GenusSoft

NEB

Network Energy Balancing

Workflow


Import Data
Configure Network / Calculate
Analyze / Stats
Publish
Data Quality
Options
Feeder Balancing
Delivered
Sales

About NEB

The main function of this solution is to effectively calculate, analyze and report customer / technical energy losses and to assist the business in planning targeted audits especially in areas of high losses (e.g. energy theft).

Business Benefits

- Analyse energy losses
- Minimise energy losses
- Plan audit cycles
- Provide information for analyses/case studies to reduce non-technical losses
- Provide information for Distribution monthly reports and KPIs
- Identify energy loss problem areas e.g. theft

Functional Areas

The solution is used to compare Energy Delivered vs. Energy Sales (actual energy consumption of customers) and technical losses on all Business levels, Substation and Feeder level thus catering for all the various network configuration scenarios. This is achieved by using Customer consumption data, Customer Network Link data, Network Location data and Stats Meter data.

The solution includes business intelligence interfaces (Charting, Diagrammatic Viewers, Heatmaps, Cubes) presenting stats of actual energy consumed on these paid service points :

- Premise level
- Transformer level
- Feeder level
- Substation level
- Business area levels

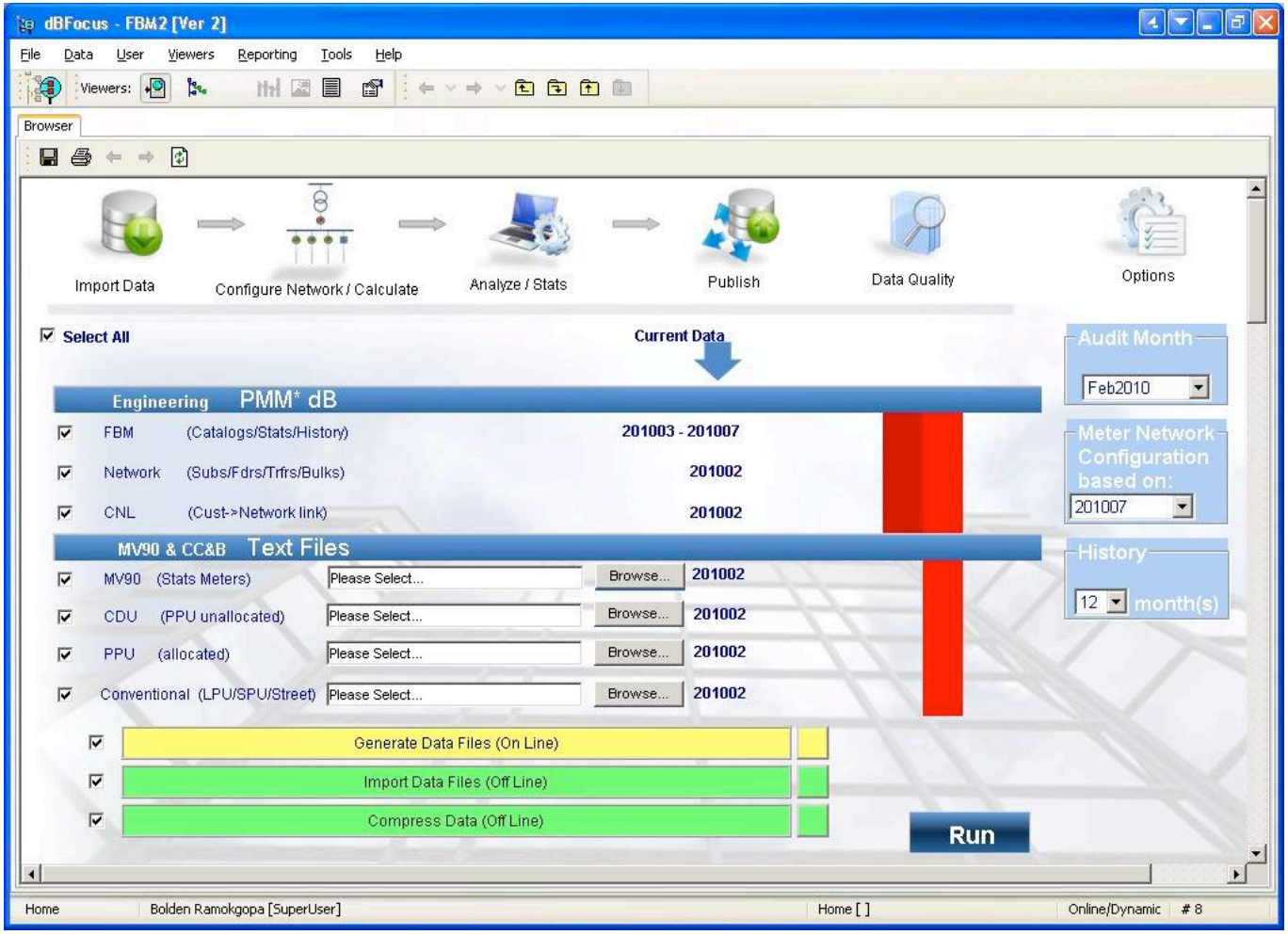
Import Workpage

The import functionality is designed to enable remote/off-line analysis. This helps minimize network traffic and to accelerate processing of large amounts of data.

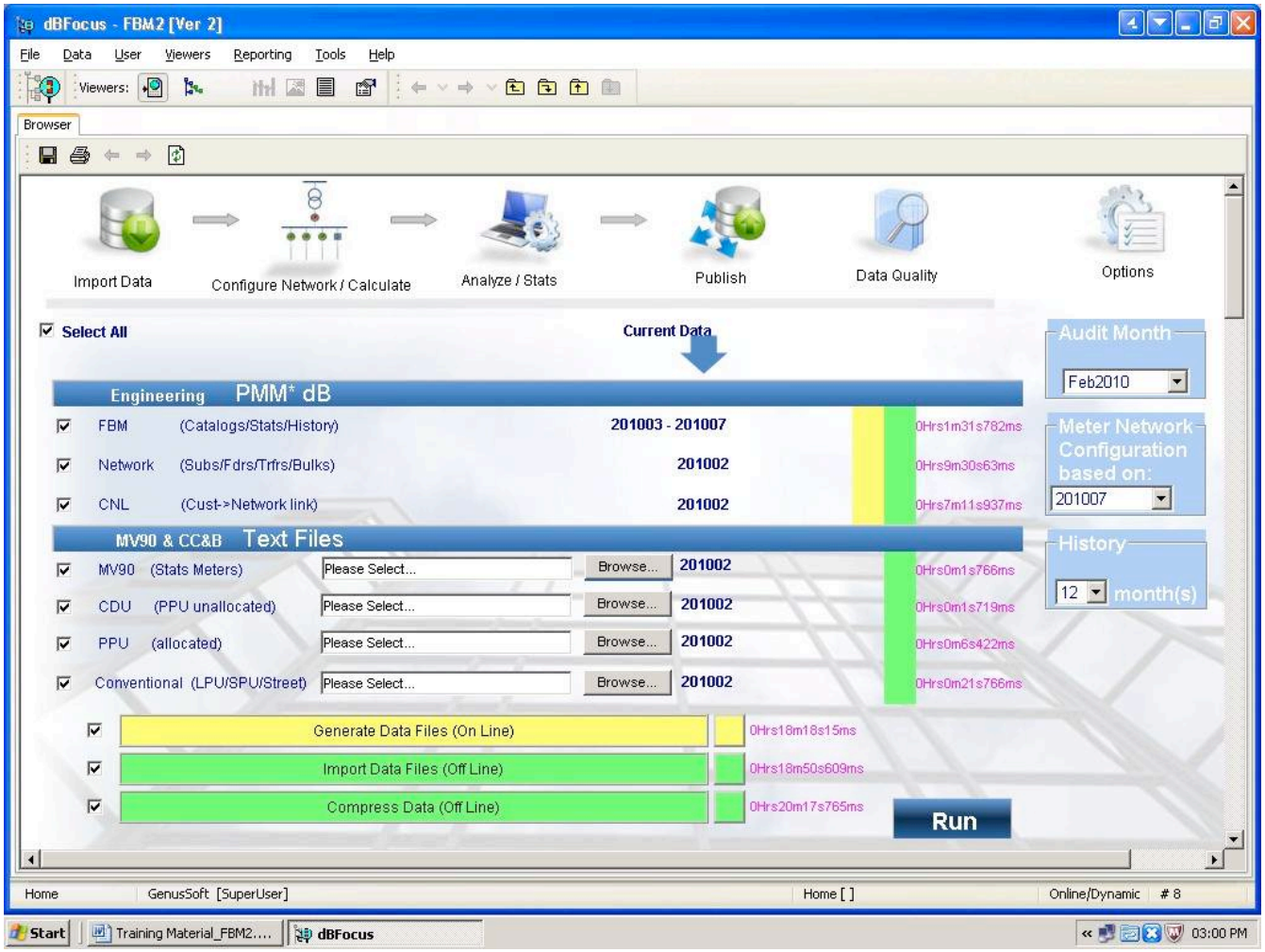
Monthly (Stats Meters) file, Customer Dispensing Unit file, Prepaid User file, Conventional file, Network data, Customer Network Link data and NEB history data is imported into the NEB solution. This is done on a single import management screen.

The user can select to import a specific file or all files by checking the applicable checkboxes. The audit date is shown for each file after it has been imported. A Successful import is shown in green and an unsuccessful import in red. The time it took each file to import is shown.

Import Workpage



Import Workpage



Configure / Map Network

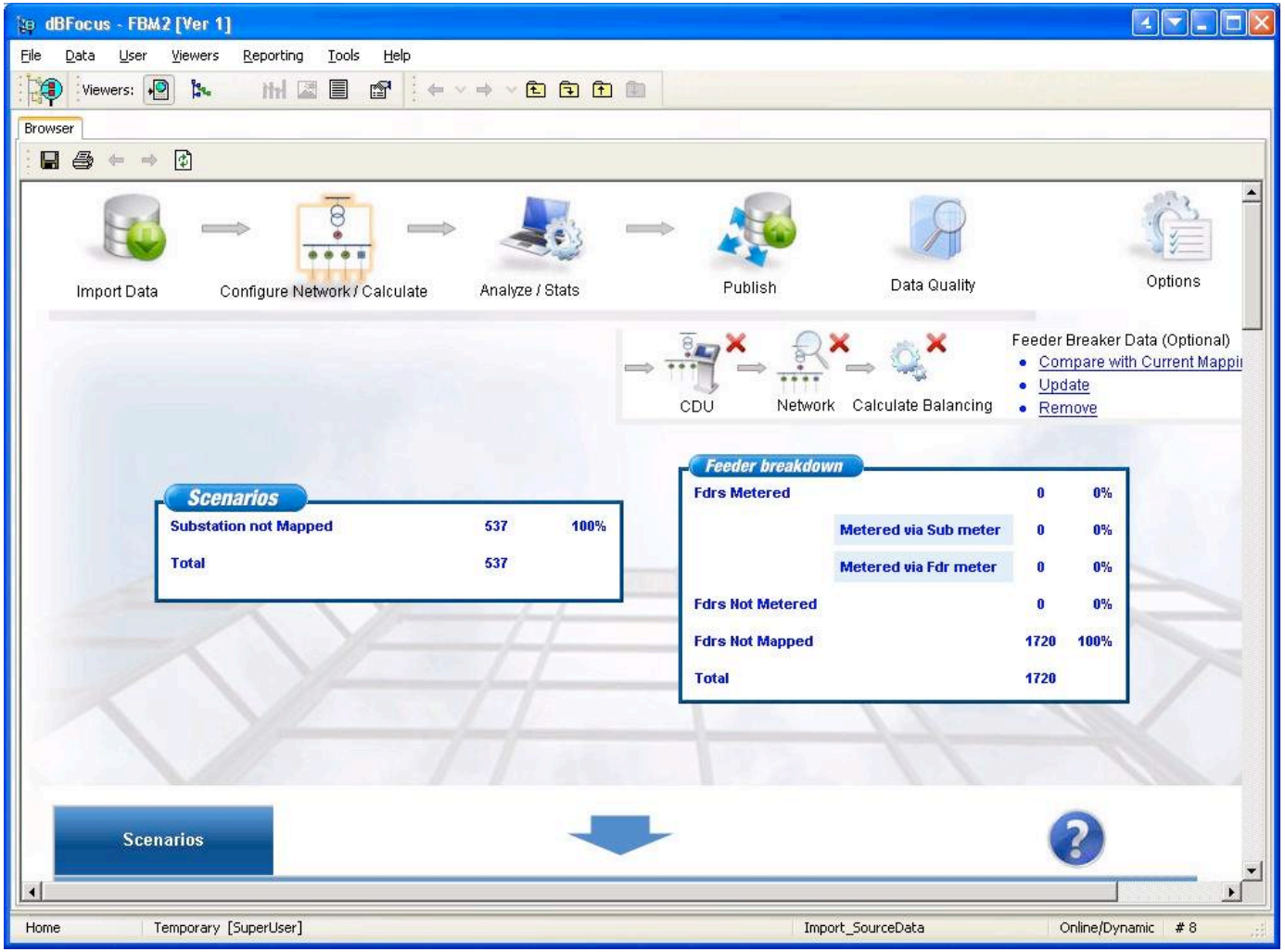
The user can map and configure the network to cater for all the various network configuration scenarios. The balancing is calculated based on these scenarios. A balancing scenario consists of Substations, Switching Stations, Feeders and Stats Meters.

These items can be connected to each other in different ways depending on the network, one to many, etc. The mapping is done by dragging the items from a list and dropping them into a graphical display. This allows the user to see exactly how the items are connected to each other.

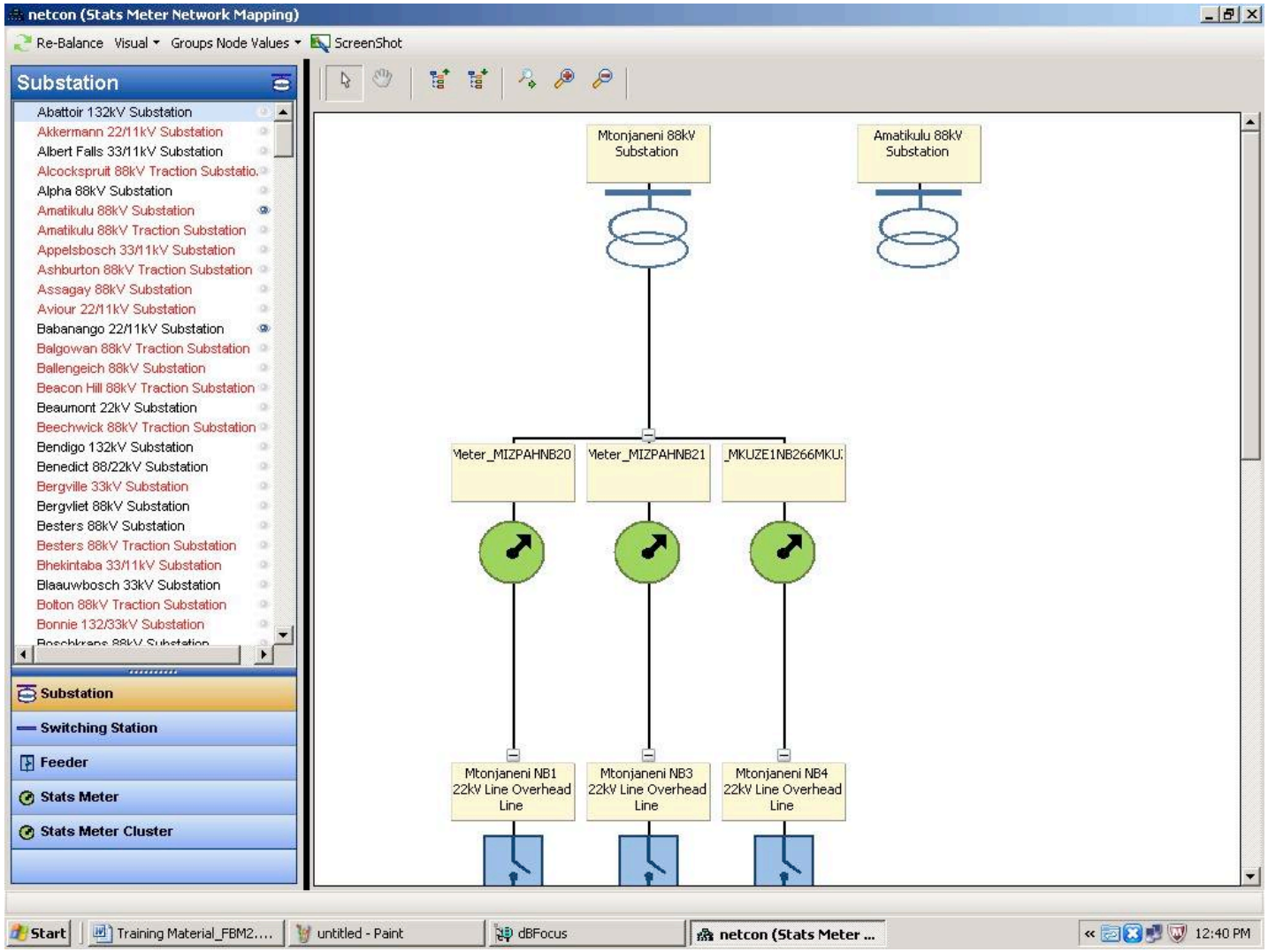
Dashboards show a mapping overview on:

- Balancing Scenarios
- Feeder breakdown.

Configure / Map Network



Configure / Map Network



Analyse Stats Workpage

In this section the user can use various analysis tools to analyze the balancing results. The analysis can be done on the whole network or on smaller sections of the network depending on where stats meters are installed.

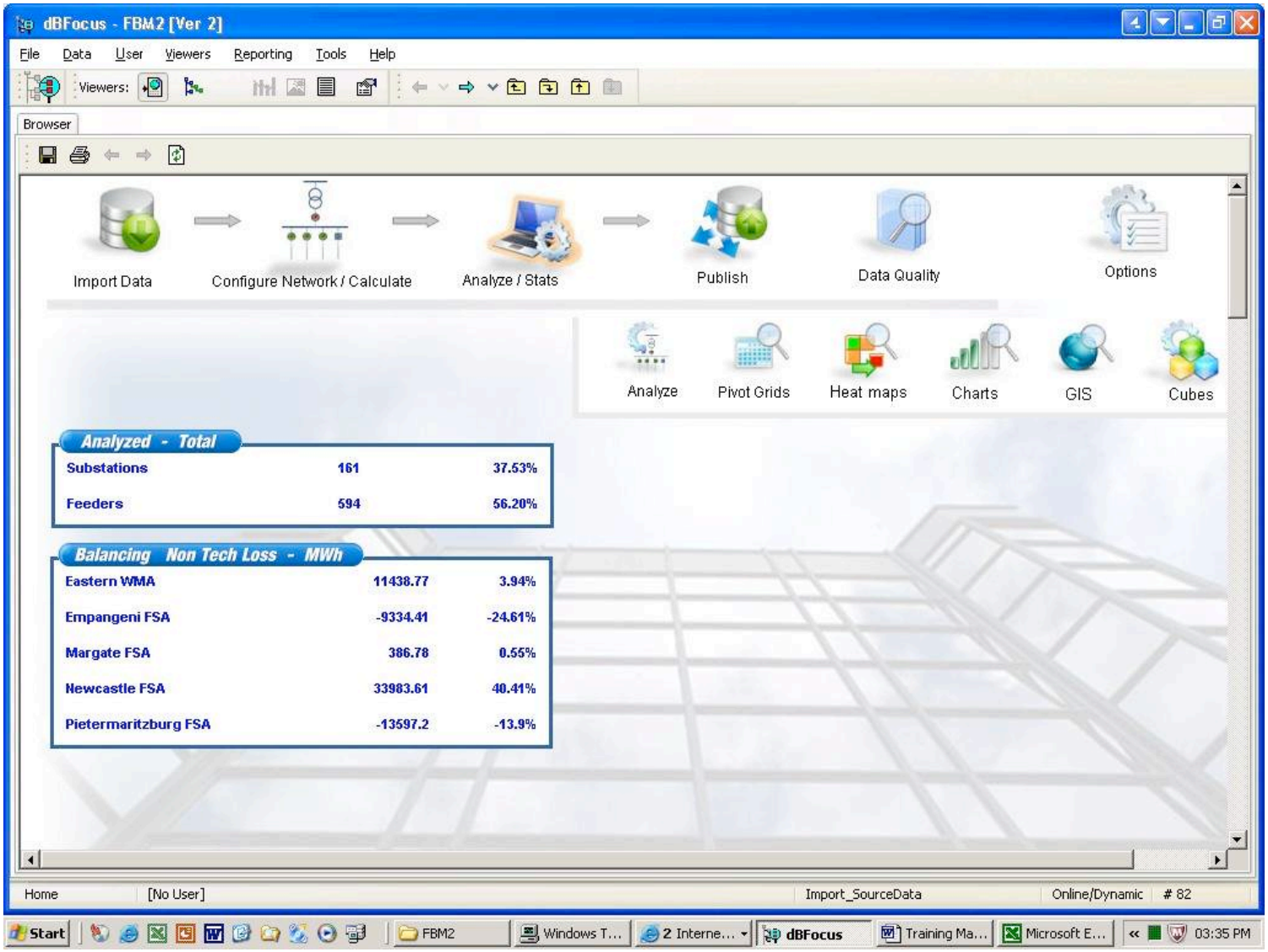
These tools include:

- a Graphical network display with calculated KPI's
- Pivot Grids with various customizable filters
- Heat Maps that can show different KPI's in size and color
- Cubes with customizable views and dynamically calculated results, etc.

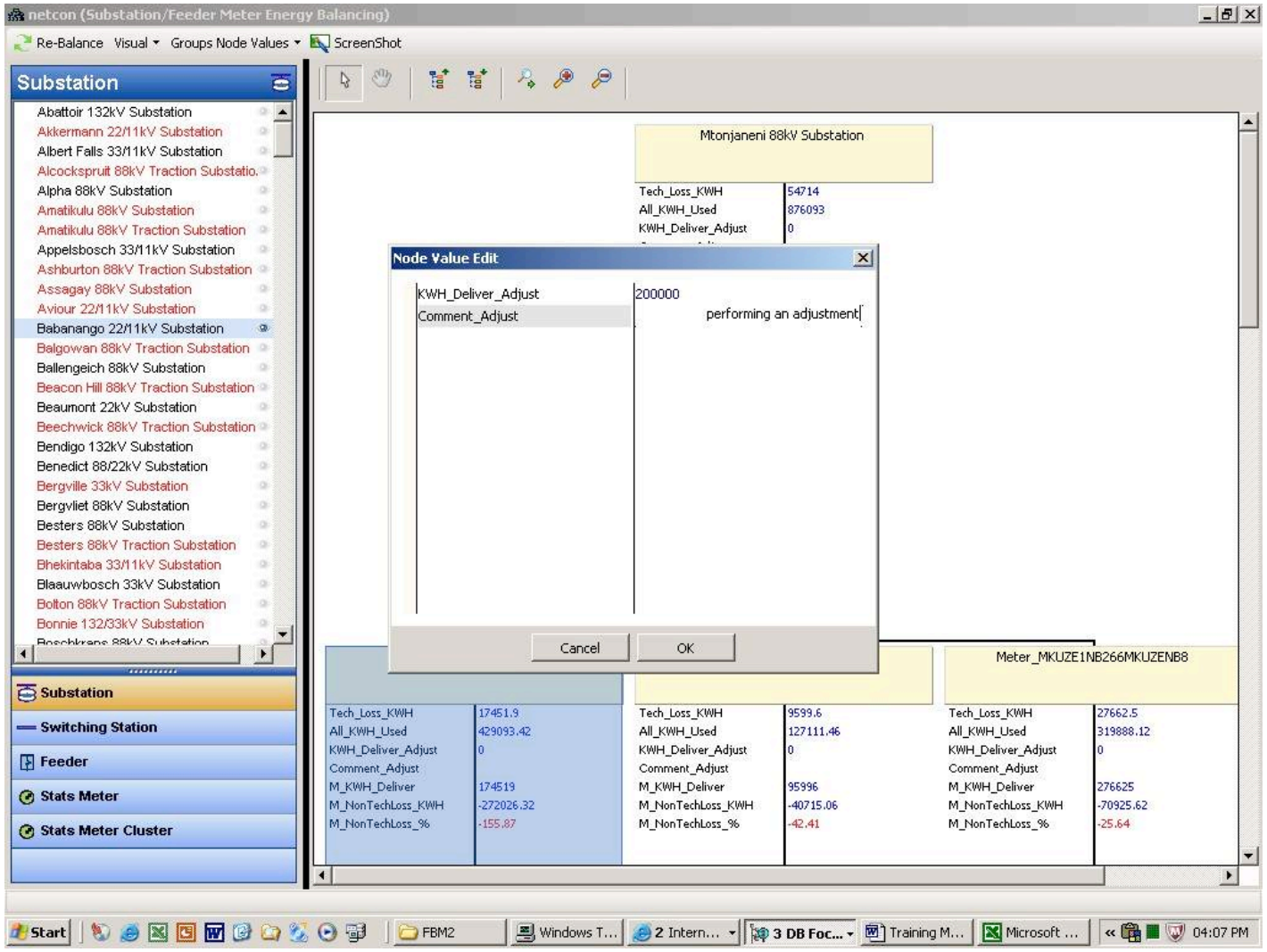
On the graphical display the user can make adjustments on the balancing as long as a valid reason is supplied. The technical loss on feeders can also be modified.

- Dashboards show a balancing analyses overview on:
- Total Analysed Substations & Feeders
- Non-technical loss % and kWh on the Business Levels.

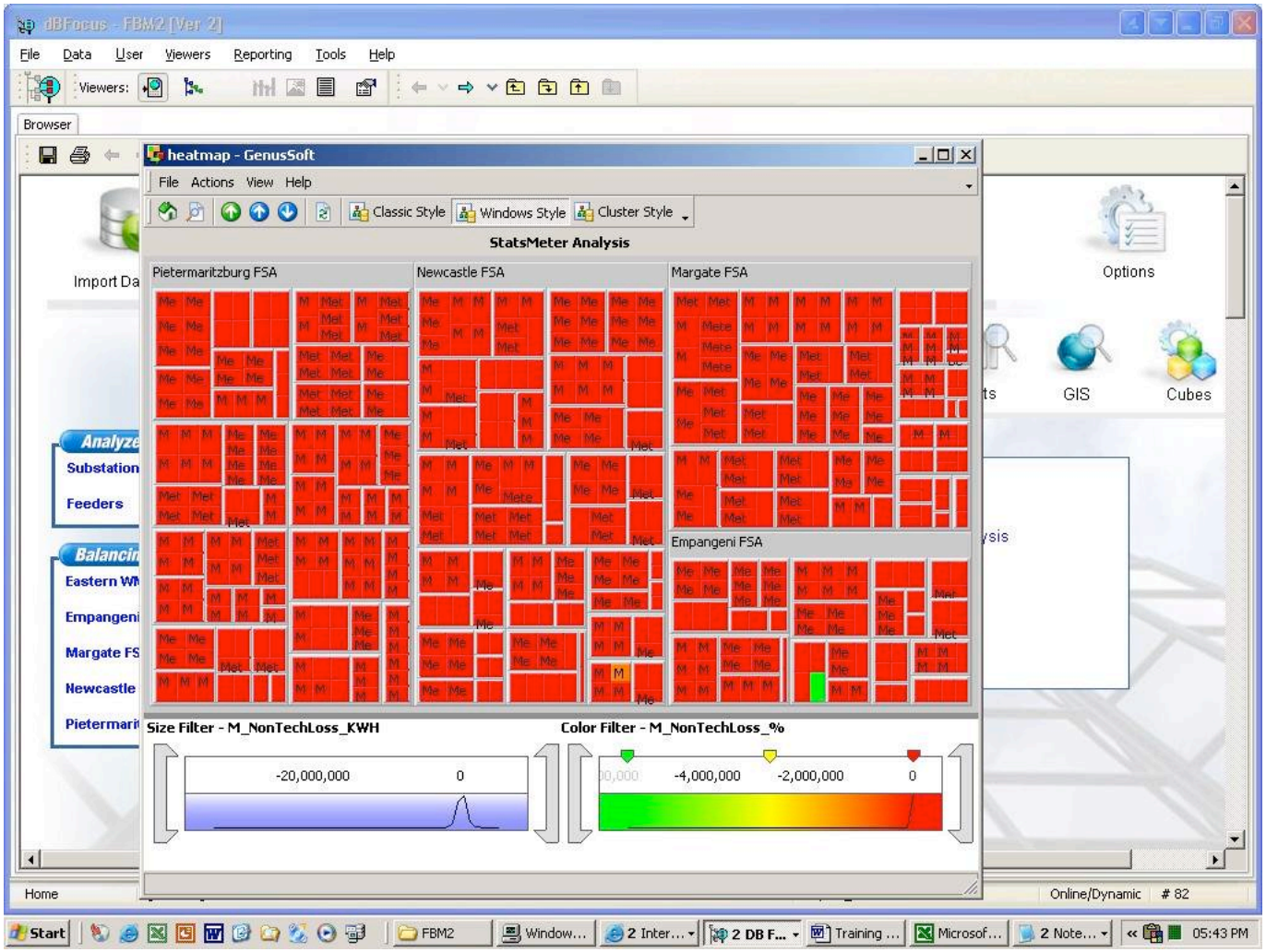
Analyse Stats Workpage



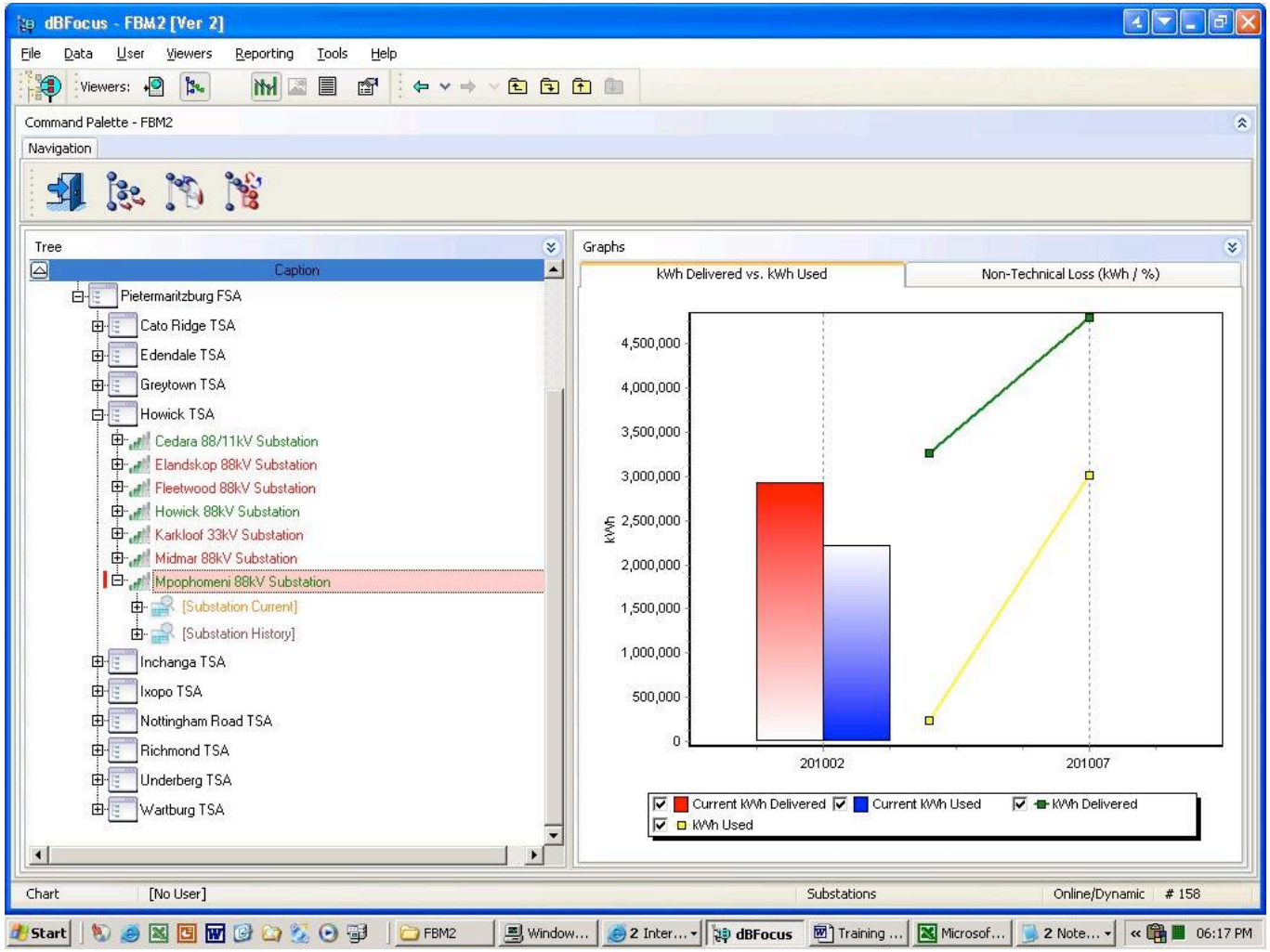
Analyse Stats Workpage



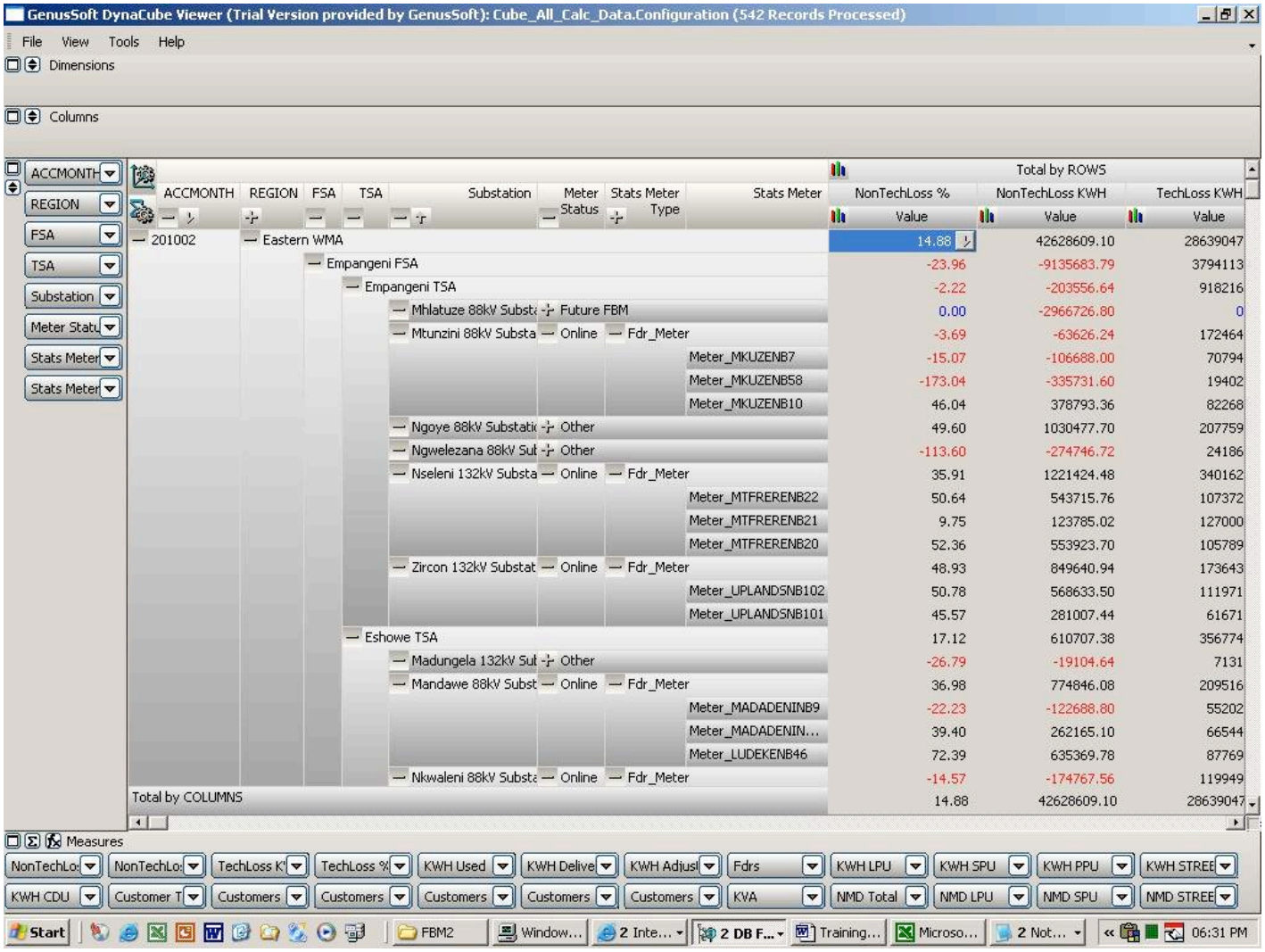
Analyse Stats Workpage



Analyse Stats Workpage



Analyse Stats Workpage



Publish Workpage

In this section the user publishes and updates the central database with all the calculated and summarized balancing results as well as all the mapping information for trending and historical purposes. Confirmation is given when all the information has been published successfully for the audit month.

The published data is used by the corporate solution to generate a consolidated view of the whole business where comparisons and analysis could be made.

Data Quality Workpage

In this section various pivot grids are available for the user to look at data discrepancies that could have an impact on the outcome of the calculated balancing results.

These include:

- Missing Network and Stats meter items that were previously mapped
- Stats meters without readings
- Feeders without consumption
- CNL %, etc.

Reports can be generated directly into different formats: excel, CSV, html, xml, etc.

Thank You