



# Sistema de Informação de Mercados de Energia

Markets information Web Service Specification  
Natural Gas

2016-08-01

Version: 1.0

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## Version Control

Version	Date	Author	Change Summary
1.0	2016-08-01	Miguel.jeronimo@ren.pt	First Release

## Acronyms and definition

The main acronyms and definitions used throughout this document are listed in the following table.

Acronym / Abbreviation	Definition
WSDL	Web Services Definition Language
XML	Extensible Markup Language
SOAP	Simple Object Access Protocol, based upon XML
HTTP	Hypertext Transfer Protocol
UTC	Universal Time Coordinated
CET	Central European Time
CEST	Central European Summer Time
TSO	Transmission System Operator

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# 1 Introduction

In accordance with European Parliament and Council Regulation (EC) No 715/2009 of 13 July 2009 and the correspondent amendments, transparency information on the natural gas market shall be made freely and easily available.

The main aim of this service is to facilitate access to public market information, ensuring compliance with regulatory requirements thus contributing for greater transparency of natural gas markets.

The service will enable information to be published, guaranteeing the following requirements:

- Automatic service ensuring information exchange between systems.
- Free, with no requirement to register or any other form of subscription;
- On a non-discriminatory basis and easily accessible;
- In a format which allows quantitative analyses to be conducted.

## 2 Authentication

This service requires no authentication therefore there is no need to supply any credentials.

## 3 Interface

The Web Service uses SOAP, Version 1.2, running over a standard HTTP protocol and therefore the interface is “firewall-friendly”.

Web Service URL: <http://ws.mercado.ren.pt:9095/MarketInfoService.asmx>

To access the WSDL with the Web service description, use the following URL:

<http://ws.mercado.ren.pt:9095/MarketInfoService.asmx?WSDL>

## 4 Web Services

This section contains the technical specifications about the web method provided by the Web service. It is organized according to the following structure:

- Web Method: Subject
  - General definition
    - Method Name
    - Description
    - Request Data
    - Response Data
  - General error codes
    - Codes and descriptions
    - Response Example
  - Type specific definitions
    - Type value
      - Description
      - Response definition
      - Error codes and descriptions
      - Response Example
        - Success

The Web Methods below will generally receive a set of parameters of basic data types (string, int, double, etc) and will return a string containing an XML document with a specific format containing the request information.

In case of error, an XML will be returned containing an Error Code.

## 4.1 Web Method: Get data for given time frame by info type

### 4.1.1 General definition

<b>Method</b>	GetInfoForTimeFrameByInfoType
<b>Description</b>	Get Information for given time frame by information type

	Parameter	Type (size)	Format	Comments
<b>Request Data</b>	StartDay	String (10)	yyyy-mm-dd	Higher or equal
	EndDay	String (10)	yyyy-mm-dd	Lower or equal
	InfoType	String (80)		
<b>Response Data</b>	Return Value	String	XML Document	

## 4.1.2 General error codes

Code	Description
GEN01	General Error
GEN02	No Data Available
GEN03	An Error Has Occurred
INPUT01	Required field
INPUT02	Invalid Input format
INPUT03	Time interval is bigger than 31 days.
INPUT04	'EndDay' before 'StartDay'
INPUT05	Unknown type '<Received type>'
INPUT06	Specific error (applicable in some data items)

### Error Response Example

```
<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Error>
    <Code>GEN01</Code>
    <Message>(...)</Message>
  </Error>
</Root>
```

## 4.1.3 General Formats

Data	Format
day	yyyy-mm-dd
UTC time	yyyy-mm-dd'T'hh:mm'Z' (ISO 8601)
Local time	yyyy-mm-dd hh:mm
Decimals	Decimal separator '.'

## 4.1.4 Information types specific definitions

### 4.1.4.1 Overall Technical System Management

#### 4.1.4.1.1 Type: NG\_GetRelevantPoints

##### Description

Configuration Data – RNTGN Relevant Points.

##### Response definition

	Field	Type (size)	Format	Comments
<b>Response Definition</b>	SysCode	String (5)		Code (system coding scheme)
	LongLabel	String (45)		Description
	ShortLabel	String (13)		Short Label
	CUI_IN	String (20)		Identification Code – RNTGN Entry
	CUI_OUT	String(20)		Identification Code – RNTGN Exit
	EIC_Code	String(16)		Code (EIC coding scheme)

##### Error codes and descriptions

Code	Description

##### Response Example

##### Success

```
<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <Code>(...)</Code>
      <LongLabel>(...)</LongLabel>
      <ShortLabel>(...)</ShortLabel>
      <CUI_IN>(...)</CUI_IN>
      <CUI_OUT>(...)</CUI_OUT>
      <EIC_Code>(...)</EIC_Code>
    </Item>
  </Items>
</Root>
```

```

        <Code>(…)</Code>
        <LongLabel>(…)</LongLabel>
        <ShortLabel>(…)</ShortLabel>
        <CUI_IN>(…)</CUI_IN>
        <CUI_OUT>(…)</CUI_OUT>
        <EIC_Code>(…)</EIC_Code>
    </Item>
</Items>
</Root>

```

#### 4.1.4.1.2 Type: NG\_GetGRMSPoints

##### Description

Configuration Data - GRMSs information.

##### Response definition

	Field	Type (size)	Format	Comments
<b>Response Definition</b>	CUI	String (20)		Code (CUI coding scheme)
	LongLabel	String (45)		Description
	ShortLabel	String (13)		Short Label
	EIC_Code	String(16)		Code (EIC coding scheme)

##### Error codes and descriptions

Code	Description

##### Response Example

##### Success

```

<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <CUI>(…)</CUI>
      <LongLabel>(…)</LongLabel>
      <ShortLabel>(…)</ShortLabel>
      <EIC_Code>(…)</EIC_Code>
    </Item>
  </Items>
</Root>

```



```

</Item>
<Item>
  <CUI>(<...></CUI>
  <LongLabel>(<...></LongLabel>
  <ShortLabel>(<...></ShortLabel>
  <EIC_Code>(<...></EIC_Code>
</Item>
</Items>
</Root>

```

#### 4.1.4.1.3 Type: NG\_GetAvailableCapacity

##### Description

Available and aggregated contracted capacities per point.

##### Response definition

	Field	Type (size)	Format	Comments
<b>Response Definition</b>	Day	String (10)	yyyy-mm-dd	Gas Day
	PointCode	String(5)		Point Code (system coding scheme)
	UTCPeriodIni	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day Begin
	UTCPeriodEnd	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day End
	CapType	String(1)	F-Firm; I - Interruptible	Capacity Type
	TechnicalCapIN	Double (9.3)		Entry/Storage - Technical Capacity MWh/d
	AllocatedCapIN	Double (9.3)		Entry/Storage - Allocated Capacity MWh/d
	TechnicalCapOUT	Double (9.3)		Exit - Technical Capacity MWh/d
	AllocatedCapOUT	Double (9.3)		Exit - Allocated Capacity MWh/d
	LastModified	String (16)	yyyy-mm-dd hh:mm	Record's timestamp (local time)

##### Error codes and descriptions

Code	Description

Success

```
<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <Day>(…)</Day>
      <PointCode>(…)</PointCode>
      <UTCPeriodIni>(…)</ UTCPeriodIni>
      < UTCPeriodEnd>(…)</UTCPeriodEnd>
      <CapType>(…)</CapType>
      <TechnicalCapIN>(…)</TechnicalCapIN>
      <AllocatedCapIN>(…)</AllocatedCapIN>
      <TechnicalCapOUT>(…)</TechnicalCapOUT>
      <AllocatedCapOUT>(…)</AllocatedCapOUT>
      <LastModified>(…)</LastModified>
    </Item>
    <Item>
      <Day>(…)</Day>
      <PointCode>(…)</PointCode>
      <UTCPeriodIni>(…)</ UTCPeriodIni>
      < UTCPeriodEnd>(…)</UTCPeriodEnd>
      <CapType>(…)</CapType>
      <TechnicalCapIN>(…)</TechnicalCapIN>
      <AllocatedCapIN>(…)</AllocatedCapIN>
      <TechnicalCapOUT>(…)</TechnicalCapOUT>
      <AllocatedCapOUT>(…)</AllocatedCapOUT>
      <LastModified>(…)</LastModified>
    </Item>
  </Items>
</Root>
```

#### 4.1.4.1.4 Type: NG\_GetCapacityAllocation

##### Description

Capacity Allocation Data.

##### Response definition

	Field	Type (size)	Format	Comments
<b>Response Definition</b>	AuctionDay	String (10)	yyyy-mm-dd	Auction Day
	AllocationType	String (1)	L-Auction; F-FCFS	
	AllocationPeriod	String (1)	A- Annual; T – Quarterly; M – Monthly; S – Weekly; D – Daily; I – Within-Day;	
	UTCPeriodIni	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day Begin
	UTCPeriodEnd	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day End
	CapType	String (1)	F-Firm; I - Interruptible	Capacity Type
	ProductCode	String (16)		Product Code
	ProductDesc	String (80)		Product Type Description
	OfferedCap	Double (9.3)		Offered Capacity MWh/d
	RequestedCap	Double (9.3)		Requested Capacity MWh/d
	AllocatedCap	Double (9.3)		Allocated Capacity MWh/d
	PriceBase	Double (8.6)	€/ (MWh/d)/month; €/ (MWh/d)/day	Base Price
	PriceSpread	Double (8.6)		Spread (% of base price)

#### Error codes and descriptions

Code	Description

#### Response Example

#### Success

```
<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <AuctionDay>(...)</ AuctionDay>
      <Allocationtype>(...)</AllocationType>
      <AllocationPeriod>(...)</AllocationPeriod>
      <UTCPeriodIni>(...)</ UTCPeriodIni>
      < UTCPeriodEnd>(...)</UTCPeriodEnd>
      <CapType>(...)</CapType>
      <ProductCode>(...)</ProductCode>
      <ProductDesc>(...)</ProductDesc>
      <OfferedCap>(...)</ OfferedCap>
```

```

        <RequestedCap>(...)</RequestedCap>
        <AllocatedCap>(...)</AllocatedCap>
        <PriceBase>(...)</PriceBase>
        <PriceSpread>(...)</PriceSpread>
    </Item>
    <Item>
        <AuctionDay>(...)</AuctionDay>
        <AllocationType>(...)</AllocationType>
        <AllocationPeriod>(...)</AllocationPeriod>
        <UTCPeriodIni>(...)</UTCPeriodIni>
        <UTCPeriodEnd>(...)</UTCPeriodEnd>
        <CapType>(...)</CapType>
        <ProductCode>(...)</ProductCode>
        <ProductDesc>(...)</ProductDesc>
        <OfferedCap>(...)</OfferedCap>
        <RequestedCap>(...)</RequestedCap>
        <AllocatedCap>(...)</AllocatedCap>
        <PriceBase>(...)</PriceBase>
        <PriceSpread>(...)</PriceSpread>
    </Item>
</Items>
</Root>

```

#### 4.1.4.2 National Natural Gas Transmission Network (RNTGN)

##### 4.1.4.2.1 Type: NG\_GetUtilizationRNTGN

###### Description

Capacities (technical,contracted,(re)nominated,attributed) and physical flows per RNTGN point.

###### Response definition

	Field	Type (size)	Format	Comments
<b>Response Definition</b>	Day	String (13)		Gas Day
	UTCPeriodIni	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day Begin
	UTCPeriodEnd	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day End
	PointCode	String (5)		Code (system coding scheme)
	TechnicalCapIN	Double (9.3)		Entry - Technical Capacity MWh/d
	AllocatedCapIN	Double (9.3)		Entry - Contracted/alllocated Capacity MWh/d

	NomCapIN	Double (9.3)		Entry - Nominated Capacity MWh/d
	ReNomCapIN	Double (9.3)		Entry - Renominated Capacity MWh/d
	AttribCapIN	Double (9.3)		Entry - Attributed Capacity MWh/d
	PhysicalFlowIN	Double (10.3)		Entry - Attributed Capacity MWh
	TechnicalCapOUT	Double (9.3)		Exit - Technical Capacity MWh/d
	AllocatedCapOUT	Double (9.3)		Exit - Contracted/alllocated Capacity MWh/d
	NomCapOUT	Double (9.3)		Exit - Nominated Capacity MWh/d
	ReNomCapOUT	Double (9.3)		Exit - Renominated Capacity MWh/d
	AttribCapOUT	Double (9.3)		Exit - Attributed Capacity MWh/d
	PhysicalFlowOUT	Double (10.3)		Exit - Attributed Capacity MWh
	LastModified	String (16)	yyyy-mm-dd hh:mm	Record's timestamp (local time)

### Error codes and descriptions

Code	Description

### Response Example

#### Success

```
<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <Day>(...)</Day>
      <UTCPeriodIni>(...)</ UTCPeriodIni>
      < UTCPeriodEnd>(...)</UTCPeriodEnd>
      <PointCode>(...)</PointCode>
      <TechnicalCapIN>(...)</ TechnicalCapIN>
      <AllocatedCapIN>(...)</AllocatedCapIN>
      <NomCapIN>(...)</NomCapIN>
      <ReNomCapIN>(...)</ReNomCapIN>
      <AttribCapIN>(...)</AttribCapIN>
      <PhysicalFlowIN>(...)</PhysicalFlowIN>
      <TechnicalCapOUT>(...)</ TechnicalCapOUT>
      <AllocatedCapOUT>(...)</AllocatedCapOUT>
      <NomCapOUT>(...)</NomCapOUT>
      <ReNomCapOUT>(...)</ReNomCapOUT>
      <AttribCapOUT>(...)</AttribCapOUT>
    </Item>
  </Items>
</Root>
```

```

        <PhysicalFlowOUT>(...)</PhysicalFlowOUT>
        <LastModified>(...)</ LastModified >
    </Item>
    <Item>
        <Day>(...)</Day>
        <UTCPeriodIni>(...)</ UTCPeriodIni>
        < UTCPeriodEnd>(...)</UTCPeriodEnd>
        <PointCode>(...)</PointCode>
        <TechnicalCapIN>(...)</ TechnicalCapIN>
        <AllocatedCapIN>(...)</AllocatedCapIN>
        <NomCapIN>(...)</NomCapIN>
        <ReNomCapIN>(...)</ReNomCapIN>
        <AttribCapIN>(...)</AttribCapIN>
        <PhysicalFlowIN>(...)</PhysicalFlowIN>
        <TechnicalCapOUT>(...)</ TechnicalCapOUT>
        <AllocatedCapOUT>(...)</AllocatedCapOUT>
        <NomCapOUT>(...)</NomCapOUT>
        <ReNomCapOUT>(...)</ReNomCapOUT>
        <AttribCapOUT>(...)</AttribCapOUT>
        <PhysicalFlowOUT>(...)</PhysicalFlowOUT>
        <LastModified>(...)</ LastModified >
    </Item>
</Items>
</Root>

```

#### 4.1.4.2.2 Type: NG\_GetBalanceRNTGN

##### Description

RNTGN Balance.

##### Response definition

	Field	Type (size)	Format	Comments
<b>Response Definition</b>	Day	String (13)		Gas Day
	UTCPeriodIni	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day Begin
	UTCPeriodEnd	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day End
	IN_Inter	Double (10.3)		Entry - Interconnections MWh
	IN_AS	Double (10.3)		Entry – Underg. Storage MWh
	IN_TGNL	Double (10.3)		Entry – LNG Terminal MWh
	OUT_Inter	Double (10.3)		Exit – Interconnections MWh
	OUT_AS	Double (10.3)		Exit – Underg. Storage MWh

	OUT_PERO	Double (10.3)		Exit – Elect. Generation MWh
	OUT_DISTR	Double (10.3)		Exit – Distribution MWh
	OUT_ClientHP	Double (10.3)		Exit – HP Clients MWh
	StockInit	Double (10.3)		Initial Stock MWh
	StockEnd	Double (10.3)		Final Stock MWh
	LossesDiff	Double (10.3)		Losses and measurement differences MWh
	LastModified	String (16)	yyyy-mm-dd hh:mm	Record's timestamp (local time)

### Error codes and descriptions

Code	Description

### Response Example

#### Success

```
<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <Day>(...)</Day>
      <UTCPeriodIni>(...)</ UTCPeriodIni>
      < UTCPeriodEnd>(...)</UTCPeriodEnd>
      <IN_Inter>(...)</IN_Inter>
      <IN_AS>(...)</IN_AS>
      <IN_TGNL>(...)</IN_TGNL>
      <OUT_Inter>(...)</OUT_Inter>
      <OUT_AS>(...)</OUT_AS>
      <OUT_PERO>(...)</OUT_PERO>
      <OUT_DISTR>(...)</OUT_DISTR>
      <OUT_ClientHP>(...)</OUT_ClientHP>
      <StockInit>(...)</StockInit>
      <StockEnd>(...)</StockEnd>
      <LossesDiff>(...)</LossesDiff>
      <UTCLastModified>(...)</UTCLastModified>
    </Item>
    <Item>
      <Day>(...)</Day>
      <UTCPeriodIni>(...)</ UTCPeriodIni>
```

```

    <UTCPeriodEnd>(…)</UTCPeriodEnd>
    <IN_Inter>(…)</IN_Inter>
    <IN_AS>(…)</IN_AS>
    <IN_TGNL>(…)</IN_TGNL>
    <OUT_Inter>(…)</OUT_Inter>
    <OUT_AS>(…)</OUT_AS>
    <OUT_PERO>(…)</OUT_PERO>
    <OUT_DISTR>(…)</OUT_DISTR>
    <OUT_ClientHP>(…)</OUT_ClientHP>
    <StockInit>(…)</StockInit>
    <StockEnd>(…)</StockEnd>
    <LossesDiff>(…)</LossesDiff>
    <UTCLastModified>(…)</UTCLastModified>
  </Item>
</Items>
</Root>

```

#### 4.1.4.2.3 Type: NG\_GetUnavailabilityRNTGN

##### Description

RNTGN maintenance plan and outages.

##### Response definition

	Field	Type (size)	Format	Comments
	PointCode	String (20)		Network Point Code (CUI coding scheme)
	PointDesc	String (60)		Designation of the Network Point
	PeriodIni	String (16)	yyyy-mm-dd hh:mm	Unavailability Start (local time)
	PeriodEnd	String (16)	yyyy-mm-dd hh:mm	Unavailability End (local time)
	Type	String (3)	POT – Potential; PAR – Partial; TOT – Total; S – Yes; N – No;	Type of unavailability
	Planned	String (1)		Unavailable Value MWh
	Value	Double (10.3)		Reason
	Reason	String (200)		Coments/notes
	Comments	String (200)		

##### Error codes and descriptions

Code	Description



## Response Example

### Success

```
<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <PointCode>(...)</PointCode>
      <PointDesc>(...)</PointDesc>
      <PeriodIni>(...)</PeriodIni>
      <PeriodEnd>(...)</PeriodEnd>
      <Type>(...)</Type>
      <Planned>(...)</Planned>
      <Value>(...)</Value>
      <Reason>(...)</Reason>
      <Comments>(...)</Comments>
    </Item>
    <Item>
      <PointCode>(...)</PointCode>
      <PointDesc>(...)</PointDesc>
      <PeriodIni>(...)</PeriodIni>
      <PeriodEnd>(...)</PeriodEnd>
      <Type>(...)</Type>
      <Planned>(...)</Planned>
      <Value>(...)</Value>
      <Reason>(...)</Reason>
      <Comments>(...)</Comments>
    </Item>
  </Items>
</Root>
```

### 4.1.4.3 LNG Terminal (TGNL)

#### 4.1.4.3.1 Type: NG\_GetBalanceTGNL

##### Description

### Response definition

	Field	Type (size)	Format	Comments
<b>Response Definition</b>	Day	String (13)		Gas Day
	UTCPeriodIni	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day Begin
	UTCPeriodEnd	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day End
	IN_Vessels	Double (10.3)		Entry - Vessels MWh
	OUT_Vessels	Double (10.3)		Exit – Vessels MWh
	OUT_RNT	Double (10.3)		Exit – Network MWh
	OUT_Trucks	Double (10.3)		Exit – Tanker Trucks MWh
	StockInit	Double (10.3)		Initial Stock MWh
	StockEnd	Double (10.3)		Final Stock MWh
	LossesDiff	Double (10.3)		Losses and measurement differences MWh
	LastModified	String (16)	yyyy-mm-dd hh:mm	Record's timestamp (local time)

### Error codes and descriptions

Code	Description

### Response Example

#### Success

```
<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <Day>(...)</Day>
      <UTCPeriodIni>(...)</ UTCPeriodIni>
      < UTCPeriodEnd>(...)</UTCPeriodEnd>
      <IN_Vessels>(...)</IN_Vessels>
      <OUT_Vessels>(...)</OUT_Vessels>
      <OUT_RNT>(...)</OUT_RNT>
      <OUT_Trucks>(...)</OUT_Trucks>
      <StockInit>(...)</StockInit>
      <StockEnd>(...)</StockEnd>
    </Item>
  </Items>
</Root>
```

```

        <LossesDiff>(…)</LossesDiff>
        <LastModified>(…)</LastModified>
    </Item>
    <Item>
        <Day>(…)</Day>
        <UTCPeriodIni>(…)</ UTCPeriodIni>
        < UTCPeriodEnd>(…)</UTCPeriodEnd>
        <IN_Vessels>(…)</IN_Vessels>
        <OUT_Vessels>(…)</OUT_Vessels>
        <OUT_RNT>(…)</OUT_RNT>
        <OUT_Trucks>(…)</OUT_Trucks>
        <StockInit>(…)</StockInit>
        <StockEnd>(…)</StockEnd>
        <LossesDiff>(…)</LossesDiff>
        <LastModified>(…)</LastModified>
    </Item>
</Items>
</Root>

```

#### 4.1.4.3.2 Type: NG\_GetUnavailabilityTGNL

##### Description

TGNL maintenance plan and outages.

##### Response definition

	Field	Type (size)	Format	Comments
	PointCode	String (20)		Network Point Code (CUI coding scheme)
	PointDesc	String (60)		Designation of the Network Point
	PeriodIni	String (16)	yyyy-mm-dd hh:mm	Unavailability Start (local time)
	PeriodEnd	String (16)	yyyy-mm-dd hh:mm	Unavailability End (local time)
	Type	String (3)	POT – Potential; PAR – Partial; TOT – Total; S – Yes; N – No;	Type of unavailability
	Planned	String (1)		Unavailable Value MWh
	Value	Double (10.3)		Reason
	Reason	String (200)		Coments/notes
	Comments	String (200)		

##### Error codes and descriptions

Code	Description

### Response Example

#### Success

```

<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <PointCode>(...)</PointCode>
      <PointDesc>(...)</PointDesc>
      <PeriodIni>(...)</PeriodIni>
      <PeriodEnd>(...)</PeriodEnd>
      <Type>(...)</Type>
      <Planned>(...)</Planned>
      <Value>(...)</Value>
      <Reason>(...)</Reason>
      <Comments>(...)</Comments>
    </Item>
    <Item>
      <PointCode>(...)</PointCode>
      <PointDesc>(...)</PointDesc>
      <PeriodIni>(...)</PeriodIni>
      <PeriodEnd>(...)</PeriodEnd>
      <Type>(...)</Type>
      <Planned>(...)</Planned>
      <Value>(...)</Value>
      <Reason>(...)</Reason>
      <Comments>(...)</Comments>
    </Item>
  </Items>
</Root>

```

#### 4.1.4.4 Underground Storage (AS)

#### 4.1.4.4.1 Type: NG\_GetBalanceAS

##### Description

AS Balance.

##### Response definition

	Field	Type (size)	Format	Comments
<b>Response Definition</b>	Day	String (13)		Gas Day
	UTCPeriodIni	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day Begin
	UTCPeriodEnd	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day End
	IN_Injection	Double (10.3)		Entry - Injection MWh
	OUT_Withdrawal	Double (10.3)		Exit – Withdrawal MWh
	StockInit	Double (10.3)		Initial Stock MWh
	StockEnd	Double (10.3)		Final Stock MWh
	LossesDiff	Double (10.3)		Losses and measurement differences MWh
	LastModified	String (16)	yyyy-mm-dd hh:mm	Record's timestamp (local time)

##### Error codes and descriptions

Code	Description

##### Response Example

##### Success

```
<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <Day>(...)</Day>
      <UTCPeriodIni>(...)</ UTCPeriodIni>
      < UTCPeriodEnd>(...)</UTCPeriodEnd>
      <IN_Injection>(...)</IN_Injection>
      <OUT_Withdrawal>(...)</OUT_Withdrawal>
      <StockInit>(...)</StockInit>
      <StockEnd>(...)</StockEnd>
      <LossesDiff>(...)</LossesDiff>
    </Item>
  </Items>
</Root>
```

```

        <LastModified>(...)</LastModified>
    </Item>
    <Item>
        <Day>(...)</Day>
        <UTCPeriodIni>(...)</ UTCPeriodIni>
        < UTCPeriodEnd>(...)</UTCPeriodEnd>
        <IN_Injection>(...)</IN_ Injection>
        <OUT_Withdrawal>(...)</OUT_Withdrawal>
        <StockInit>(...)</StockInit>
        <StockEnd>(...)</StockEnd>
        <LossesDiff>(...)</LossesDiff>
        <LastModified>(...)</LastModified>
    </Item>
</Items>
</Root>

```

#### 4.1.4.4.2 Type: NG\_GetUnavailabilityAS

##### Description

AS maintenance plan and outages.

##### Response definition

	Field	Type (size)	Format	Comments
<b>Response Definition</b>	PointCode	String (20)		Network Point Code (CUI coding scheme)
	PointDesc	String (60)		Designation of the Network Point
	PeriodIni	String (16)	yyyy-mm-dd hh:mm	Unavailability Start (local time)
	PeriodEnd	String (16)	yyyy-mm-dd hh:mm	Unavailability End (local time)
	Type	String (3)	POT – Potential; PAR – Partial; TOT – Total;	Type of unavailability
	Planned	String (1)	S – Yes; N – No;	
	Value	Double (10.3)		Unavailable Value MWh
	Reason	String (200)		Reason
	Comments	String (200)		Coments/notes

##### Error codes and descriptions

Code	Description

## Response Example

### Success

```
<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <PointCode>(...)</PointCode>
      <PointDesc>(...)</PointDesc>
      <PeriodIni>(...)</PeriodIni>
      <PeriodEnd>(...)</PeriodEnd>
      <Type>(...)</Type>
      <Planned>(...)</Planned>
      <Value>(...)</Value>
      <Reason>(...)</Reason>
      <Comments>(...)</Comments>
    </Item>
    <Item>
      <PointCode>(...)</PointCode>
      <PointDesc>(...)</PointDesc>
      <PeriodIni>(...)</PeriodIni>
      <PeriodEnd>(...)</PeriodEnd>
      <Type>(...)</Type>
      <Planned>(...)</Planned>
      <Value>(...)</Value>
      <Reason>(...)</Reason>
      <Comments>(...)</Comments>
    </Item>
  </Items>
</Root>
```

## 4.1.4.5 Gas Quality

### 4.1.4.5.1 Type : NG\_GetGCVExitPoints

#### Description

GCV values in all RNTGN exit points.

	Field	Type (size)	Format	Comments
<b>Response Definition</b>	Day	String (13)		Gas Day
	UTCPeriodIni	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day Begin
	UTCPeriodEnd	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day End
	GRMS	String(20)		Exit Point Identification Code (CUI coding cheme)
	GCV	Double (8.6)		GCV of gás – kWh/m3
	LastModified	String (16)	yyyy-mm-dd hh:mm	Record's timestamp (local time)

### Error codes and descriptions

Code	Description

### Response Example

#### Success

```

<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <Day>(...)</Day>
      <UTCPeriodIni>(...)</ UTCPeriodIni>
      <UTCPeriodEnd>(...)</UTCPeriodEnd>
      <GRMS>(...)</GRMS >
      <GCV>(...)</GCV>
      <LastModified>(...)</LastModified>
    </Item>
    <Item>
      <Day>(...)</Day>
      <UTCPeriodIni>(...)</ UTCPeriodIni>
      <UTCPeriodEnd>(...)</UTCPeriodEnd>
      <GRMS>(...)</GRMS >
      <GCV>(...)</GCV>
      <LastModified>(...)</LastModified>
    </Item>
  </Items>
</Root>

```



## 4.1.4.6 Load

### 4.1.4.6.1 Type : NG\_GetLoadForecast

#### Description

Total Load Forecast.

#### Response definition

	Field	Type (size)	Format	Comments
<b>Response Definition</b>	Day	String (13)		Gas Day
	UTCPeriodIni	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day Begin
	UTCPeriodEnd	String (17)	yyyy-mm-dd'T'hh:mm'Z'	UTC Gas Day End
	ConventLoad	Double (10.3)		Conventional Load Forecast MWh
	PEROLoad	Double (10.3)		Electricity Generation Load Forecast MWh
	LastModified	String (16)	yyyy-mm-dd hh:mm	Record's timestamp (local time)

#### Error codes and descriptions

Code	Description

#### Response Example

##### Success

```
<?xml version="1.0" encoding="utf-8" ?>
<Root>
  <Items>
    <Item>
      <Day>(...)</Day>
      <UTCPeriodIni>(...)</ UTCPeriodIni>
      <UTCPeriodEnd>(...)</UTCPeriodEnd>
      <ConventLoad>(...)</ConventLoad >
      <PEROLoad>(...)</PEROLoad>
```

```
        <LastModified>(...)</LastModified>
    </Item>
    <Item>
        <Day>(...)</Day>
        <UTCPeriodIni>(...)</ UTCPeriodIni>
        <UTCPeriodEnd>(...)</UTCPeriodEnd>
        <ConventLoad>(...)</ConventLoad >
        <PEROLoad>(...)</PEROLoad>
        <LastModified>(...)</LastModified>
    </Item>
</Items>
</Root>
```

## 5 Additional comments / notes