



and



A Regional *Reference* Model for the Change-of-Supplier Process

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1 INTRODUCTION

1.1 About this document

A Change-of-Supplier, or supplier-switching, model is a pre-requisite for any working liberalised retail market.

This document presents a common EURELECTRIC-ebIX harmonised Change-of-Supplier¹ process for European regional liberalised electricity markets. In this context, the term ‘regional’ refers to the situation where a group(s) of European countries come together to agree compatible change-of-supplier processes. It should also be pointed out that this paper presents a reference model. Therefore, this paper contains recommendations which are not mandatory in nature.

The ‘business’ aspects of this process are based on EURELECTRIC’s ‘customer switching’ model, as published in April 2006 and on the Reference Retail Market Model, published in April 2007. The ‘technical aspects’ are based on UMM (UN/CEFACT Modelling Methodology) and on the ETSO, EFET and ebIX harmonised role model (see section 2.4 below for references to these documents).

1.2 EURELECTRIC and ebIX Liaison group

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¹ The terms customer-switching, supplier-switching and change-of-supplier process refer to the same activity and are used interchangeably. However, this document uses the term Change-of-Supplier as it best reflects the process from a customer’s point of view.

2 RETAIL MARKET FRAMEWORK FOR CHANGE OF SUPPLIER

2.1 Objectives

The aim of this project is to produce a harmonised reference Change-of-Supplier model for a European regional electricity market. The project (model) aims to:

- create a customer-focussed supplier-centric change-of-supplier process which is simple, quick and reliable for all affected parties;
- provide a model which facilitates tracking, troubleshooting and error prevention for distributors, meter operators, suppliers and customers;

This model will assist in:

- supporting fully-automated data exchange in a deregulated regional electricity market, i.e. between the regulated part of the sector and the commercial part of the sector;
- providing a basis for harmonisation of national and regional electricity retail markets;
- removing all barriers to a customer changing supplier, including the use of ‘customer blocking’ for commercial reasons; and
- designing a model which is based on international accepted standards, so that the result can be understood and used by as many as possible;

For customers, the aim is to create a trustworthy and efficient change-of supplier model which works seamlessly and flawlessly. For suppliers, beyond efficiency and user friendliness, an additional need is for a process which reflects their role as the customer’s main point-of-contact. For distributors and meter operators this model provides the means to simply and efficiently provide the market with timely and accurate information accordingly to their role in the market.

2.2 Scope

This model covers the Change-of-Supplier process of the retail electricity business domain. Its scope is to:

- Focus on the automated exchange of business documents for Change-of-Supplier process in the European retail electricity market.
- Recommend common procedures that make it easy for the consumer to change supplier in the common open European electricity market.
- Define common standards for data interchange that can automate the structuring processes.

For clarity, the ‘retail electricity market’ incorporates any necessary activities carried out by intermediaries and authorities.

2.3 Limitations / prerequisites

- A precondition for implementation of the “simple” solutions described in this model is that unique metering point ids are implemented (i.e. GS1). If a unique metering point id not is implemented, other attributes must be added to the different documents exchanged on national bases (to assure the correctness of the local metering point).
- Within EU the rules and legislation may differ between the European countries. To handle these differences, national guidelines are needed for detailed specifications of the information exchange.
- For the change of supplier model, the supplier manages consumer contacts i.e. it is the ‘single point-of-contact’.
- The current document is only dealing with changes related to consumption (customers). The production side may be elaborated in a later phase.
- The way of presenting the business information model as UML artefacts are for the moment under discussion within bodies, such as UN/CEFACT and will probably be changed according to the specifications coming from these bodies when finalised.

2.4 References

- [1] EURELECTRIC Reference ‘Retail Market Model’: Bringing the Benefits of Competitive Electricity Markets to the Customer, April 2007, see <http://www.eurelectric.org>
- [2] EURELECTRIC Position Paper Towards One Generic Switching Model in Europe, April 2006, see <http://www.eurelectric.org>
- [3] UN/CEFACT Unified Modelling Methodology, see <http://www.untmg.org/>
- [4] The Harmonised Role Model – ETSO, ebIX and EFET, see <http://www.edi.etso-net.org/>
- [5] The ebIX methodology, see <http://www.ebix.org/>

2.5 Change log

Ver.	Rel.	Rev.	Date	Changes
1	0		20080520	Approved by Eurelectric Markets Committee
1	0		20080301	<p>Draft for revised version 1.0</p> <ul style="list-style-type: none"> • References to Eurelectric papers are added to chapter 1.1 and 2.4 • Basic principles from 0, “Bringing the Benefits of Competitive Electricity Markets to the Customer” have been added as a new chapter 3. • UseCases have been redrawn to show the Electricity supplier and the Customer on the left hand side, to show that the model is supplier centric. • The 11 “Core tasks” from the Eurelectric Position Paper “Towards One Generic Switching Model in Europe”, [2], has been embedded into the model. • Grid company is renamed DSO. • The UseCase “Verify potential obstructing elements” and the UseCase “Ask upfront meter reading” have been moved to extension points under the UseCase “Make supply contract”. • The UseCase “Make supply contract” has been moved before the UseCase “Identify and verify critical switching information”. • The UseCase “Determine switch meter reading” has been moved out of the Change of supplier package. This UseCase (process) is actually a part of the UseCase Measure from the European energy business domain model, but is still shown to get the complete overview of the Change-of-supplier process. • Explanatory text related to the roles and actors have been added to the introduction in chapter 5.1.1. The text is copied from [1].
1	0		20071015	Final (draft) version, changes not traced.
0	3	B	20070524	Draft version, changes traced.
0	2	B	20070420	Draft version, changes not traced.
0	2	A	20070417	Draft version, changes not traced.
0	1	A	20070330	1 st draft version.

3 EURELECTRIC REFERENCE ‘RETAIL MARKET MODEL’

This chapter gives a summary of important principle for a well functioning European Change-of-Supplier process. The principles are further elaborated in the document; "Eurelectric Reference Retail Market Model", [1] and in the position paper; "Towards One Generic Switching Model in Europe", [2].

While the Electricity Directive of 2003 introduced common market principles for all Member States, it did not propose a common retail market model. As a result, national actors and authorities responsible for the implementation of this Directive have developed their national markets in different ways at different speeds.

Therefore there is a clear need to remove barriers to the development of well-functioning and integrated retail markets. These may be regulatory and market barriers such as differing industry roles and responsibilities of the different market actors and illiquid wholesale markets, operational barriers such as lack of harmonised information requirements and customer switching processes, or finally, consumer barriers such as price regulation.

In addition, suppliers may face economic barriers, when seeking to enter small- and medium-sized retail markets. Therefore there is an economic rationale to develop national retail market rules in a way that allows them to gradually converge and eventually integrate to the largest degree possible. In other words, retail market designs, information requirements and basic processes should be harmonised (or at least be compatible) in order to allow technical platforms and applications to be interoperable. However, full market integration may not occur in the near future as many countries have invested significant resources in developing national legislation and processes.

Member States should anticipate this development by committing to gradually move towards interoperability of legislation, systems and processes. Already in the short and medium term, measures should be taken which at least make it easy for (new) suppliers to enter different national markets without changing business processes and having to 'start from scratch'.

The core retail market processes are those that enable suppliers to serve customers. On the other hand, the **customer processes** are those whereby the customer interacts with retail market actors. As the purpose of these processes is to facilitate customer activity and the delivery of electricity products and services by the supplier on the market, **business-customer processes should be supplier-, rather than DSO-, focussed.**

The generic Change-of-Supplier model can be based on a set of core tasks, a common-switching period and common implementation principles, including compatible electronic data-exchange mechanisms. The core tasks that should be performed within the common switching period (max. 30 days) are the following:

1. Make supply contract
2. Identify and verify critical switching information
3. Verify no obstructing element exists and inform customer of the possible consequences of terminating the contract with old supplier
4. Establish switching date vv. period of regret
5. Organise meter reading or agree on estimating it
6. Inform all parties on switch
7. Verify all parties agree on switch
8. Wait for any relevant period
9. Switch
10. Provide real or estimated meter reading, and where applicable consumption data
11. Start new supply

4 EUROPEAN ENERGY BUSINESS DOMAIN MODEL

The Change-of-Supplier process is a fundamental element of the structuring business-to-customer processes in any retail energy market. To give a brief introduction to where in the overall model the structuring process (and the Change-of-Supplier process) belongs, a top-level European Energy Domain model is shown below. Please note that these processes are being discussed in several projects in the European power industry and might be changed in the future.

In the following chapters the UseCase Structuring from the Business Domain UseCase is broken down into individual processes.

4.1 European energy business domain

This document is elaborating the UseCase change of supplier from the Structure UseCase of the European energy market business domain model as shown below:

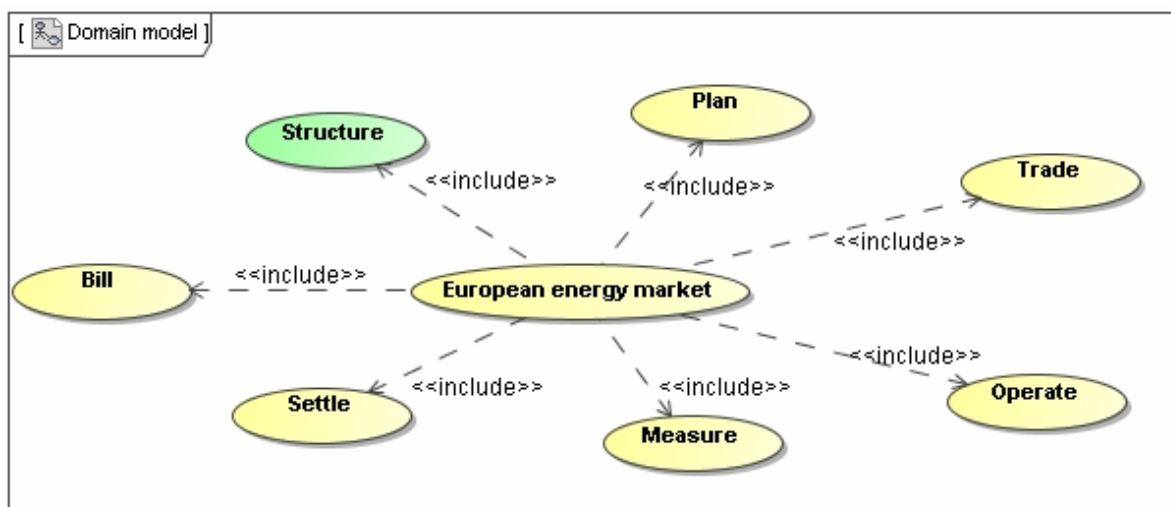


Figure 1 UseCase diagram - European energy market domain

The European energy market domain model includes the UseCases (phases) structure, trade, plan, operate (production, consumption and transport), Measure (meter reading), settle (physical and financial, including reconciliation) and bill.

The main activities within the domain (UseCases) are:

Structure:

All parties exchange changes to master data.

Trade:

Parties trade energy on an energy exchange or bilaterally.

Plan:

Parties are planning the trade, production, consumption and exchange of energy.

Operate:

The real time production and consumption is controlled in order to keep the physical balance of the energy system.

Measure:

The metered data are validated, aggregated and distributed to relevant roles.

Settle:

The balance is settled between the participating parties.

Bill:

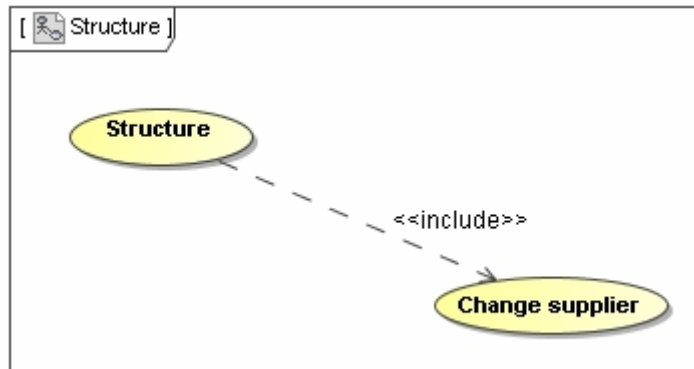
Billing of relevant parties is done.

The main activities mentioned above may vary slightly between countries among others because of:

- Different legislation in different countries makes need for country specific data exchanges
- Not all markets exist in all countries

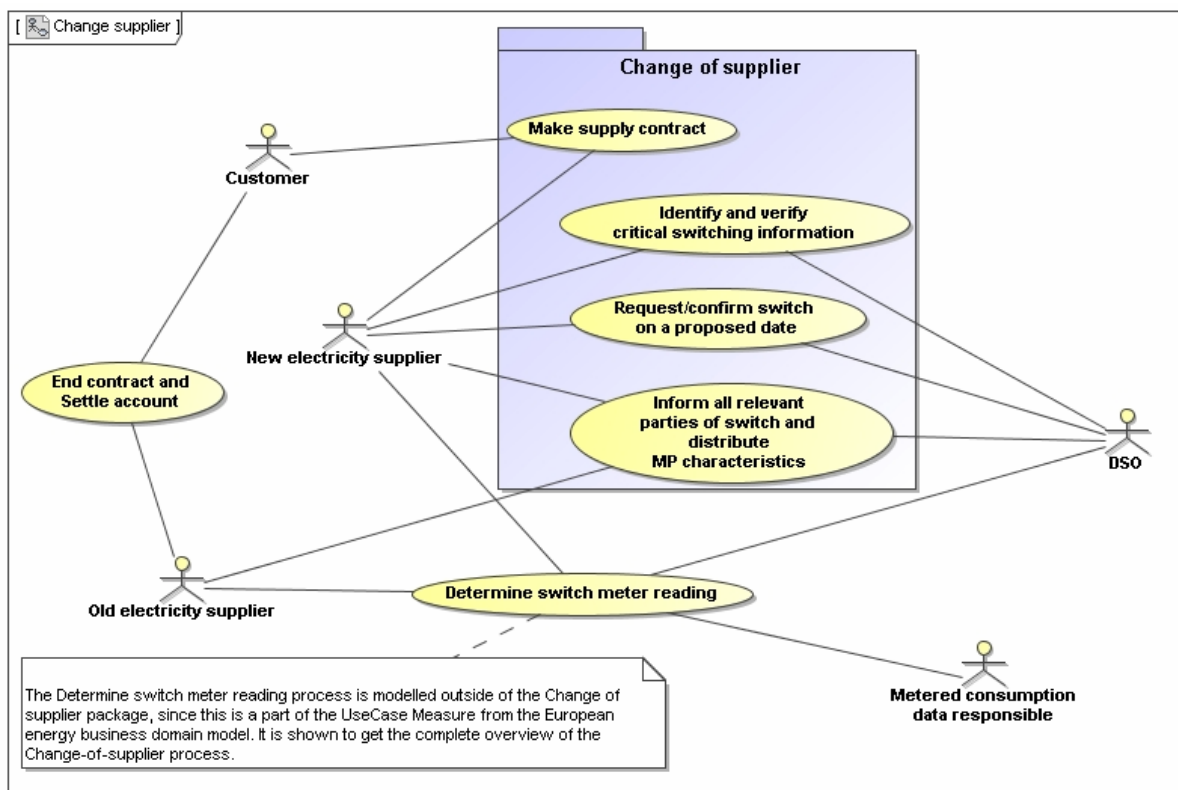
5 CHANGE OF SUPPLIER

5.1 UseCase diagram: Change supplier



UseCase diagram: *Structure*

The UseCase Change-of-supplier from the Structuring UseCase is in this chapter elaborated into the following UseCases to reflect the stages in the Change of supplier phase.



UseCase diagram: *Change of supplier*

Comments to the diagram:

- The UseCase “End contract and Settle account” is outside of the scope of this document.
- To increase the readability of this document general roles are used. In the following (detailed) UseCase diagrams these generic roles have been mapped to the relevant roles in the ETSO, ebIX and EFET Harmonised role model [4]. The <<MapsTo>> relationship means that the roles associated with it are close enough to each other.

5.1.1 Role definitions

A general description of the roles should correspond to each other in each market. For instance the metering role should be equivalent everywhere, regardless of which actor (e.g. DSO, independent agent, etc) is actually responsible. In general, where the actors differ, it is important that the role performed is equivalent in every country.

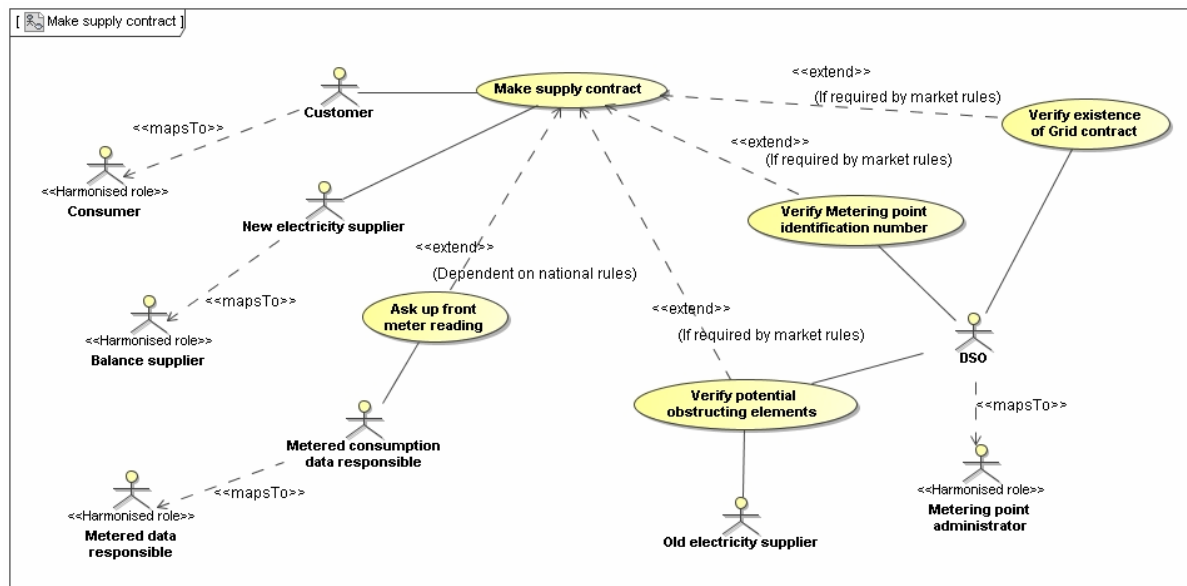
Customer: A party responsible for fulfilling its obligations in the contract for supply of electricity to a Metering point. The role is called **Consumer** in the ebIX, ETSO and EFET Harmonised role model

Electricity Supplier (New/Old): A party responsible for fulfilment of its obligations in the contract for supply of electricity to a Metering point. The role is called **Balance supplier** in the ebIX, ETSO and EFET Harmonised role model.

DSO: (Distribution System Operator) A party responsible for knowing the parties linked to the metering points in a grid area and its technical specification. He/she is responsible for creating and terminating metering points. He is responsible for the grid usage agreement with the party connected to the grid. The role is called **Metering Point Administrator** in the ebIX, ETSO and EFET Harmonised role model. (It should be noted that the term 'DSO' is used in this document for internal consistency and does not infer that this role cannot and/or should not be undertaken by an entity other than a networks assets owner or operator).

Metered Consumption Data Responsible: A party responsible for collection of metered data, and establishment and validation of metered data. The party is responsible for the history of metered data in a metering point. The role is called **Metered Data Responsible** in the ebIX, ETSO and EFET Harmonised role model.

5.2 UseCase: Make supply contract



UseCase Name	Make supply contract
UseCase Description	<p>A contract is made for the intent of starting supply for the Customer and the New electricity supplier identifies the Customer data (invoicing data) e.g. name and address.</p> <p><i>Core tasks from the Eurelectric position paper “Towards One Generic Switching Model in Europe” [2], included in this UseCase:</i></p> <ol style="list-style-type: none"> 1. Make supply contract
Roles	<ul style="list-style-type: none"> • Customer • New electricity supplier
Performance Goals	As quick as possible (might be “real time”)
Preconditions	<ul style="list-style-type: none"> • Liberalised electricity market • Customers have enough information to be able to initiate the process
Post conditions	The Electricity supplier has a mandate and enough information to continue the Change of supplier process (verification etc).
Scenario	The Customer and New electricity supplier agree on having the New electricity supplier start supply for the Customer if this is possible.
Alternative Scenario	The customer may make an additional contract for a fixed amount of energy with a different supplier. This however does not affect the change of supplier process and requires a separate agreement between the supplier of the fixed amount and the supplier of balance energy. This alternative scenario is usually applied by large customers only and is not further detailed in this model.
Special Requirements	None
Extension Points	<p>If required by market rules:</p> <ul style="list-style-type: none"> • Verify Metering point identification number (e.g. GS1 number) • Verify existence of Grid contract • Verify potential obstructing elements • Ask up front meter reading

5.2.1 UseCase: Verify Metering point identification number

UseCase Name	Verify Metering point identification number
UseCase Description	The New electricity supplier verifies with the DSO if the Metering point identification is valid, i.e. the Metering point identification itself and related data, such as address, is connected to the Metering point.
Roles	<ul style="list-style-type: none"> • New electricity supplier • DSO
Performance Goals	The Metering point identification is confirmed before the actual switching process takes place.
Preconditions	A unique Metering point identification schema is implemented for all Metering points.
Post conditions	The Customers Metering point identification is verified.
Scenario	The New electricity supplier sends a message to the DSO to verify the Metering point identification, or looks up the Metering point identification in a centralised or local database.
Alternative Scenario	May be solved by a centralised Metering point database or a message exchange scenario.
Special Requirements	May require a centralised Metering point data base or a routing mechanism to the right DSO.
Extension Points	None.

5.2.2 UseCase: Verify existence of Grid contract

UseCase Name	Verify existence of Grid contract
UseCase Description	The New electricity supplier verifies if there is a grid contract in effect for the Metering point he is starting supply to.
Roles	<ul style="list-style-type: none"> • New electricity supplier • DSO
Performance Goals	The new electricity supplier is provided with the relevant details for the change of supplier process, such as the customer identification associated with the grid contract or the grid contract identification.
Preconditions	The market rules require that the New electricity supplier verifies that a valid grid contract exists.
Post conditions	The relevant details of the grid contract are available for the New electricity supplier.
Scenario	The New electricity supplier sends a message (request) to the DSO to get the Grid contract details, or looks up the information in a centralised or local database.
Alternative Scenario	May be solved by a centralised Metering point database or a message exchange scenario.
Special Requirements	May require a centralised Metering point data base or a routing mechanism to the right DSO.
Extension Points	None.

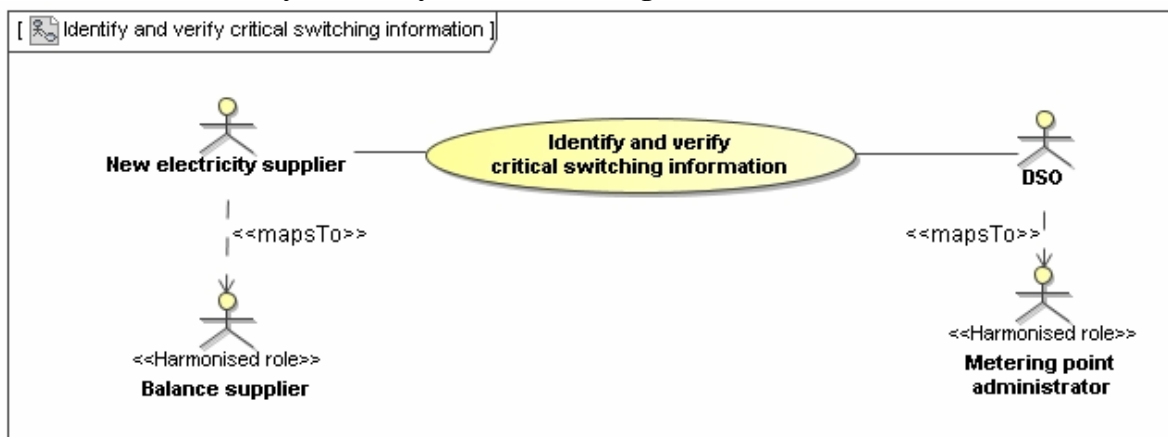
5.2.3 UseCase: Verify potential obstructing elements

UseCase Name	Verify potential obstructing elements
UseCase Description	<p>The New electricity supplier verifies whether the switching process can continue or not.</p> <p><i>Core tasks from the Eurelectric position paper “Towards One Generic Switching Model in Europe” [2], included in this UseCase:</i></p> <p>3. Verify no obstructing element exists and inform customer of the possible consequences of terminating the contract with old supplier</p>
Roles	<ul style="list-style-type: none"> • New electricity supplier • Customer • Old electricity supplier (if required by market rules) • DSO (if required by market rules)
Performance Goals	Assurance is achieved within days.
Preconditions	<ul style="list-style-type: none"> • A new contract for the intent of starting supply has been made • A Metering point identification is needed to identify where to look for the obstructing elements
Post conditions	The New electricity supplier has factual information on whether supply can start or not.
Scenario	The New electricity supplier verifies if there are any elements that should be taken into account before starting supply. The New electricity supplier can inform the Customer of these elements before supply starts or postpone/stop the switch. These elements can include an existing fixed term contract or other elements deemed fit.
Alternative Scenario	No verification is made and the Customer is left to answer for all previous obligations.
Special Requirements	Information of obstructing elements must be passed through a neutral party, as the New electricity supplier does not and should not have any knowledge of the existing supply, unless otherwise required by market rules.
Extension Points	None.

5.2.4 UseCase: Ask up front meter reading

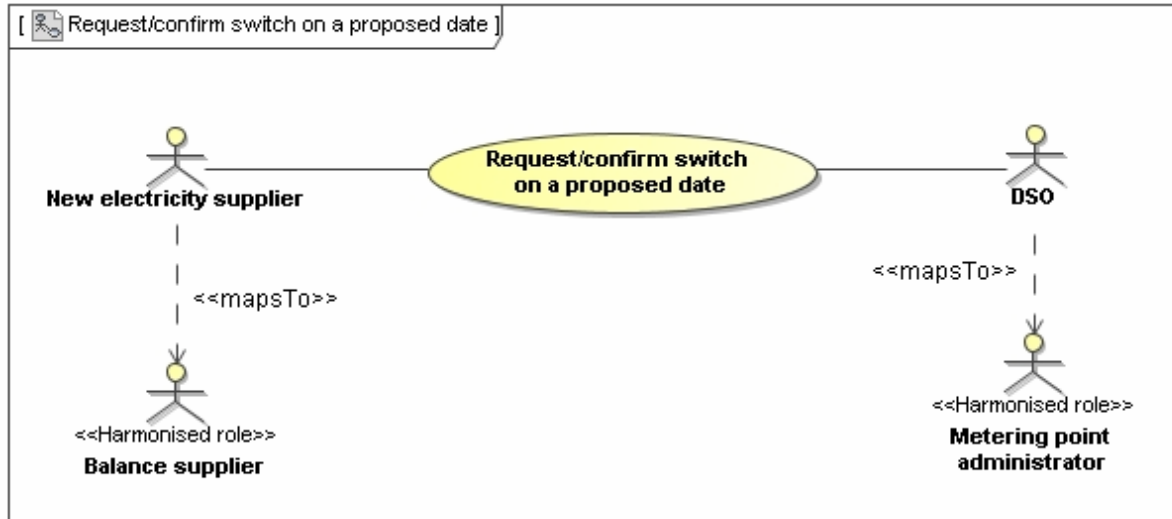
UseCase Name	Ask up front meter reading
UseCase Description	The new electricity supplier gets the meter reading from the customer.
Roles	<ul style="list-style-type: none"> • Customer • New Electricity supplier • Metered consumption data responsible
Performance Goals	As exact a meter reading as possible.
Preconditions	Customer has read the meter.
Post conditions	A “correct” meter reading is available and ready for sending to the Metered consumption data responsible.
Scenario	<p>The New electricity supplier gets a meter reading from the Customer for use in the switching process. The Metered consumption data responsible will evaluate if they can use the meter reading or if it needs to be read again.</p> <p>This UseCase is optional.</p>
Alternative Scenario	No meter reading is asked for.
Special Requirements	The quality of the meter reading may vary in different countries due to country recommendations.
Extension Points	None.

5.3 UseCase: Identify and verify critical switching information



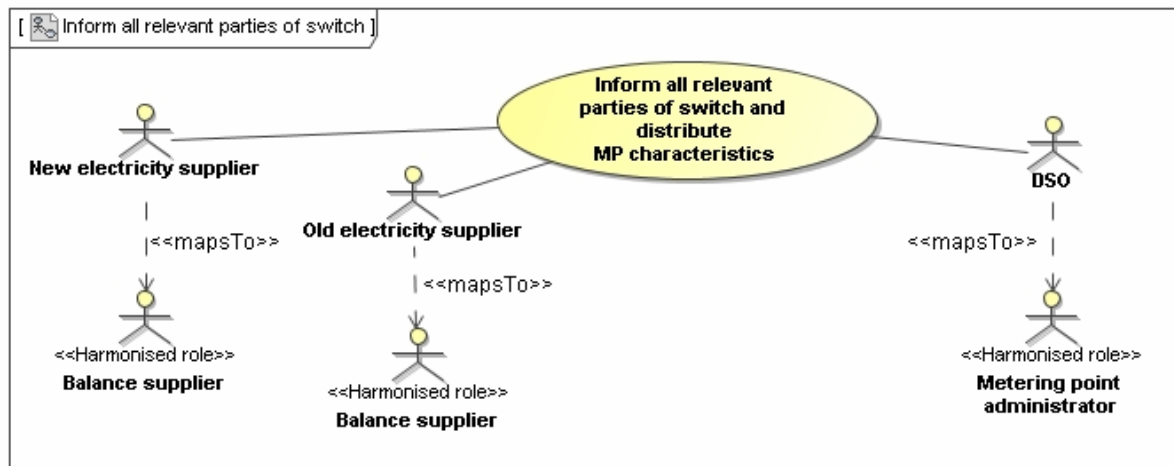
UseCase Name	Identify and verify critical switching information
UseCase Description	<p>The New electricity supplier identifies the switching data (metering point, party responsible for the metering point, proposed switching date). The following data may be identified and verified:</p> <ul style="list-style-type: none"> • Consumption data, e.g. estimated annual consumption and load profile. • Unique metering point identification • Location data • Format and frequency of measurement (profiled, continuous or non read). <p><i>Core tasks from the Eurelectric position paper “Towards One Generic Switching Model in Europe” [2], included in this UseCase:</i></p> <p>2. Identify and verify critical switching information</p>
Roles	<ul style="list-style-type: none"> • Customer • New Electricity supplier • DSO
Performance Goals	To be identified within the first contact with the Customer.
Preconditions	Information is available according to national rules.
Post conditions	The critical information is verified with DSO.
Scenario	To have the correct and verified data to continue the switch process.
Alternative Scenario	None
Special Requirements	Unique metering point identification available and a valid switching date.
Extension Points	<ul style="list-style-type: none"> • Ask up front meter reading

5.4 UseCase: Request/confirm switch on a proposed date



UseCase Name	Request/confirm switch on a proposed date <i>Core tasks from the Eurelectric position paper “Towards One Generic Switching Model in Europe” [2], included in this UseCase:</i> <ol style="list-style-type: none"> 4. Establish switching date vv. period of regret 5. Organise meter reading or agree on estimating it 7. Verify all parties agree on switch 8. Wait for any relevant period 9. Switch 11. Start new supply
UseCase Description	The switching date is established.
Roles	<ul style="list-style-type: none"> • New electricity supplier • DSO
Performance Goals	In conjunction with establishing the switch reading.
Preconditions	A contract with the intent to start supply has been made.
Post conditions	The switching date has been agreed on.
Scenario	The New electricity supplier verifies that the proposed switching date received from the Customer can be used for the switch. If the switch reading will be for a different date, that date will be used.
Alternative Scenario	No verification is made and the proposed date is used.
Special Requirements	Fixed switching dates in legislation make this phase unnecessary.
Extension Points	None.

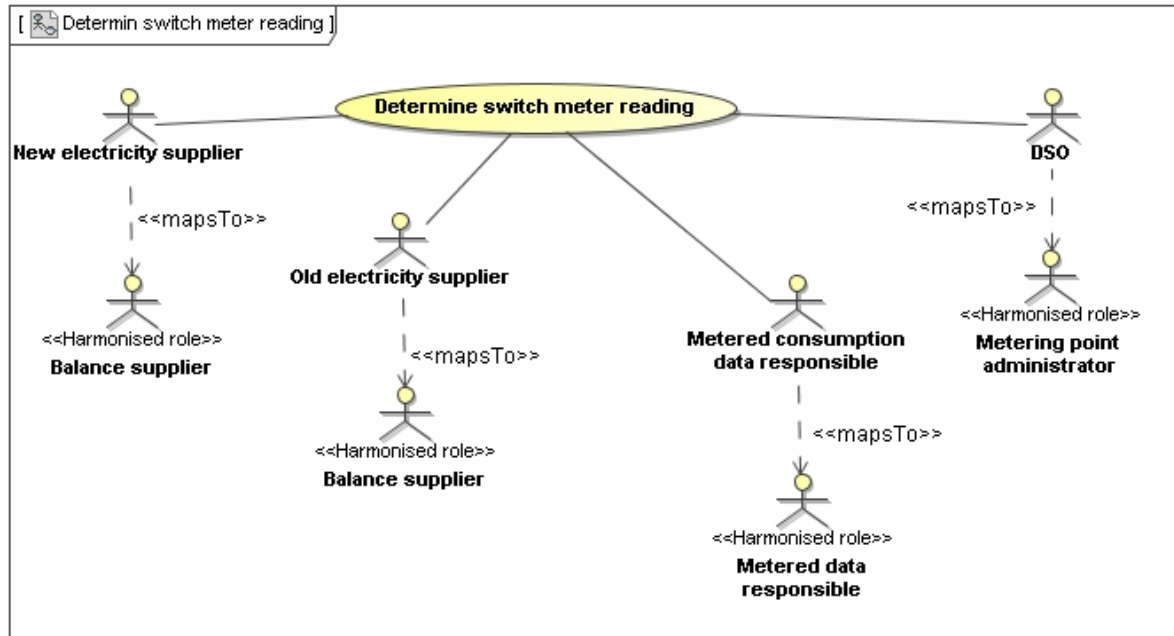
5.5 UseCase: Inform all relevant parties on switch



UseCase Name	Inform all relevant parties on switch and distribute Metering point characteristics. <i>Core tasks from the Eurelectric position paper “Towards One Generic Switching Model in Europe” [2], included in this UseCase:</i> 6. Inform all parties on switch
UseCase Description	The DSO informs the Old and the New electricity suppliers of the switch.
Roles	<ul style="list-style-type: none"> • DSO • New electricity supplier • Old electricity supplier
Performance Goals	<ul style="list-style-type: none"> • Information should reach <u>all</u> relevant parties • This is a phase where liability is transferred, therefore parties must have this information as soon as possible
Preconditions	<ul style="list-style-type: none"> • Making the contract for the intent to supply • Verify no potential obstructing elements exist • Critical information identified
Post conditions	<ul style="list-style-type: none"> • The supply will start at the switching date and the contract can therefore be fulfilled • This normally triggers the change in balance responsibility, since it normally is the Electricity supplier that chooses the Balance responsible party [4] (dependent on national rules). • All relevant parties have received master data for the Metering point, including estimated volume(s), if available.
Scenario	<p>The DSO receives verified information with which the switch can go ahead, uses the contact / identification data of all relevant parties from its registry and sends out messages with this information to all relevant parties.</p> <p>The relevant parties may include other roles not defined in this document, such as Balance responsible party and Metered consumption data responsible.</p>
Alternative Scenario	None.
Special Requirements	None.
Extension Points	None.

5.6 UseCase: Determine switch meter reading

The process of determine switch meter reading is not a part of the core Change-of-Supplier model, but belongs to the UseCase Measure form the European energy business domain model. However, a switch meter reading is needed every time a Change-of-Supplier process has been run.



UseCase Name	Determine switch meter reading
UseCase Description	The meter reading used for the switch is established. <i>Core tasks from the Eurelectric position paper “Towards One Generic Switching Model in Europe” [2], included in this UseCase:</i> 10. Provide real or estimated meter reading, and where applicable consumption data
Roles	<ul style="list-style-type: none"> • New electricity supplier • Old electricity supplier • DSO • Metered consumption data responsible
Performance Goals	Within a short period of time (days).
Preconditions	A switch date has been established.
Post conditions	A switch reading has been established.
Scenario	The up front meter reading is evaluated if it has been given. If it is acceptable it can be used. A reading can be initiated and a new value read. The reading will be passed to both the Old and the New electricity suppliers for invoicing.
Alternative Scenario	None.
Special Requirements	The Metered consumption data responsible will initiate the meter reading process. This might include the role of a separate Metered data collector, depending on national rules.
Extension Points	None.