

# Energy Forecast

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## General presentation

### Objective of the application

Energy Forecast prices are collected in a BW-IP workbook and then integrated in Manufacturing VC query to calculate the Energy cost for projected months.

### Usage information

### History

## Roles & Access

### Roles and access

List of application role + menu role and explanation if we have several applications role with specials rules.

| Role Code      | Role Description                    | Explanation           |
|----------------|-------------------------------------|-----------------------|
| ZR_RCS_CA_M79  | Forward Looking ICM - Energy - Menu | Role Menu             |
| ZBI_RCS_CO_A07 | Forward Looking ICM - Energy        | Authorization objects |
|                |                                     |                       |

### Authorization variables

List of authorization variables mandatory for the application.

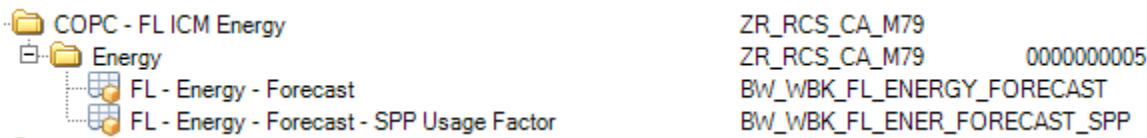
| Authorization variables | Object            |
|-------------------------|-------------------|
| V_C_AUTHMA_0001         | C_PLANT__C_AUTHMA |
| V_C_PLANT_0012          | C_PLANT           |
| V_CPFCTR1_2_0006        | CPFCTR1_2         |

## Dataflow overview

Link to dataflow overview diagram:

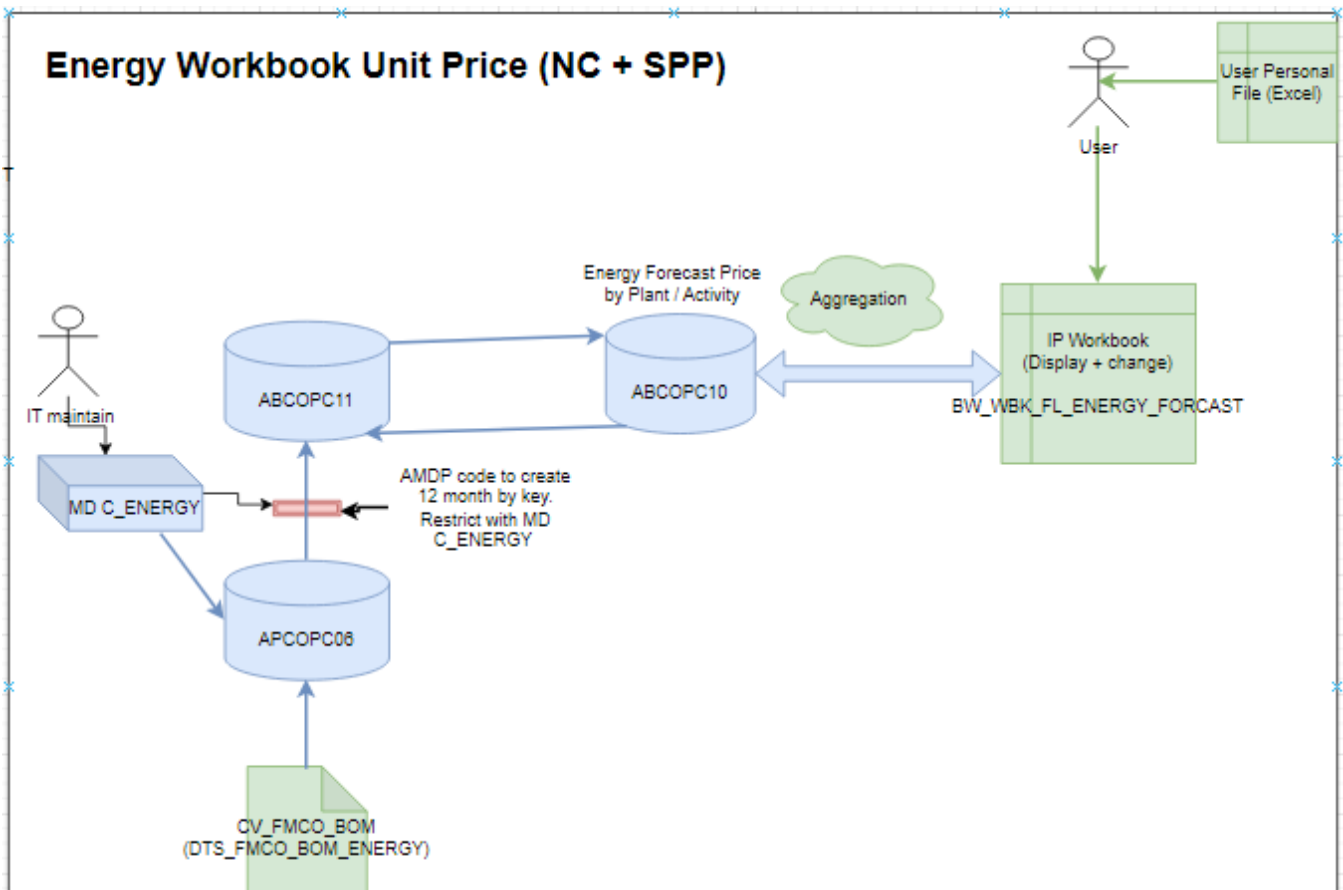
<https://app.diagrams.net/#G1RLCMm5yN06F0mvBvRN5HOSck1xwCFtvI>

There are **2 workbooks** concerning Energy Forecast:



The first one ("FL - Energy Forecast") is common for Novecare and SpP and is used to save **Energy price** typed by the users. This is done by **plant /activity** (ELEC, GAS, STEAM, etc)

Energy unit price is stored in DSO ABCOPC10.



We get the latest Actual price (current month M) from the BOM, for each plant/activity, to use as **proposed price** in the workbook for future (M+12) months. Then the user can change the prices and save.

## Energy Automation

A change was requested to improve the process for Novecare (and other WP1 GBUs like TS and PA).

As the prices sent by Corporate are not reflecting the same process used by plant controllers, it has been decided to implement a % **increase** to standard cost instead.

A formula will automatically calculate the % trend of the unit price between each month in the workbook.

Example of the calculation:

<https://docs.google.com/spreadsheets/d/1F8YPA5tVAw-hieDyODLhQwQNnKJOt-vxsoe3ezu4gGU/edit#gid=0>

So the prices saved by Corporate in the workbook are stored in ABCOPC10.

And a new DSO ABCOPC19 is loaded from ABCOPC10, and the % increase calculation is applied in TRF below

|                                |               |
|--------------------------------|---------------|
| FL - Energy - Automation       | ABCOPC19      |
| ADSO ABCOPC10 -> ADSO ABCOPC19 | 06MIUIVH56UBC |
| FL - Energy - Planification    | ABCOPC10      |

Then ABCOPC19 is integrated in CV\_FMCO\_MAN\_COST\_RCS.

No more lag is applied, meaning the Forecast for month M takes directly the price from month M, Forecast for M+1 takes the price from M+1, etc.

## GBU SP

There is no proposed price because **we don't have this level of detail (by activity type) in the BOM in PF1**. So we load from the BOM only the plants, then the activities are "artificially" created in BW from the values in master data C\_ENERGY, and then the user can input the prices.

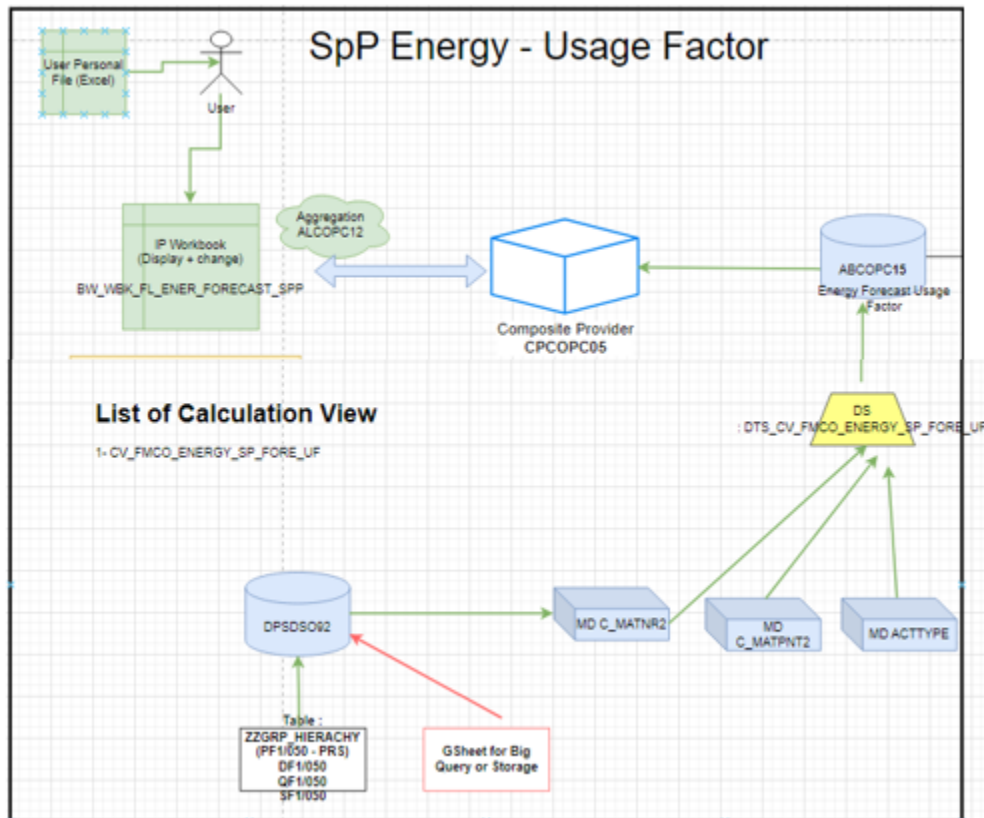
Currently the only activities loaded in the Unit price workbook for GBU SP are ELEC, GAS, STEAM.

This is filtered in CV\_FMCO\_ENERGY\_SP\_FORE\_UF into AACOPC06 (used as lookup in TRSF: APCOPC06 -> ADSO ABCOPC11)

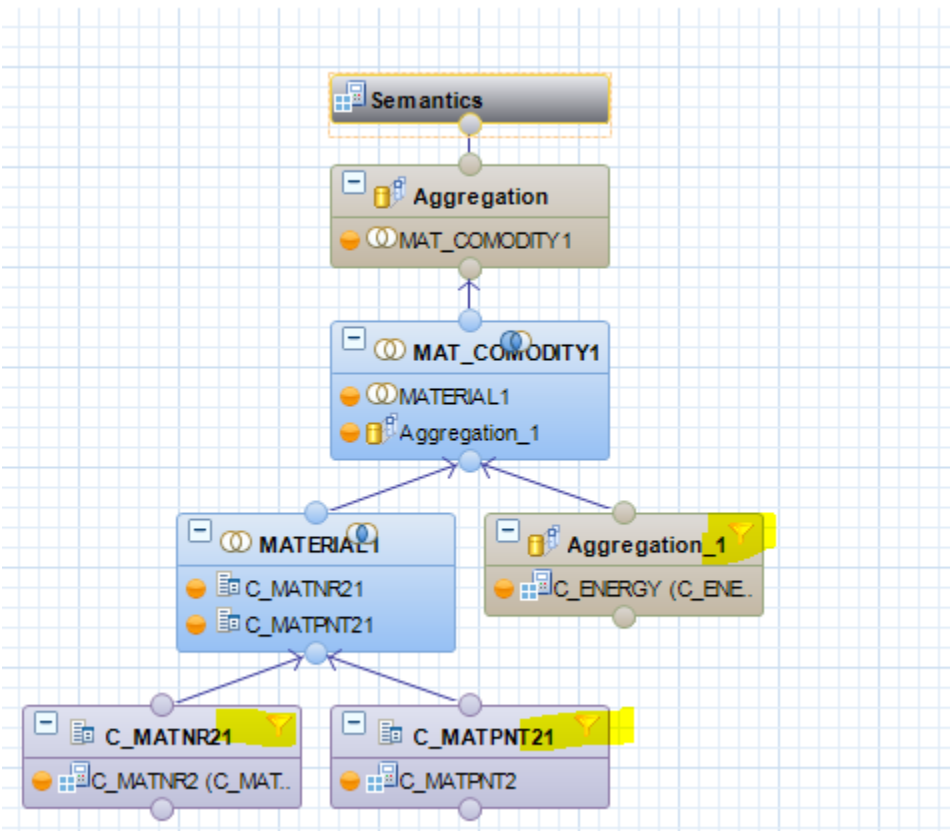
|                                                              |                  |
|--------------------------------------------------------------|------------------|
| Energy Consumption for PF1                                   | AACOPC06         |
| ADSO ABCOPC15 -> ADSO AACOPC06                               | 0NXUQGOEHD4H677J |
| FL - SPP Energy - Usage Factor - Forecast                    | ABCOPC15         |
| RSDS DTS CV_FMCO_ENERGY_SP_FORE_UF WBD_HANAIV -> ADSO ABCOPC | 0I1DGD2HVXWVBN0G |

As for SpP, there is no detail coming from SAP for "Utilities" (just an aggregated cost), there is this specific process covered by the second workbook ("**FL - Energy Forecast - SPP Usage Factor**") where the users save the **usage factor by plant/H4/product hierarchy**.

Actually this is where the Energy Forecast process starts for SpP.



1) Calculation View : CV\_FMCO\_ENERGY\_SP\_FORE\_UF



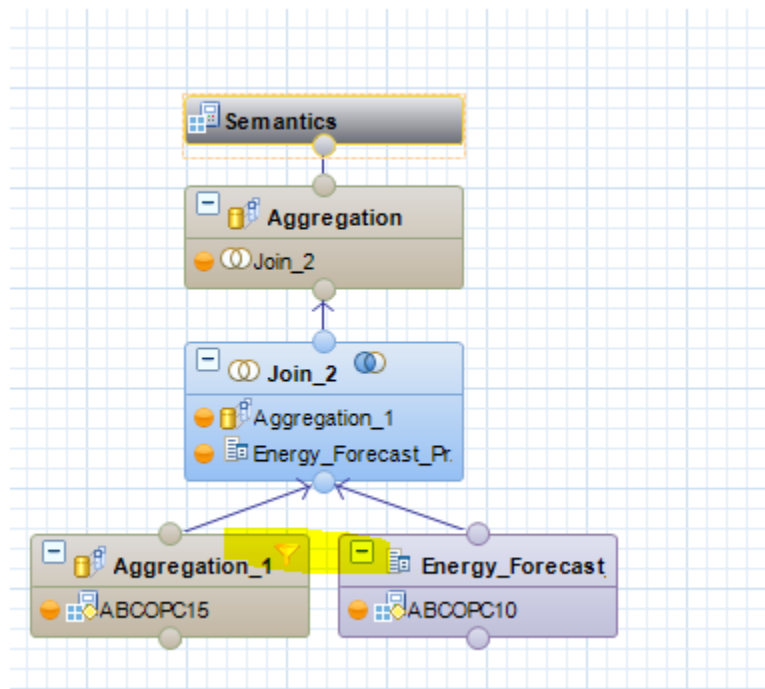
This calculation view will generate all the combinations **Plant/H4/Prod.Hierarchy/Activity** to be loaded in **ABCOPC15**.

Filters:

- 1- All Material with product Hierarchy : ("0PROD\_HIER" != "")
- 2- GBU "CPFCTR1\_2" = 'SP'
- 3- "C\_ENERGY" = 'ELEC', 'GAS', 'STEAM', 'OTHER'

After data is loaded in **ABCOPC15**, then it's used in CV below to calculate the Energy Cost (quantity from ABCOPC15 \* price from ABCOPC10)

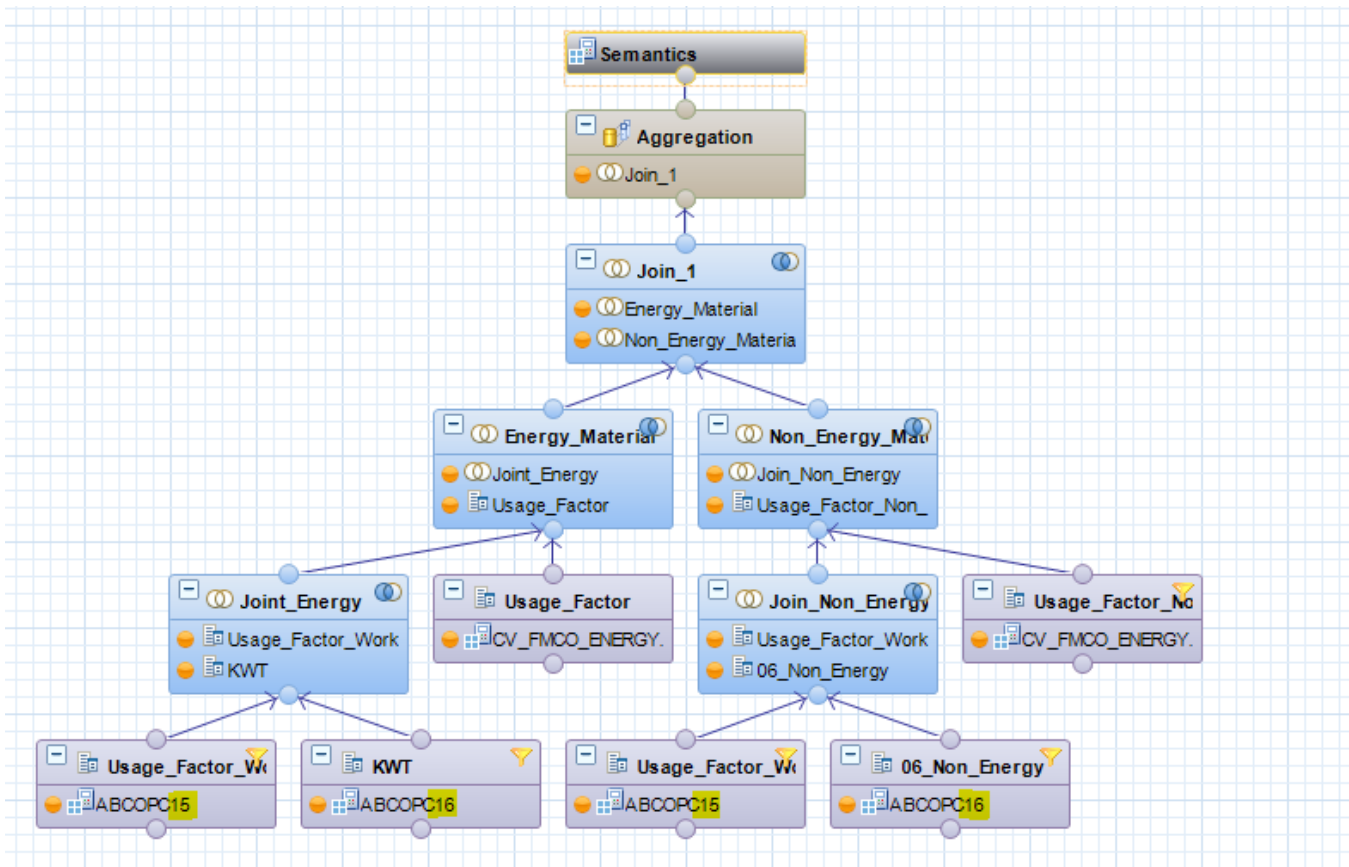
## 2) Calculation View : CV\_FMCO\_ENERGY\_SP\_FORE\_UF2



This will be loaded into **ABCOPC16**, where the **increase percentage** (K\_STDINCR) is calculated (comparing current month x previous month).

Then ABCOPC16 is used in following CV

## 3) Calculation View : CV\_FMCO\_ENERGY\_SP\_FORE\_UF\_CALC



Then this CV is used in the following one:

#### 4) Calculation View : CV\_FMCO\_MAN\_COST\_SPP\_AVERAGE

Which is used in TRSF: DTS\_CV\_FMCO\_MAN\_COST\_SPP\_AVR WBD\_HANAIV -> ABCOP06B

Link to project folder:

# Functional and Technical rules on Workbench + Reporting

## Rules & Explanations

Dependencies with other applications

## Data loadings

Info providers and objects loaded

- 1- DSO DPSSDSO92 : for having H4 Code (PC\_FIWC\_02)
- 2- DSO ABCOPC15 : for the Usage Factor (PC\_COPC\_09)
- 3- DSO AACOPC06: source data for Unit Price workbook (PC\_COPC\_09)
- 4- Make sure that the master data C\_ENERGY is fulfilled correctly (ELEC/KWH, GAS/KWH and STEAM/TO)
- 5- Be sure that the DSO ABCOPRIC is loaded (PC\_COPC\_BOM\_PF1)
- 6- DSO ABCOPC16 : for the integration in Manufacturing (PC\_COPC\_MAN\_COST)
- 7- DSO ABCOP06b : to load Manufacturing cost for SpP (PC\_COPC\_MAN\_COST)

So we have 4 process chain :

- PC\_FIWC\_02
- PC\_COPC\_09
- PC\_COPC\_BOM\_PF1
- PC\_COPC\_MAN\_COST

Loading frequency

Average performance

| Key Figure                           | Estimation |
|--------------------------------------|------------|
| ~ Average Process Chain Runtime      |            |
| ~ Average nb of rows loaded per load |            |
| ~ Total nb of rows loaded (if full)  |            |
| ~ Average Runtime for 10k lines      |            |

Record Keeping

## Reporting

## Queries End User Documentation

Main queries

Main functionalities

Broadcast

## Maintenance

Known bugs

Recurring procedure

Planned Evolution