Fun with Charts

Green Energy in System Monitor

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Paid like 40€/mo in electricity
Prologue

Something bad happened in early 2022
Got myself a solar installation \o/
Comes with a proprietary vendor cloud...
Features
KInfoCenter Module

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

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

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**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
girdPower: -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

Storage Battery

- Photovoltaic Power: 1.466 W
- Current Load: 243 W
- Grid Consumption: 0 W
- Grid Feed: 1.223 W
- Battery Charge: 0 W
- Battery Discharge: 0 W
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!

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