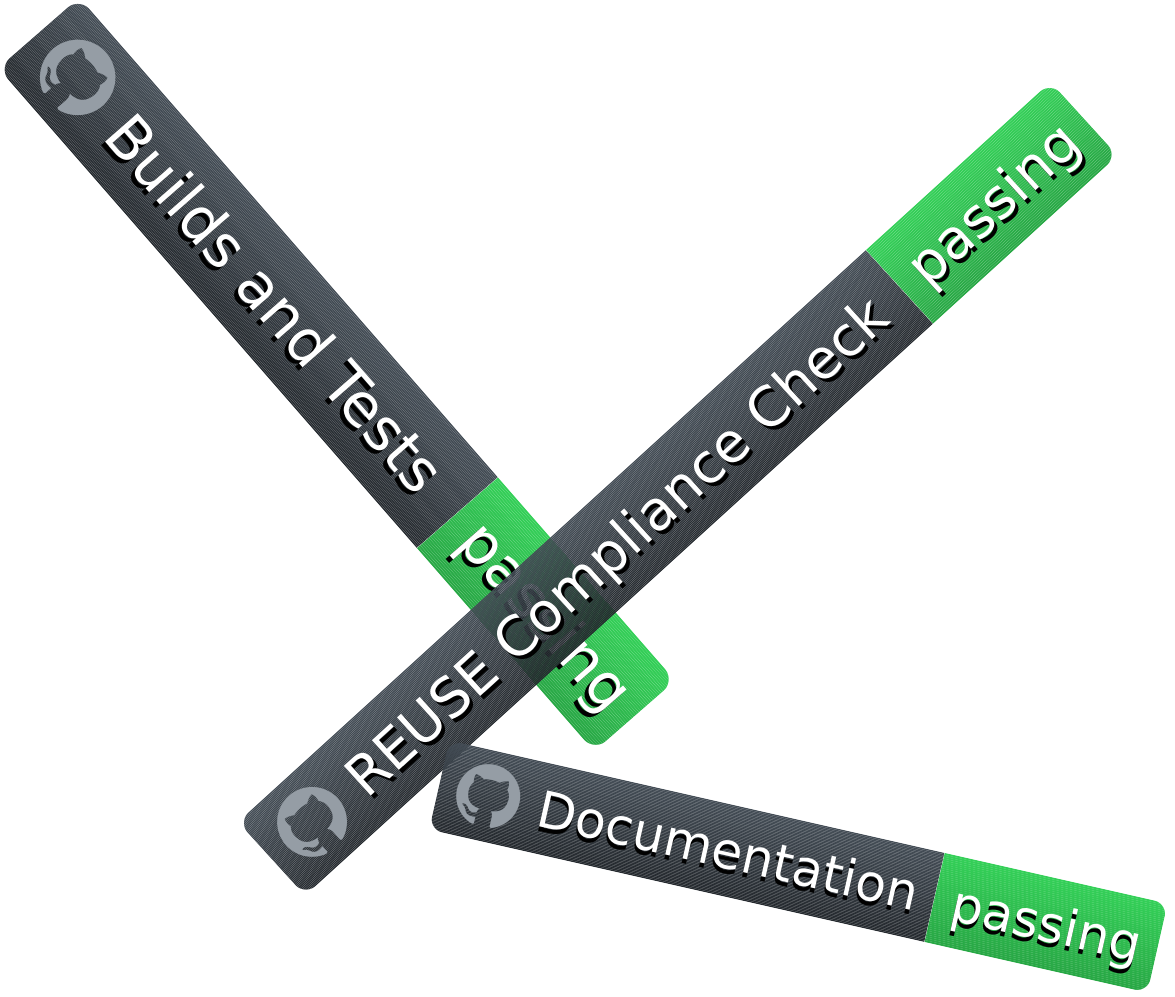
Demo

Why?

Why?
Because I can.

Why?

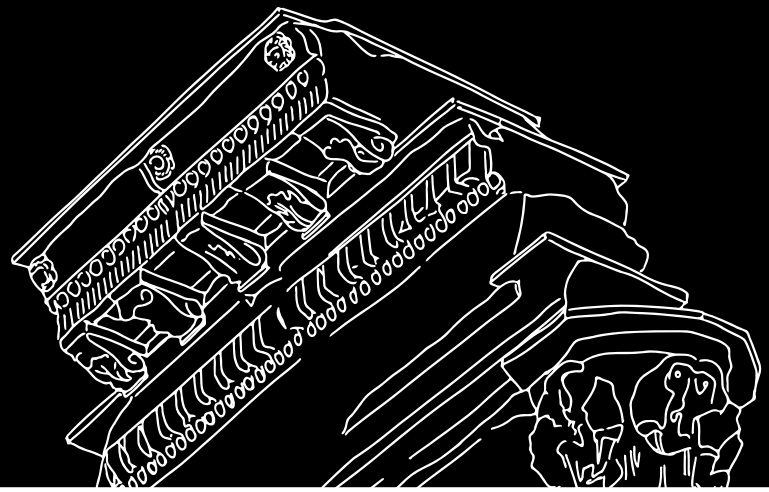
- Written from scratch, C++ *and* QML bindings
- Outside KDE Infrastructure
- Code coverage analysis, unit tests
- Code formatting
- Doxygen documentation
- Full REUSE compliance
- Example code



Why?

- Library (~2,600 loc + tests)
  - Qt Network, Qt JSON
- KInfoCenter purely QML, (~1,000 loc)
  - Using KQuickCharts QML bindings
- KSystemStats (~600 loc)
  - Already knew “Watt” and “Watt-Hour” units

Why?



There's No Framework For That™

Thanks!

github.com/kbroulik/qalphacloud

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