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## Table of Contents

1	Web service „Berliner StromApp“ smeterEngine.....	1
1.1	Requesting Data from Network Control Data.....	1
1.1.1	Response XML from district “Spandau”.....	4
1.1.2	Response XML from Berlin.....	5
1.2	Weather and Astronomical Data.....	7
1.2.1	Response XML.....	8
1.3	SmeterEngine Response Codes.....	16

## 1 Web service „Berliner StromApp“ smeterEngine

This document is a technical description of the Web service "Berlin StromApp" from smeterEngine. The Web service is provided for Stromnetz Berlin GmbH and Stromnetz Hamburg GmbH. The imprint can be reached at the following link.

<https://www.stromnetz-berlin.de/de/impressum.htm>

### 1.1 Requesting Data from Network Control Data

This is an XML-over-HTTP based web service under the URL  
<https://www.vattenfall.de/SmeterEngine/networkcontrol> .

To request data send an XML document like the following via POST:

Example to get data from district “Spandau”:

```
<smeterengine>
  <scale>DAY</scale>
  <city>BERLIN</city>
  <district name='Spandau'>
    <time_period begin="2013-06-05 00:00:00" end="2013-06-12 23:59:59" time_zone='CET'/>
  </district>
</smeterengine>
```

Example to get data from Berlin:

```
<smeterengine>
  <scale>DAY</scale>
  <city>BERLIN</city>
  <district>
    <time_period begin="2013-06-12 15:40:00" end="2013-06-12 17:00:00" time_zone='CET'/>
  </district>
</smeterengine>
```

Element	Cardinality	Description
<smeterengine>	Root	The root element of the request
<scale>	required n = 1	Once mandatory element that specifies the granularity with which the data is returned. Only fixed values from the following list are:  day: Day (Result will be Quarter-hour values) week: Weekly (Result will be one value per week) month: Month (Result will be one value per month) year: Year (Result will be one value per year)  Example: <scale>year</ scale>
<city>	required n = 1	City. Only fixed values from the following list are: BERLIN HAMBURG
<district name=“Pankow”>	required n=1	District. Only fixed values from the following list are: Pankow Lichtenberg Marzahn-Hellersdorf Treptow-Koepenick Neukoelln Friedrichshain-Kreuzberg Mitte Tempelhof-Schöneberg Steglitz-Zehlendorf Charlottenburg-Wilmersdorf Reinickendorf Spandau  To get the Information of Berlin in total you have to use this expression: <district>  Required is the following sub-element: <time_period begin=“yyyy-MM-dd hh:mm:ss” end=“yyyy-MM-dd hh:mm:ss” time_zone=‘CET’> CET stands for Central European Time

Vattenfall Europe Information Services

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**Web Service “Berliner StromApp”**

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The response will include average load values for generation (<generation>), total consumption (<usage>) and feeded energy from outside Berlin (<feed>). In addition the response will include the measured consumption of high voltage customers (<key-account-usage>). The total consumption covers the consumption of high voltage customers.

<generation> + <feed> = <usage>

<key-account-usage> + not measured consumption = <usage>

### 1.1.1 Response XML from district “Spandau”

The following is a descriptive example of the returned response message.

```
<?xml version='1.0' encoding='UTF-8'?>
<smeterengine>
  <scale>DAY</scale>
  <district name="Spandau ">
    <period begin="2013-06-12T15:40:00+02:00" end="2013-06-12T16:20:00+02:00">
      <districtTimestampData value="2013-06-12T15:45:00+02:00">
        <usage>130.851050901</usage>
        <generation>0</generation>
        <feed>152.5319</feed>
        <key-account-usage>0</key-account-usage>
      </districtTimestampData>
      <districtTimestampData value="2013-06-12T16:00:00+02:00">
        <usage>131.176623060</usage>
        <generation>0</generation>
        <feed>152.7169</feed>
        <key-account-usage>0</key-account-usage>
      </districtTimestampData>
      <districtTimestampData value="2013-06-12T16:15:00+02:00">
        <usage>132.103329386</usage>
        <generation>0</generation>
        <feed>153.479</feed>
        <key-account-usage>0</key-account-usage>
      </districtTimestampData>
    </period>
  </district>
</smeterengine>
```

## 1.1.2 Response XML from Berlin

```
<?xml version='1.0' encoding='UTF-8'?>
<smeterengine>
  <scale>DAY</scale>
  <district>
    <period begin="2013-06-12T15:30:00+02:00" end="2013-06-12T17:00:00+02:00">
      <districtTimestampData value="2013-06-12T15:45:00+02:00">
        <usage>1927.265688146</usage>
        <generation>354.84988</generation>
        <feed>1572.4182</feed>
        <key-account-usage>112.8332</key-account-usage>
      </districtTimestampData>
      <districtTimestampData value="2013-06-12T16:00:00+02:00">
        <usage>1920.80933799</usage>
        <generation>342.75334</generation>
        <feed>1578.0563</feed>
        <key-account-usage>114.1257</key-account-usage>
      </districtTimestampData>
      <districtTimestampData value="2013-06-12T16:15:00+02:00">
        <usage>1916.627276423</usage>
        <generation>344.28434</generation>
        <feed>1572.3472</feed>
        <key-account-usage>114.3563</key-account-usage>
      </districtTimestampData>
      <districtTimestampData value="2013-06-12T16:30:00+02:00">
        <usage>1911.552484746</usage>
        <generation>356.02694</generation>
        <feed>1555.5181</feed>
        <key-account-usage>114.1664</key-account-usage>
      </districtTimestampData>
      <districtTimestampData value="2013-06-12T16:45:00+02:00">
        <usage>1909.113193008</usage>
        <generation>364.78024</generation>
        <feed>1544.3303</feed>
      </districtTimestampData>
    </period>
  </district>
</smeterengine>
```

```

    <key-account-usage>117.309</key-account-usage>
  </districtTimestampData>
</period>
</district>
</smeterengine>
  
```

Element	Cardinality	Description
<smeterengine>	Root	The root element of the response contains an attribute of the date of the request
<scale>	required n = 1	The value is the same as in the request
<district>	required n=1	<p>The value is the same as in the request</p> <p>Allowed are the following sub-elements:</p> <pre> &lt;period begin="yyyy-MM-dd hh:mm:ss" end="yyyy-MM-dd hh:mm:ss"&gt; &lt;districtTimestampData value=" yyyy-MM-dd hh:mm:ss"&gt; &lt;usage&gt; total used power in MW &lt;generation&gt; total generated power in MW &lt;feed&gt; total feeded power in MW &lt;key-account-usage&gt; total used power of high voltage customers in MW           </pre>

## 1.2 Weather and Astronomical Data

This is an XML-over-HTTP based web service under the URL  
<https://www.vattenfall.de/SmeterEngine/energyProjection>.

POST:

```
<smeterengine start="2013-06-12T09:00:00" end="2013-06-12T11:00:00">
  <cities>
    <city>BERLIN</city>
    <latitude>52.30</latitude>
    <longitude>13.25</longitude>
  </cities>
</smeterengine>
```

Element	Cardinality	Description
<smeterengine>	Root	The root element of the request.  Required are the following attributes:  start="YYYY-MM-DDTHH:MI:SS" end="YYYY-MM-DDTHH:MI:SS"
<cities>	required  n = 1	
<city>	required  n = 1	City. Only fixed values from the following list are: BERLIN HAMBURG
<latitude>	required  n = 1	Latitude of Berlin.
<longitude>	required  n = 1	Longitude of Berlin.

## 1.2.1 Response XML

The following is a descriptive example of the returned response message.

```
<?xml version='1.0' encoding='UTF-8'?>
<smeterengine>
  <success>true</success>
  <errorCode>0</errorCode>
  <energyProjectionCityData>
    <city>
      <city>BERLIN</city>
      <latitude>52.30</latitude>
      <longitude>13.25</longitude>
    </city>
    <energyProjectionDistrictData>
      <district>berlin-mitte</district>
      <energyProjectionTimeData>
        <date>2013-06-12T09:00:00+02:00</date>
        <solarProjection>0.02491</solarProjection>
        <solarProjectionForecast>0.04089</solarProjectionForecast>
        <windProjection>0</windProjection>
        <windProjectionForecast>0</windProjectionForecast>
        <restProjection>2.59432</restProjection>
      </energyProjectionTimeData>
      <energyProjectionTimeData>
        <date>2013-06-12T10:00:00+02:00</date>
        <solarProjection>0.04371</solarProjection>
        <solarProjectionForecast>0.05189</solarProjectionForecast>
        <windProjection>0</windProjection>
        <windProjectionForecast>0</windProjectionForecast>
        <restProjection>2.59432</restProjection>
      </energyProjectionTimeData>
      <energyProjectionTimeData>
        <date>2013-06-12T11:00:00+02:00</date>
        <solarProjection>0.04794</solarProjection>
        <solarProjectionForecast>0.05189</solarProjectionForecast>
        <windProjection>0</windProjection>
        <windProjectionForecast>0</windProjectionForecast>
        <restProjection>2.59432</restProjection>
      </energyProjectionTimeData>
    </energyProjectionDistrictData>
    <energyProjectionDistrictData>
      <district>charlottenburg-wilmersdorf</district>
      <energyProjectionTimeData>
        <date>2013-06-12T09:00:00+02:00</date>
        <solarProjection>0.03684</solarProjection>
        <solarProjectionForecast>0.06047</solarProjectionForecast>
        <windProjection>0</windProjection>
        <windProjectionForecast>0</windProjectionForecast>
        <restProjection>0.67243</restProjection>
      </energyProjectionTimeData>
  </energyProjectionCityData>
</smeterengine>
```



```
<energyProjectionTimeData>
  <date>2013-06-12T10:00:00+02:00</date>
  <solarProjection>0.06464</solarProjection>
  <solarProjectionForeacast>0.07673</solarProjectionForeacast>
  <windProjection>0</windProjection>
  <windProjectionForeacast>0</windProjectionForeacast>
  <restProjection>0.67243</restProjection>
</energyProjectionTimeData>
<energyProjectionTimeData>
  <date>2013-06-12T11:00:00+02:00</date>
  <solarProjection>0.07089</solarProjection>
  <solarProjectionForeacast>0.07673</solarProjectionForeacast>
  <windProjection>0</windProjection>
  <windProjectionForeacast>0</windProjectionForeacast>
  <restProjection>0.67243</restProjection>
</energyProjectionTimeData>
</energyProjectionDistrictData>
<energyProjectionDistrictData>
  <district>friedrichshain-kreuzberg</district>
  <energyProjectionTimeData>
    <date>2013-06-12T09:00:00+02:00</date>
    <solarProjection>0.02518</solarProjection>
    <solarProjectionForeacast>0.04133</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.26956</restProjection>
  </energyProjectionTimeData>
  <energyProjectionTimeData>
    <date>2013-06-12T10:00:00+02:00</date>
    <solarProjection>0.04418</solarProjection>
    <solarProjectionForeacast>0.05244</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.26956</restProjection>
  </energyProjectionTimeData>
  <energyProjectionTimeData>
    <date>2013-06-12T11:00:00+02:00</date>
    <solarProjection>0.04845</solarProjection>
    <solarProjectionForeacast>0.05244</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.26956</restProjection>
  </energyProjectionTimeData>
</energyProjectionDistrictData>
<energyProjectionDistrictData>
  <district>lichtenberg</district>
  <energyProjectionTimeData>
    <date>2013-06-12T09:00:00+02:00</date>
    <solarProjection>0.04823</solarProjection>
    <solarProjectionForeacast>0.07917</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.31349</restProjection>
  </energyProjectionTimeData>
```

```
<energyProjectionTimeData>
  <date>2013-06-12T10:00:00+02:00</date>
  <solarProjection>0.08463</solarProjection>
  <solarProjectionForeacast>0.10046</solarProjectionForeacast>
  <windProjection>0</windProjection>
  <windProjectionForeacast>0</windProjectionForeacast>
  <restProjection>0.31349</restProjection>
</energyProjectionTimeData>
<energyProjectionTimeData>
  <date>2013-06-12T11:00:00+02:00</date>
  <solarProjection>0.09282</solarProjection>
  <solarProjectionForeacast>0.10046</solarProjectionForeacast>
  <windProjection>0</windProjection>
  <windProjectionForeacast>0</windProjectionForeacast>
  <restProjection>0.31349</restProjection>
</energyProjectionTimeData>
</energyProjectionDistrictData>
<energyProjectionDistrictData>
  <district>marzahn-hellersdorf</district>
  <energyProjectionTimeData>
    <date>2013-06-12T09:00:00+02:00</date>
    <solarProjection>0.11051</solarProjection>
    <solarProjectionForeacast>0.1814</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.04644</restProjection>
  </energyProjectionTimeData>
  <energyProjectionTimeData>
    <date>2013-06-12T10:00:00+02:00</date>
    <solarProjection>0.19391</solarProjection>
    <solarProjectionForeacast>0.23018</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.04644</restProjection>
  </energyProjectionTimeData>
  <energyProjectionTimeData>
    <date>2013-06-12T11:00:00+02:00</date>
    <solarProjection>0.21267</solarProjection>
    <solarProjectionForeacast>0.23018</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.04644</restProjection>
  </energyProjectionTimeData>
</energyProjectionDistrictData>
<energyProjectionDistrictData>
  <district>neukoelln</district>
  <energyProjectionTimeData>
    <date>2013-06-12T09:00:00+02:00</date>
    <solarProjection>0.04717</solarProjection>
    <solarProjectionForeacast>0.07743</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>1.7166</restProjection>
  </energyProjectionTimeData>
```

```
<energyProjectionTimeData>
  <date>2013-06-12T10:00:00+02:00</date>
  <solarProjection>0.08277</solarProjection>
  <solarProjectionForeacast>0.09826</solarProjectionForeacast>
  <windProjection>0</windProjection>
  <windProjectionForeacast>0</windProjectionForeacast>
  <restProjection>1.7166</restProjection>
</energyProjectionTimeData>
<energyProjectionTimeData>
  <date>2013-06-12T11:00:00+02:00</date>
  <solarProjection>0.09078</solarProjection>
  <solarProjectionForeacast>0.09826</solarProjectionForeacast>
  <windProjection>0</windProjection>
  <windProjectionForeacast>0</windProjectionForeacast>
  <restProjection>1.7166</restProjection>
</energyProjectionTimeData>
</energyProjectionDistrictData>
<energyProjectionDistrictData>
  <district>pankow</district>
  <energyProjectionTimeData>
    <date>2013-06-12T09:00:00+02:00</date>
    <solarProjection>0.11236</solarProjection>
    <solarProjectionForeacast>0.18444</solarProjectionForeacast>
    <windProjection>0.52533</windProjection>
    <windProjectionForeacast>0.21889</windProjectionForeacast>
    <restProjection>2.14385</restProjection>
  </energyProjectionTimeData>
  <energyProjectionTimeData>
    <date>2013-06-12T10:00:00+02:00</date>
    <solarProjection>0.19716</solarProjection>
    <solarProjectionForeacast>0.23405</solarProjectionForeacast>
    <windProjection>0.52533</windProjection>
    <windProjectionForeacast>0.30644</windProjectionForeacast>
    <restProjection>2.14385</restProjection>
  </energyProjectionTimeData>
  <energyProjectionTimeData>
    <date>2013-06-12T11:00:00+02:00</date>
    <solarProjection>0.21624</solarProjection>
    <solarProjectionForeacast>0.23405</solarProjectionForeacast>
    <windProjection>0.52533</windProjection>
    <windProjectionForeacast>0.30644</windProjectionForeacast>
    <restProjection>2.14385</restProjection>
  </energyProjectionTimeData>
</energyProjectionDistrictData>
<energyProjectionDistrictData>
  <district>reinickendorf</district>
  <energyProjectionTimeData>
    <date>2013-06-12T09:00:00+02:00</date>
    <solarProjection>0.04903</solarProjection>
    <solarProjectionForeacast>0.08048</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>1.11656</restProjection>
  </energyProjectionTimeData>
```

```
<energyProjectionTimeData>
  <date>2013-06-12T10:00:00+02:00</date>
  <solarProjection>0.08603</solarProjection>
  <solarProjectionForeacast>0.10212</solarProjectionForeacast>
  <windProjection>0</windProjection>
  <windProjectionForeacast>0</windProjectionForeacast>
  <restProjection>1.11656</restProjection>
</energyProjectionTimeData>
<energyProjectionTimeData>
  <date>2013-06-12T11:00:00+02:00</date>
  <solarProjection>0.09435</solarProjection>
  <solarProjectionForeacast>0.10212</solarProjectionForeacast>
  <windProjection>0</windProjection>
  <windProjectionForeacast>0</windProjectionForeacast>
  <restProjection>1.11656</restProjection>
</energyProjectionTimeData>
</energyProjectionDistrictData>
<energyProjectionDistrictData>
  <district>spandau</district>
  <energyProjectionTimeData>
    <date>2013-06-12T09:00:00+02:00</date>
    <solarProjection>0.06758</solarProjection>
    <solarProjectionForeacast>0.11093</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.52994</restProjection>
  </energyProjectionTimeData>
  <energyProjectionTimeData>
    <date>2013-06-12T10:00:00+02:00</date>
    <solarProjection>0.11858</solarProjection>
    <solarProjectionForeacast>0.14076</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.52994</restProjection>
  </energyProjectionTimeData>
  <energyProjectionTimeData>
    <date>2013-06-12T11:00:00+02:00</date>
    <solarProjection>0.13005</solarProjection>
    <solarProjectionForeacast>0.14076</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.52994</restProjection>
  </energyProjectionTimeData>
</energyProjectionDistrictData>
<energyProjectionDistrictData>
  <district>steglitz-zehlendorf</district>
  <energyProjectionTimeData>
    <date>2013-06-12T09:00:00+02:00</date>
    <solarProjection>0.04956</solarProjection>
    <solarProjectionForeacast>0.08135</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.52605</restProjection>
  </energyProjectionTimeData>
```

```
<energyProjectionTimeData>
  <date>2013-06-12T10:00:00+02:00</date>
  <solarProjection>0.08696</solarProjection>
  <solarProjectionForeacast>0.10322</solarProjectionForeacast>
  <windProjection>0</windProjection>
  <windProjectionForeacast>0</windProjectionForeacast>
  <restProjection>0.52605</restProjection>
</energyProjectionTimeData>
<energyProjectionTimeData>
  <date>2013-06-12T11:00:00+02:00</date>
  <solarProjection>0.09537</solarProjection>
  <solarProjectionForeacast>0.10322</solarProjectionForeacast>
  <windProjection>0</windProjection>
  <windProjectionForeacast>0</windProjectionForeacast>
  <restProjection>0.52605</restProjection>
</energyProjectionTimeData>
</energyProjectionDistrictData>
<energyProjectionDistrictData>
  <district>tempelhof-schoneberg</district>
  <energyProjectionTimeData>
    <date>2013-06-12T09:00:00+02:00</date>
    <solarProjection>0.05274</solarProjection>
    <solarProjectionForeacast>0.08657</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.6622</restProjection>
  </energyProjectionTimeData>
  <energyProjectionTimeData>
    <date>2013-06-12T10:00:00+02:00</date>
    <solarProjection>0.09254</solarProjection>
    <solarProjectionForeacast>0.10985</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.6622</restProjection>
  </energyProjectionTimeData>
  <energyProjectionTimeData>
    <date>2013-06-12T11:00:00+02:00</date>
    <solarProjection>0.10149</solarProjection>
    <solarProjectionForeacast>0.10985</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>0.6622</restProjection>
  </energyProjectionTimeData>
</energyProjectionDistrictData>
<energyProjectionDistrictData>
  <district>treptow-koepenick</district>
  <energyProjectionTimeData>
    <date>2013-06-12T09:00:00+02:00</date>
    <solarProjection>0.10388</solarProjection>
    <solarProjectionForeacast>0.17052</solarProjectionForeacast>
    <windProjection>0</windProjection>
    <windProjectionForeacast>0</windProjectionForeacast>
    <restProjection>2.0242</restProjection>
  </energyProjectionTimeData>
```

```
<energyProjectionTimeData>
  <date>2013-06-12T10:00:00+02:00</date>
  <solarProjection>0.18228</solarProjection>
  <solarProjectionForeacast>0.21638</solarProjectionForeacast>
  <windProjection>0</windProjection>
  <windProjectionForeacast>0</windProjectionForeacast>
  <restProjection>2.0242</restProjection>
</energyProjectionTimeData>
<energyProjectionTimeData>
  <date>2013-06-12T11:00:00+02:00</date>
  <solarProjection>0.19992</solarProjection>
  <solarProjectionForeacast>0.21638</solarProjectionForeacast>
  <windProjection>0</windProjection>
  <windProjectionForeacast>0</windProjectionForeacast>
  <restProjection>2.0242</restProjection>
</energyProjectionTimeData>
</energyProjectionDistrictData>
<astronomicData>
  <day>2013-06-12T09:00:00+02:00</day>
  <sunrise>2013-06-12T04:42:23+02:00</sunrise>
  <sundown>2013-06-12T21:31:42+02:00</sundown>
</astronomicData>
<energyProjectionTimeData>
  <date>2013-06-12T09:00:00+02:00</date>
  <solarProjection>0.72799</solarProjection>
  <solarProjectionForeacast>1.19498</solarProjectionForeacast>
  <windProjection>0.52533</windProjection>
  <windProjectionForeacast>0.21889</windProjectionForeacast>
  <restProjection>12.61564</restProjection>
</energyProjectionTimeData>
<energyProjectionTimeData>
  <date>2013-06-12T10:00:00+02:00</date>
  <solarProjection>1.27739</solarProjection>
  <solarProjectionForeacast>1.51634</solarProjectionForeacast>
  <windProjection>0.52533</windProjection>
  <windProjectionForeacast>0.30644</windProjectionForeacast>
  <restProjection>12.61564</restProjection>
</energyProjectionTimeData>
<energyProjectionTimeData>
  <date>2013-06-12T11:00:00+02:00</date>
  <solarProjection>1.40097</solarProjection>
  <solarProjectionForeacast>1.51634</solarProjectionForeacast>
  <windProjection>0.52533</windProjection>
  <windProjectionForeacast>0.30644</windProjectionForeacast>
  <restProjection>12.61564</restProjection>
</energyProjectionTimeData>
</energyProjectionCityData>
</smeterengine>
```

Element	Cardinality	Description
<smeterengine>	Root	The root element of the response
<success>	required n = 1	
<energyProjectionDistrictData>	required n=1...n	Energy projection values for every district in Berlin  Allowed are the following sub-elements: <district> District <energyProjectionTimeData>
<energyProjectionTimeData>	required n=1...n	Allowed are the following sub-elements:  <date> <solarProjection> total power in MW used measured solar radiation in hourly values  <solarProjectionForecast> total power in MW used forecasted solar radiation in hourly values  <windProjection> total power in MW used measured wind speed in hourly values  <windProjectionForecast> total power in MW used forecasted wind speed in hourly values  <restProjection> total power in MW in hourly values
<energyProjectionTimeData>	required n=1	Energy projection values for Berlin.  Allowed are sub-elements like in <energyProjectionDistrictData>
<astronomicData>	required n=1	Astronomic data for Berlin  Allowed are the following sub-elements: <day> <sunrise> <sundown>

### 1.3 SmeterEngine Response Codes

Normally, the SmeterEngine will send a 200 OK for a successful request. But sometimes a request is not successful. In that case, the response code could be one of the following:

204	No Content	You requested data outside of the contract period. <sup>1</sup>
206	Partial Content	You requested data that is partly outside of the contract period. <sup>2</sup>
400	Bad Request	Your request XML is not correct. Maybe you omit required elements or attributes.
401	Unauthorized	Access to the web service was denied. In most cases, the session isn't valid any more (you remember: Any session will be invalid two hours after you start the session).
404	Not Found	You submitted an access key that is not known.
423	Locked	The meter point you request data for, is assigned to a client/company that is not active.
500	Server Error	Internal technical error.

Especially in the last case, the SmeterEngine will contain a header line like the following:

Smeter-Engine-Error-ID: 2013-06-03T14:11:47+0000

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<sup>1</sup> Using the Internet Explorer 8 and Flash it is giving a status code 204 (No content). Therefore in that case Code 200 (OK) will be delivered.

<sup>2</sup> Using the Internet Explorer 8 and Flash it is giving a status code 206 (Partial content). Therefore in that case Code 200 (OK) will be delivered.