

Solution Brief

SAP Energy Data Management,
add-on for gas regulatory compliance
by PROLOGA

The change of thinking in the energy sector brings along more complex tasks for market participants, and the companies must cope with many organizational and regulatory challenges. This necessarily entails a need for adaptation of existing IT structures. PROLOGA provides you with a comprehensive package of functionalities for implementing your business requirements in the SAP EDM system according to legislative rules and to your market role.



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One of the major issues for the single European market is a reliable transmission network that fits the needs of the companies' actual and future requirements within their market model. Therefore Europe-wide legislative rules are designed to define processes, e.g. for cross-border transport as well as for the harmonization of the different national laws that concern the automated market transactions and the security of the gas supply.

In this context utility companies are facing different challenges: New processes have to be implemented in each country and the quality standards for data exchange processes between the various market partners increase.

The SAP Energy Data Management, add-on for gas regulatory compliance by PROLOGA supports you with a comprehensive package of functionalities to fulfill the national and European regulatory requirements and to implement your business processes market role-specifically in the SAP system.

Do you want to manage all the challenges of the new energy era and amortize your investment in a minimum of time? Then the SAP Energy Data Management, add-on for gas regulatory compliance by PROLOGA is the answer.

Based on the SAP IS-U module SAP Energy Data Management (SAP EDM), the add-on provides numerous enhancements and features that exactly meet the needs of the different market participants in the gas market.

Allocation management based on specialized enhancements

The SAP EDM, add-on for gas provides Distribution System Operators (DSOs) with regulatory required functionalities for a correct allocation determination. This is based on the national model which could be using formulas that describe the use of defined coefficients for residential customers and small businesses, arranged in different customer groups, calendar information and weather data. For the proper execution of this calculation, the add-on allows the automated download of weather data from a weather data service provider and the transfer into the SAP system.

An integrated calorific value management, consisting of calorific value import and calculation algorithms for different weighted calorific values and calorific value districts, serves as basis for the Technical Quantity Determination (TQD) according to the rules of the American Gas Association (AGA8 DC92) and Groupe Européen de Recherches Gazières (GERG 88).

These different rules can be used to calculate the amount of allocated gas for metered customers. The SAP EDM, add-on for gas provides different algorithms that enable both the calculation of the compressibility by a complete molar gas analysis and the determination of the conversion factor. Thus a conversion of the operating volume of the gas in cubic meters to the amount of energy, e.g. in kWh or BTU, can be performed in an automated manner.

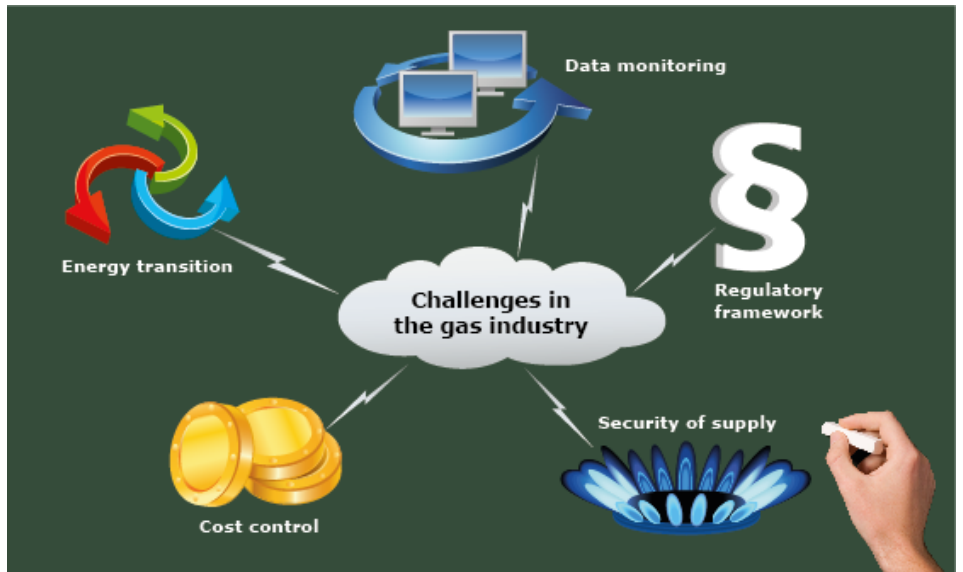
Sophisticated capacity and nomination management

Transport System Operators (TSOs) are obliged to handle the network access process according to the specifications of the national and European regulatory authorities like ENTSO-G. At this point a distinctive capacity and nomination management is essential to determine the respective points of delivery and to ensure a balanced allocation and capacity settlement. The SAP EDM, add-on for gas offers exactly this extension for the standard functionalities of SAP IS-U.

An integrated gasstation view allows the representation of the grid topology using network interconnection points, gas storages, city-gates, LNG-stations or gas-hubs in a hierarchical overview, from the whole market area down to the respective measuring device. This functionality can be used to map any facility that supports the gas transport in the real world, as a station within the SAP EDM.

Each gasstation provides a special capacity view that offers detailed information on the capacity situation at the respective network interconnection points. In addition to the technical maximum capacity, an overview of the booked capacity per shipper at this interconnection point is displayed.

Moreover the SAP EDM, add-on for gas provides capacity information about all entry-/exit-points for a certain period of time.



The gas industry is facing major challenges. – We have the perfect solution!

The technical capacity contract that is integrated into the SAP IS-U data model, is delivered as an additional object.

Thus, the calculation of free and booked capacities per gasstation can be displayed for all capacity-relevant

time series exchanged between the different market partners. Within the nomination management both the processing of nominations and re-nominations as well as the validation of incoming data against the capacity information of each nomination point is guaranteed. (See figure 1)

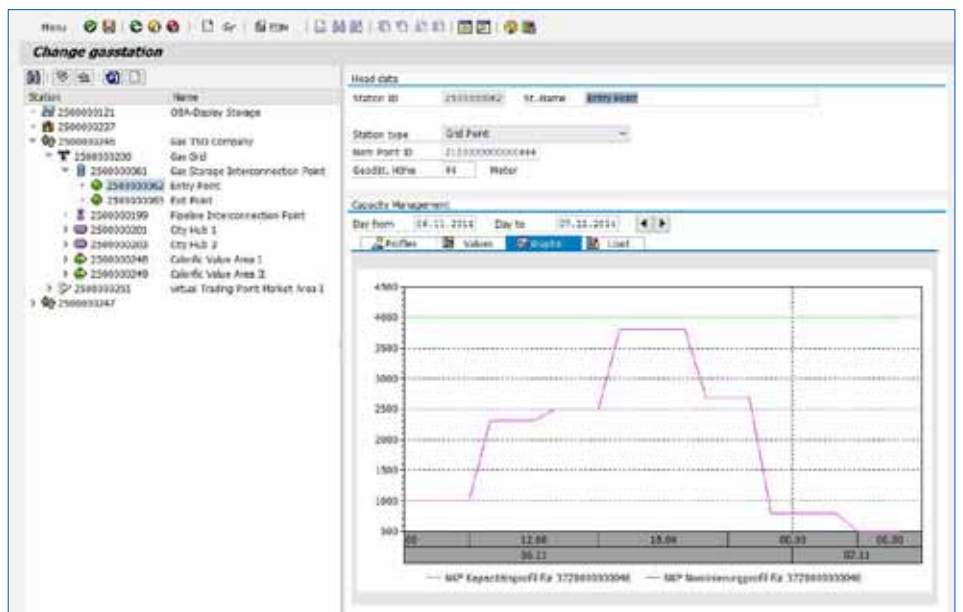


Figure 1 – Gasstation

The management of a storage using the described capacity and nomination management functionalities can also be granted.

Another available functionality is the contrasting juxtaposition of the nominated energy amounts to the real measured gas flows by OBA account.

Support at the highest level

The SAP EDM, add-on for gas supports you in analyzing the time series information received from the market partners by enabling balancing group management processes within the SAP IS-U.

Developed by PROLOGA, the balancing group monitor displays the

received time series information in a graphical and hierarchical form. The mapping of the different time series types in accordance with the national rules is provided, as well as the processing of market transactions inheriting this information. (See figure 2)

In addition to the roles of a clearing entity or a balancing group manager, the processes of shippers are supported. For this purpose the SAP EDM, add-on for gas offers functionalities that can be used in the context of a shadow settlement for further validation processes.

Moreover, the add-on helps to map previously described functions of the nomination and capacity management from the perspective of suppliers and shippers.

Monitoring functionalities raise your master data quality

The SAP EDM, add-on for gas also provides numerous functionalities to perform master data checks before a settlement run. Even a small set of wrong master data or implausible time series information can lead to significant errors in the allocation amount. The add-on helps you to reduce errors by ad-hoc and cyclically automated plausibility checks. The cluster framework as the central element allows the analysis of master data quality by a multi-stage process using finding methods and check routines.

Within the standard product scope a set of finding methods and check routines is already delivered, e.g. the validation of load profiles against thresholds or the analysis of customer values against limits. Furthermore, the cluster framework allows the integration of own plausibility checks by using open interfaces.

An add-on for all market roles

No matter which role your company represents within the gas market: Opt for the SAP Energy Data Management, add-on for gas regulatory compliance by PROLOGA and take advantage of a variety of functional enhancements for your SAP EDM, enabling the relevant business and accounting processes for the actual requirements in the energy market.

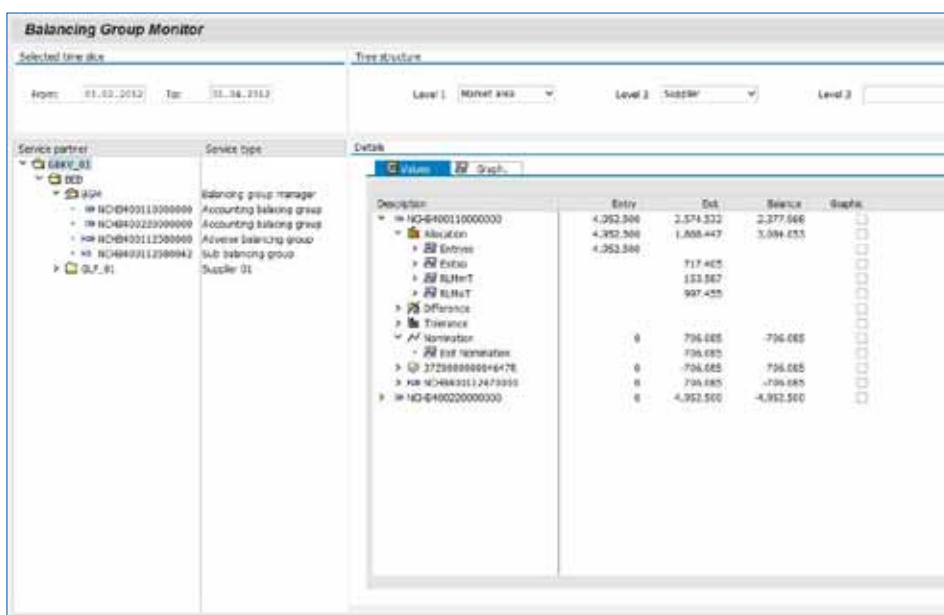


Figure 2 – Balancing Group Monitor

Quick Facts

Summary

The ongoing changes in the energy market are forcing companies to adapt their business processes to complex regulatory requirements. The SAP Energy Data Management, add-on for gas regulatory compliance by PROLOGA actively supports you in this process and provides a wide range of additional features that exactly meet the needs of the different market participants. These include allocation determinations for Distribution System Operators, a distinctive capacity and nomination management for Transport System Operators as well as the balancing group monitor for balancing group managers. Furthermore, the solution has a variety of monitoring functionalities to evaluate and improve your master data quality. With the SAP EDM, add-on for gas you are perfectly prepared to implement the changing market requirements in your SAP system according to legislative rules and to your market role.

Business Challenges

- **Regulatory changes** – according to the European energy policy and the liberalization of the energy market
- **More complex processes** – that must be implemented and performed in less time
- **Easier, more reliable and more cost-effective implementation** – of elaborate and complex processes
- **Large amounts of data** – that must be evaluated in terms of their quality

Key Features

- **Representation of all market roles** – within the gas sector
- **Enhancement of SAP IS-U** – by gas-specific, automated processes
- **Mapping of an allocation management** – by use of SLPs, TQD, net account and clearing functions
- **Nomination management** – representation of the grid topology and the related nomination status at storages, network interconnection points or virtual trading points
- **Capacity management** – enhancement of the SAP IS-U data model by technical capacity contracts
- **Balancing group management** – display of the received time series information in a graphical and hierarchical form
- **Gas-specific market communication formats** – CAPNOT, CAPRES, CHACAP, DELORD, DELRES, IMBNOT, NOMINT, NOMRES, SSQNOT, TRANOT, TSIMSG
- **Monitoring and plausibility checks** – cyclical monitoring of the master data using an extensible cluster framework

Business Benefits

- **No additional interfaces** – fully integrated in SAP IS-U
- **Regulatory compliant**
- **Consistent business processes** – that comprise all areas of your company
- **Optimal** and customer-oriented processes
- **Processing of incoming messages** considering the market transaction format (e.g. EDIG@S)

More Information

To learn more about the SAP Energy Data Management, add-on for gas regulatory compliance by PROLOGA and the opportunities this application presents for your company, please contact your PROLOGA representative or visit us online at www.prologa.com.

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