

# K2n Building Asset Spreadsheet Completion Guide

## Key Concepts

- All meters, sensors, components and systems entered into the spreadsheet become available to choose elsewhere in the sheet in context.
- All spreadsheet cells with <Ctrl-↓> in them have drop-down options to choose from. Some drop down boxes allow choice of more than one item e.g. components in a HVAC system.
- Describe and connect assets as they physically exist.
- Ensure sub-meters have parent meters chosen from a list of existing meters
- HVAC SYSTEMS are simply virtual collections of HVAC components. An HVAC component could serve many systems.
- Describe only as many HVAC systems as needed to use the metering and sensors available, and to replicate what would be seen as different systems on site
- Meters connect ONLY to HVAC components, Lighting, Small Power and Other Systems. It is important that the right meters are connected to the right assets.
- Spaces have Systems serving them. Meters are not connected directly to spaces.
- Sensors are connected to SPACES when they represent conditions in the space
- Sensors are connected to COMPONENTS when they represent conditions in the component

## Practical tips

### All contractors

- Ensure component, system, sensor and meter names relate to physical items or spaces where possible
- You can copy and paste from another spreadsheet into the K2n spreadsheet but do not paste over the <Ctrl-↓> cells, unless with contents which are available under the <Ctrl-↓>. For example, you can copy and paste the same HVAC system into all spaces.

### BEMS and meter installer

- Download list of meters and sensors from BEMS or other Metering system once building is near completion or from existing building
- Download data files for all meters and sensors. Copy the Unique ID from these files into the spreadsheet EXACTLY as they appear in the data file
- Ensure meter and sensor data collection regime is set to 'precision' or high accuracy to ensure data resolution is correct
- Energy meter resolutions should be set relative to expected 15 minute interval consumptions. In schools, 0.1 kWh resolution would be recommended for most sub-meters to enable the detail required for action to be seen. Main incoming meters are OK at 1 kWh resolution. Meter 'flips' are handled automatically by the K2n platform so these are not a limitation.

### M&E Contractor

- M&E contractor should complete the meters and sensors information
- M&E contractor should provide details of all HVAC components and connect these via HVAC systems to the spaces they serve. They should also connect the correct utility meters to the components they supply.
- M&E contractor should describe the number of separately metered lighting and small power systems and connect each to the spaces they serve and their meters

- M&E contractor should connect sensors to the spaces or components they belong to

#### Building designer/Facilities Manager

- Download list of spaces, areas and activities from space utilization databases or from BIM models where possible. Choose closest activity from <Ctrl-↓> choices.
- Each separately metered External Lighting system should be assigned an approximate area it illuminates. These areas should be noted as 'external space' under 'activity type'

#### Validation and checklist

The 'validate' button on spreadsheet shows unused items and critical errors on data entered. It does NOT note if you've described everything that should be there.

All headings marked with a \* are mandatory fields and must be completed

Most headings have a description available by pressing <Ctrl-↓>

Basic checklist:

Item	Y/N
Have all Building Services components been described in the components section?	
Have all separately metered lighting and small power systems been described?	
Have all meters for which data will be collected been described?	
Have all sensors for which data will be collected been described?	
Has the Unique ID for each meter/sensor been copied EXACTLY from downloaded data?	
Have all meters been connected to ALL the HVAC components, lighting and small power systems they serve?	
Have all HVAC components been connected to ALL the HVAC systems they serve?	
Have all Sensors been connected to the HVAC systems and Spaces they monitor?	
Do the number of HVAC, Lighting and Small Power systems described agree with the number expected from the data availability?	
Are all HVAC, Lighting and Small Power Systems connected to ALL spaces they serve?	

A consultancy service is offered, if needed, from [info@k2nenergy.com](mailto:info@k2nenergy.com)

#### In operation

Once the spreadsheet is loaded, then we move into the operational phase. This requires:

- An email address, to which all data should be sent from each School, will be issued by K2n to whoever is nominated as the person responsible for sending the data.
- Email addresses for recipients of reports from the system to be provided to K2n.
- It is recommended to upload data automatically to the K2n platform each night. This minimises delays in identifying missing or unexpected data and provides a second repository for any data collected.
- Whilst we take great care with the data supplied it is still possible for errors to occur and the end user is strongly urged to maintain their own data records for each meter as well.
- The initial registration fee covers 12 months use of the K2n platform where full utility data is available, to enable the first annual EFA compliance report to be issued. Further use of the system will incur further agreed annual costs.