



European Network of  
Transmission System Operators  
for Electricity

---

**SHORT MEDIUM TERM ADEQUACY  
PROGNOSIS DOCUMENT  
UML MODEL AND SCHEMA**

---

2021-04-21  
APPROVED DOCUMENT  
VERSION 1.0

2

## Table of Contents

3	1	Objective .....	6
4	2	Short medium term adequacy prognosis model .....	7
5	2.1	Short medium term adequacy prognosis contextual model .....	7
6	2.1.1	Overview of the model .....	7
7	2.1.2	IsBasedOn relationships from the European style market	
8		profile .....	8
9	2.2	Short medium term adequacy prognosis assembly model .....	9
10	2.2.1	Overview of the model .....	9
11	2.2.2	IsBasedOn relationships from the European style market	
12		profile .....	10
13	2.2.3	Detailed Short medium term adequacy prognosis assembly	
14		model .....	10
15	2.2.3.1	ShortMediumTermAdequacyPrognosis_MarketDocument	
16		root class .....	10
17	2.2.3.2	Percentile_Quantity .....	11
18	2.2.3.3	Point .....	11
19	2.2.3.4	Series_Period .....	12
20	2.2.3.5	TimeSeries .....	13
21	2.2.4	Datatypes .....	15
22	2.2.5	ShortMediumTermAdequacyPrognosis_MarketDocument XML	
23		schema .....	16
24	2.2.6	Short Medium Term Adequacy Prognosis XML schema .....	17
25	<b>List of figures</b>		
26	Figure 1 - Short medium term adequacy prognosis contextual model .....		7
27	Figure 2 - Short medium term adequacy prognosis assembly model .....		9
28	Figure 3 - ShortMediumTermAdequacyPrognosis_MarketDocument schema structure .....		16
29	<b>List of tables</b>		
30	Table 1 - IsBasedOn dependency .....		8
31	Table 2 - IsBasedOn dependency .....		10
32	Table 3 - Attributes of Short medium term adequacy prognosis assembly		
33	model::ShortMediumTermAdequacyPrognosis_MarketDocument .....		10
34	Table 4 - Association ends of Short medium term adequacy prognosis assembly		
35	model::ShortMediumTermAdequacyPrognosis_MarketDocument with other classes .....		11
36	Table 5 - Attributes of Short medium term adequacy prognosis assembly		
37	model::Percentile_Quantity .....		11
38	Table 6 - Attributes of Short medium term adequacy prognosis assembly model::Point .....		12
39	Table 7 - Association ends of Short medium term adequacy prognosis assembly		
40	model::Point with other classes .....		12
41	Table 8 - Attributes of Short medium term adequacy prognosis assembly		
42	model::Series_Period .....		12
43	Table 9 - Association ends of Short medium term adequacy prognosis assembly		
44	model::Series_Period with other classes .....		13

45	Table 10 - Attributes of Short medium term adequacy prognosis assembly	
46	model::TimeSeries .....	13
47	Table 11 - Association ends of Short medium term adequacy prognosis assembly	
48	model::TimeSeries with other classes .....	14
49		

50

## Copyright notice:

51 **Copyright © ENTSO-E. All Rights Reserved.**

52 This document and its whole translations may be copied and furnished to others, and derivative  
53 works that comment on or otherwise explain it or assist in its implementation may be prepared,  
54 copied, published and distributed, in whole or in part, without restriction of any kind, provided  
55 that the above copyright notice and this paragraph are included on all such copies and  
56 derivative works. However, this document itself may not be modified in any way, except for  
57 literal and whole translation into languages other than English and under all circumstances, the  
58 copyright notice or references to ENTSO-E may not be removed.

59 This document and the information contained herein is provided on an "as is" basis.

60 **ENTSO-E DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT**  
61 **LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT**  
62 **INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR**  
63 **FITNESS FOR A PARTICULAR PURPOSE.**

64

## Maintenance notice:

65 **This document is maintained by the ENTSO-E CIM EG. Comments or remarks are to be**  
66 **provided at [cim@entsoe.eu](mailto:cim@entsoe.eu)**

67

## Revision History

Version	Release	Date	Comments
1	0	2021-04-21	Approved by SOC

68

## 69 **1 Objective**

70 The purpose of this document is to provide the contextual and assembly UML models and the  
71 schema of the Short Medium Term Adequacy Prognosis document.

72 The schema of the Short Medium Term Adequacy Prognosis document could be used in various  
73 business processes.

74 It is not the purpose of this document to describe all the use cases, sequence diagrams,  
75 business processes, etc. for which this schema is to be used.

76 This document shall only be referenced in an implementation guide of a specific business  
77 process. The content of the business process implementation guide shall be as follows:

- 78 • Description of the business process;
- 79 • Use case of the business process;
- 80 • Sequence diagrams of the business process;
- 81 • List of the schema (XSD) to be used in the business process and versions of the  
82 schema;
- 83 • For each schema, dependency tables providing the necessary information for the  
84 generation of the XML instances, i.e. when the optional attributes are to be used, which  
85 codes from which ENTSO-E codelist are to be used.

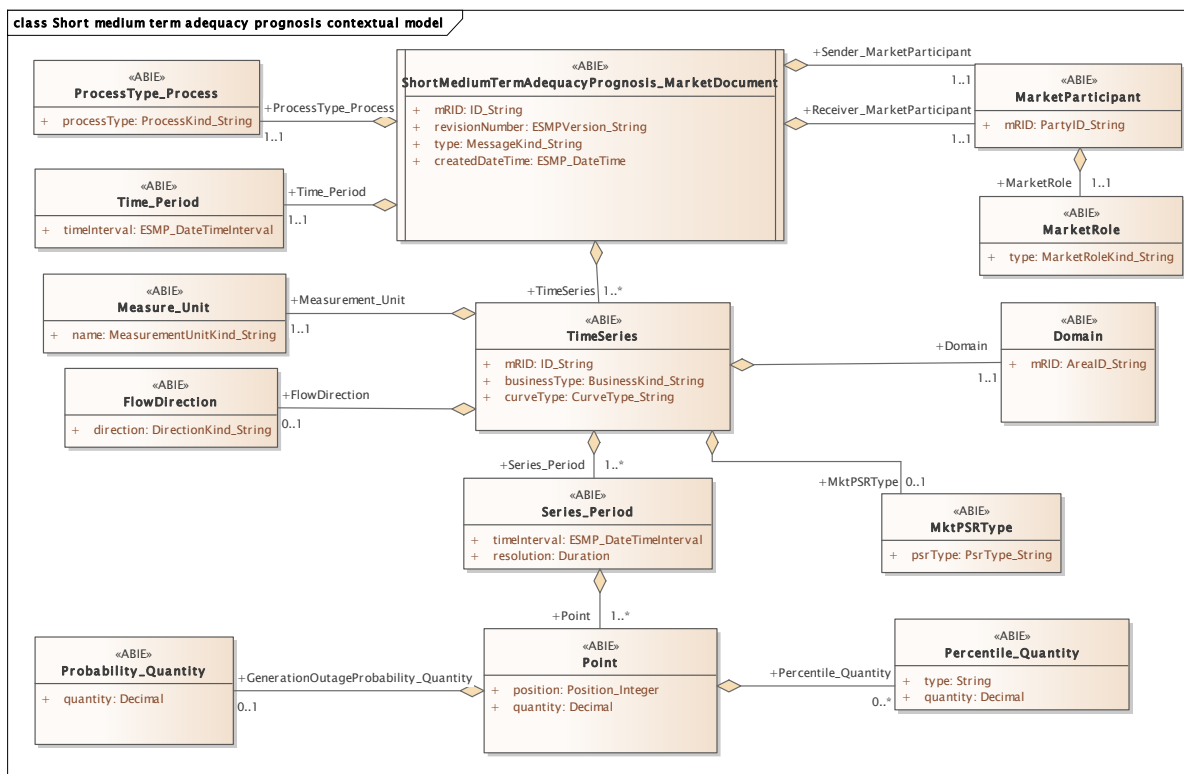
86

87 **2 Short medium term adequacy prognosis model**

88 **2.1 Short medium term adequacy prognosis contextual model**

89 **2.1.1 Overview of the model**

90 Figure 1 - Short medium term adequacy prognosis contextual model shows the model.



91

92

93

**Figure 1 - Short medium term adequacy prognosis contextual model**

94

95 **2.1.2 IsBasedOn relationships from the European style market profile**

96 Table 1 - IsBasedOn dependency shows the traceability dependency of the classes used in this  
97 package towards the upper level.

98 **Table 1 - IsBasedOn dependency**

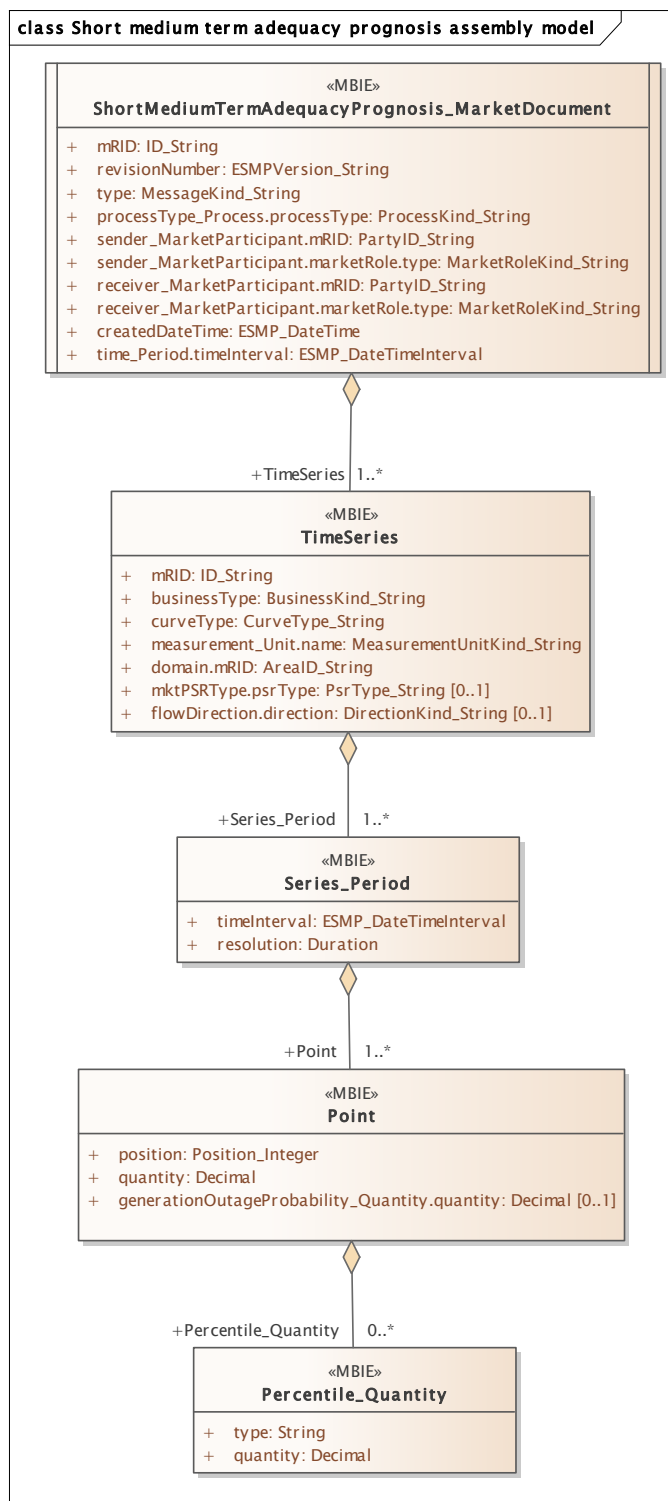
Name	Complete IsBasedOn Path
Domain	TC57CIM::IEC62325::MarketManagement::Domain
FlowDirection	TC57CIM::IEC62325::MarketManagement::FlowDirection
MarketParticipant	TC57CIM::IEC62325::MarketCommon::MarketParticipant
MarketRole	TC57CIM::IEC62325::MarketCommon::MarketRole
Measure_Unit	TC57CIM::IEC62325::MarketManagement::Unit
MktPSRType	TC57CIM::IEC62325::MarketManagement::MktPSRType
Percentile_Quantity	TC57CIM::IEC62325::MarketManagement::Quantity
Point	TC57CIM::IEC62325::MarketManagement::Point
Probability_Quantity	TC57CIM::IEC62325::MarketManagement::Quantity
ProcessType_Process	TC57CIM::IEC62325::MarketManagement::Process
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
ShortMediumTermAdequacyPrognosis_MarketDocu ment	TC57CIM::IEC62325::MarketManagement::MarketDocu ment
Time_Period	TC57CIM::IEC62325::MarketManagement::Period
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

99

100



- 101
- 102 **2.2 Short medium term adequacy prognosis assembly model**
- 103 **2.2.1 Overview of the model**
- 104 Figure 2 - Short medium term adequacy prognosis assembly model Figure 2 shows the model.



105  
106 **Figure 2 - Short medium term adequacy prognosis assembly model**

107

108 **2.2.2 IsBasedOn relationships from the European style market profile**

109 Table 2 - IsBasedOn dependency shows the traceability dependency of the classes used in this  
110 package towards the upper level.

111 **Table 2 - IsBasedOn dependency**

Name	Complete IsBasedOn Path
Percentile_Quantity	TC57CIM::IEC62325::MarketManagement::Quantity
Point	TC57CIM::IEC62325::MarketManagement::Point
Series_Period	TC57CIM::IEC62325::MarketManagement::Period
ShortMediumTermAdequacyPrognosis_MarketDocument	TC57CIM::IEC62325::MarketManagement::MarketDocument
TimeSeries	TC57CIM::IEC62325::MarketManagement::TimeSeries

112

113 **2.2.3 Detailed Short medium term adequacy prognosis assembly model**

114 **2.2.3.1 ShortMediumTermAdequacyPrognosis\_MarketDocument root class**

115 An electronic document containing the information necessary to satisfy the requirements of a  
116 given business process.

117 Table 3 - Attributes of Short medium term adequacy prognosis assembly  
118 model::ShortMediumTermAdequacyPrognosis\_MarketDocument shows all attributes of  
119 ShortMediumTermAdequacyPrognosis\_MarketDocument.

120 **Table 3 - Attributes of Short medium term adequacy prognosis assembly  
121 model::ShortMediumTermAdequacyPrognosis\_MarketDocument**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	The unique identification of the document being exchanged within a business process flow.
1	[1..1]	revisionNumber ESMPVersion_String	The identification of the version that distinguishes one evolution of a document from another.
2	[1..1]	type MessageKind_String	The coded type of a document. The document type describes the principal characteristic of the document.
3	[1..1]	processType_Process.processType ProcessKind_String	The identification of the nature of process that the document addresses. --- The Process associated with an electronic document header that is valid for the whole document.
4	[1..1]	sender_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The document owner.
5	[1..1]	sender_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- The document owner. --- The role associated with a MarketParticipant.
6	[1..1]	receiver_MarketParticipant.mRID PartyID_String	The identification of a party in the energy market. --- The document recipient.
7	[1..1]	receiver_MarketParticipant.marketRole.type MarketRoleKind_String	The identification of the role played by a market player. --- The document recipient. --- The role associated with a MarketParticipant.

Order	mult.	Attribute name / Attribute type	Description
8	[1..1]	createdDateTime ESMP_DateTime	The date and time of the creation of the document.
9	[1..1]	time_Period.timeInterval ESMP_DateTimeInterval	The start and end date and time for a given interval. --- The time interval that is associated with an electronic document and which is valid for the whole document.

122

123 Table 4 - Association ends of Short medium term adequacy prognosis assembly  
124 model::ShortMediumTermAdequacyPrognosis\_MarketDocument with other classes shows all  
125 association ends of ShortMediumTermAdequacyPrognosis\_MarketDocument with other  
126 classes.

127 **Table 4 - Association ends of Short medium term adequacy prognosis assembly**  
128 **model::ShortMediumTermAdequacyPrognosis\_MarketDocument with other classes**

Order	mult.	Class name / Role	Description
10	[1..*]	TimeSeries TimeSeries	The time series that is associated with an electronic document. Association Based On: Short medium term adequacy prognosis contextual model::TimeSeries.TimeSeries[1..*] ----- Short medium term adequacy prognosis contextual model::ShortMediumTermAdequacyPrognosis_MarketDocument.[]

129

### 130 2.2.3.2 Percentile\_Quantity

131 The quantity attribute provides the information relative to the percentage level of quality of the  
132 prognosis quantity.

133 Table 5 - Attributes of Short medium term adequacy prognosis assembly  
134 model::Percentile\_Quantity shows all attributes of Percentile\_Quantity.

135 **Table 5 - Attributes of Short medium term adequacy prognosis assembly**  
136 **model::Percentile\_Quantity**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	type String	The description of the type of the quantity.
1	[1..1]	quantity Decimal	The quantity value. The association role provides the information about what is expressed.

137

### 138 2.2.3.3 Point

139 The identification of the values being addressed within a specific interval of time.

140 Table 6 - Attributes of Short medium term adequacy prognosis assembly model::PointTable 6  
141 shows all attributes of Point.

142 **Table 6 - Attributes of Short medium term adequacy prognosis assembly model::Point**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	position Position_Integer	A sequential value representing the relative position within a given time interval.
1	[1..1]	quantity Decimal	The principal quantity identified for a point.
2	[0..1]	generationOutageProbability_Quantity.quantity Decimal	The quantity value. The association role provides the information about what is expressed. --- The Quantity information associated with a given Point.

143

144 Table 7 - Association ends of Short medium term adequacy prognosis assembly model::Point  
145 with other classes shows all association ends of Point with other classes.

146 **Table 7 - Association ends of Short medium term adequacy prognosis assembly  
147 model::Point with other classes**

Order	mult.	Class name / Role	Description
3	[0..*]	Percentile_Quantity Percentile_Quantity	The percentile quantity value provided. Association Based On: Short medium term adequacy prognosis contextual model::Point.[] ----- Short medium term adequacy prognosis contextual model::Percentile_Quantity.Percentile_Quantity[0..*]

148

#### 149 **2.2.3.4 Series\_Period**

150 The identification of the period of time corresponding to a given time interval and resolution.

151 Table 8 - Attributes of Short medium term adequacy prognosis assembly model::Series\_Period  
152 shows all attributes of Series\_Period.

153 **Table 8 - Attributes of Short medium term adequacy prognosis assembly  
154 model::Series\_Period**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	timeInterval ESMP_DateTimeInterval	The start and end time of the period.
1	[1..1]	resolution Duration	The definition of the number of units of time that compose an individual step within a period.

155

156 Table 9 - Association ends of Short medium term adequacy prognosis assembly  
157 model::Series\_Period with other classes shows all association ends of Series\_Period with other  
158 classes.

159 **Table 9 - Association ends of Short medium term adequacy prognosis assembly**  
160 **model::Series\_Period with other classes**

Order	mult.	Class name / Role	Description
2	[1..*]	Point Point	The Point information associated with a given Series_Period.within a TimeSeries. Association Based On: Short medium term adequacy prognosis contextual model::Series_Period.[] ----- Short medium term adequacy prognosis contextual model::Point.Point[1..*]

161

162 **2.2.3.5 TimeSeries**

163 A set of time-ordered quantities being exchanged.

164 Table 10 - Attributes of Short medium term adequacy prognosis assembly model::TimeSeries  
165 shows all attributes of TimeSeries.

166 **Table 10 - Attributes of Short medium term adequacy prognosis assembly**  
167 **model::TimeSeries**

Order	mult.	Attribute name / Attribute type	Description
0	[1..1]	mRID ID_String	A unique identification of the time series.
1	[1..1]	businessType BusinessKind_String	The identification of the nature of the time series.
2	[1..1]	curveType CurveType_String	The identification of the coded representation of the type of curve being described.
3	[1..1]	measurement_Unit.name MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit of measure associated with the quantities in a TimeSeries.
4	[1..1]	domain.mRID AreaID_String	The unique identification of the domain. --- The domain associated with a TimeSeries.
5	[0..1]	mktPSRType.psrType PsrType_String	The coded type of a power system resource. --- The identification of the type of resource associated with a TimeSeries.
6	[0..1]	flowDirection.direction DirectionKind_String	The coded identification of the direction of energy flow. --- The flow direction associated with a TimeSeries.

168

169 Table 11 - Association ends of Short medium term adequacy prognosis assembly  
170 model::TimeSeries with other classes shows all association ends of TimeSeries with other  
171 classes.

172  
173

**Table 11 - Association ends of Short medium term adequacy prognosis assembly model::TimeSeries with other classes**

Order	mult.	Class name / Role	Description
7	[1..*]	Series_Period Series_Period	The time interval and resolution for a period associated with a TimeSeries. Association Based On: Short medium term adequacy prognosis contextual model::TimeSeries.[] ----- Short medium term adequacy prognosis contextual model::Series_Period.Series_Period[1..*]

174  
175

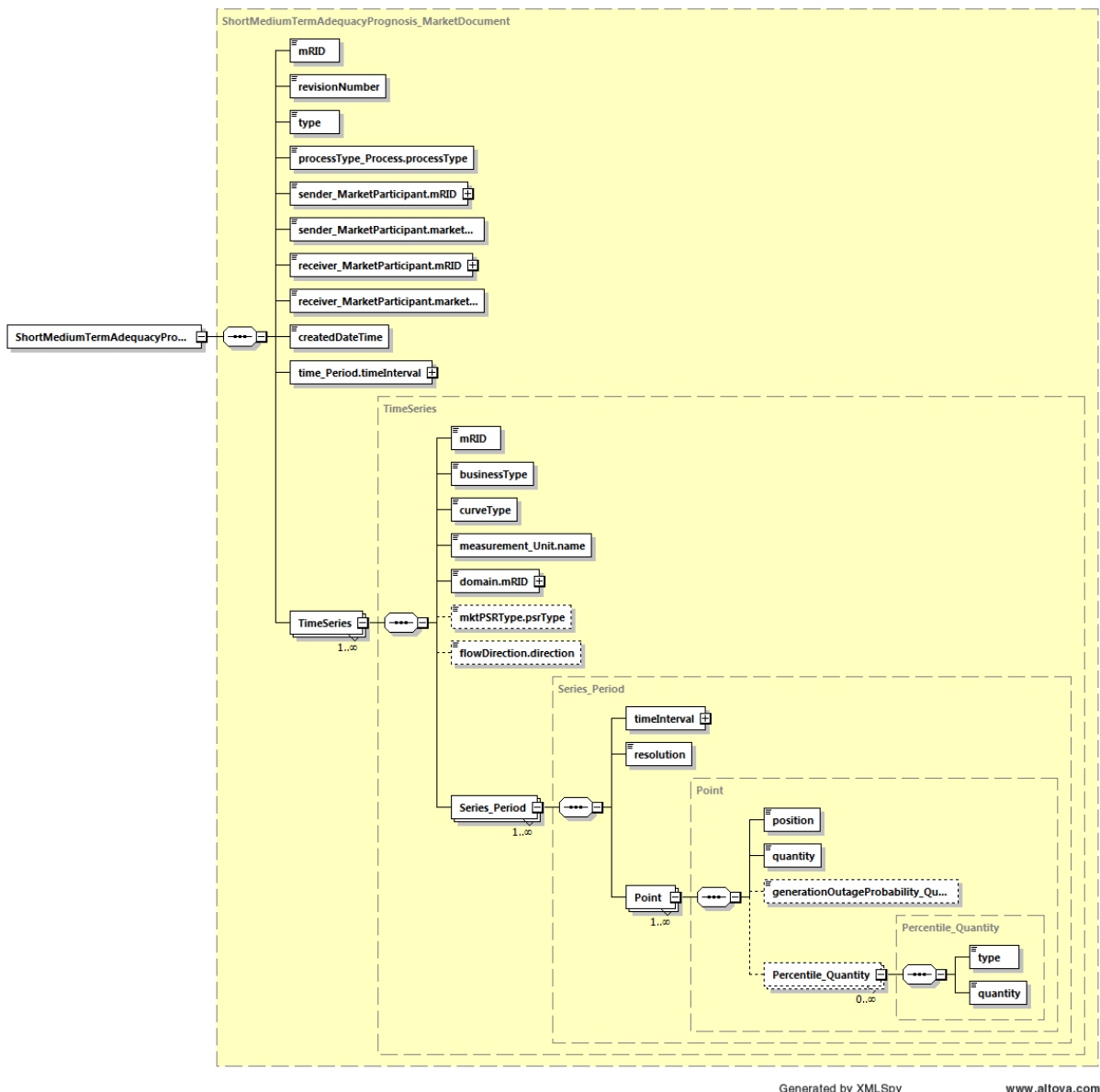
176

## 177 **2.2.4 Datatypes**

178 The list of datatypes used for the Short medium term adequacy prognosis assembly model is  
179 as follows:

- 180 • ESMP\_DateTimeInterval compound
- 181 • AreaID\_String datatype, codelist CodingSchemeTypeList
- 182 • BusinessKind\_String datatype, codelist BusinessTypeList
- 183 • CurveType\_String datatype, codelist CurveTypeList
- 184 • DirectionKind\_String datatype, codelist DirectionTypeList
- 185 • ESMP\_DateTime datatype
- 186 • ESMPVersion\_String datatype
- 187 • ID\_String datatype
- 188 • MarketRoleKind\_String datatype, codelist RoleTypeList
- 189 • MeasurementUnitKind\_String datatype, codelist UnitOfMeasureTypeList
- 190 • MessageKind\_String datatype, codelist MessageTypeList
- 191 • PartyID\_String datatype, codelist CodingSchemeTypeList
- 192 • Position\_Integer datatype
- 193 • ProcessKind\_String datatype, codelist ProcessTypeList
- 194 • PsrType\_String datatype, codelist AssetTypeList
- 195 • YMDHM\_DateTime datatype
- 196

197 **2.2.5 ShortMediumTermAdequacyPrognosis\_MarketDocument XML schema**



198

199

200

**Figure 3 - ShortMediumTermAdequacyPrognosis\_MarketDocument schema structure**

Generated by XMLSpy

www.altova.com



201

## 202 2.2.6 Short Medium Term Adequacy Prognosis XML schema

203 The schema to be used to validate XML instances is to be identified by:

204 urn:iec62325.351:tc57wg16:451-n:smtaprognosisdocument:1:0

205

206 `<?xml version="1.0" encoding="utf-8"?>`

207 `<xs:schema xmlns:ecl="urn:entsoe.eu:wgedi:codelists"`

208 `xmlns:sawsdl="http://www.w3.org/ns/sawsdl" xmlns="urn:iec62325.351:tc57wg16:451-`

209 `n:smtaprognosisdocument:1:0" xmlns:cimp="http://www.iec.ch/cimprofile"`

210 `xmlns:xs="http://www.w3.org/2001/XMLSchema"`

211 `targetNamespace="urn:iec62325.351:tc57wg16:451-n:smtaprognosisdocument:1:0"`

212 `elementFormDefault="qualified" attributeFormDefault="unqualified">`

213 `<xs:import namespace="urn:entsoe.eu:wgedi:codelists" schemaLocation="urn-`

214 `entsoe-eu-wgedi-codelists.xsd"/>`

215 `<xs:element name="ShortMediumTermAdequacyPrognosis_MarketDocument"`

216 `type="ShortMediumTermAdequacyPrognosis_MarketDocument"/>`

217 `<xs:complexType name="Percentile_Quantity"`

218 `sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Quantity">`

219 `<xs:sequence>`

220 `<xs:element name="type" type="xs:string" minOccurs="1"`

221 `maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-`

222 `cim16#Quantity.type"/>`

223 `<xs:element name="quantity" type="xs:decimal" minOccurs="1"`

224 `maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-`

225 `cim16#Quantity.quantity"/>`

226 `</xs:sequence>`

227 `</xs:complexType>`

228 `<xs:simpleType name="Position_Integer"`

229 `sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Integer">`

230 `<xs:restriction base="xs:integer">`

231 `<xs:maxInclusive value="999999"/>`

232 `<xs:minInclusive value="1"/>`

233 `</xs:restriction>`

234 `</xs:simpleType>`

235 `<xs:complexType name="Point"`

236 `sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Point">`

237 `<xs:sequence>`

238 `<xs:element name="position" type="Position_Integer"`

239 `minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-`

240 `schema-cim16#Point.position"/>`

241 `<xs:element name="quantity" type="xs:decimal" minOccurs="1"`

242 `maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-`

243 `cim16#Point.quantity"/>`

244 `<xs:element`

245 `name="generationOutageProbability_Quantity.quantity" type="xs:decimal"`

246 `minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-`

247 `schema-cim16#Quantity.quantity"/>`

248 `<xs:element name="Percentile_Quantity"`

249 `type="Percentile_Quantity" minOccurs="0" maxOccurs="unbounded"`

250 `sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-`

251 `cim16#Point.Percentile_Quantity"/>`

252 `</xs:sequence>`

253 `</xs:complexType>`

254 `<xs:simpleType name="YMDHM_DateTime"`

255 `sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">`

```

256         <xs:restriction base="xs:string">
257             <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02]))[\-](0[1-
258 9]|[12][0-9]|3[01]))|([0-9]{4})[\-]((0[469])|(11))[\-](0[1-9]|1[12][0-
259 9]|30))T((([01][0-9]|2[0-3]):[0-5][0-
260 9])Z)|((([13579][26][02468][048]|13579][01345789](0)[48]|13579][01345789][2468][0
261 48]|02468][048][02468][048]|02468][1235679](0)[48]|02468][1235679][2468][048]|
262 0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T((([01][0-9]|2[0-3]):[0-
263 5][0-
264 9])Z)|((([13579][26][02468][1235679]|13579][01345789](0)[01235679]|13579][0134578
265 9][2468][1235679]|02468][048][02468][1235679]|02468][1235679](0)[01235679]|0246
266 8][1235679][2468][1235679]|0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
267 9]|2[0-8])T((([01][0-9]|2[0-3]):[0-5][0-9])Z)"/>
268         </xs:restriction>
269     </xs:simpleType>
270     <xs:complexType name="ESMP_DateTimeInterval"
271 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTimeInterval">
272         <xs:sequence>
273             <xs:element name="start" type="YMDHM_DateTime" minOccurs="1"
274 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
275 cim16#DateTimeInterval.start"/>
276             <xs:element name="end" type="YMDHM_DateTime" minOccurs="1"
277 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
278 cim16#DateTimeInterval.end"/>
279         </xs:sequence>
280     </xs:complexType>
281     <xs:complexType name="Series_Period"
282 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Period">
283         <xs:sequence>
284             <xs:element name="timeInterval" type="ESMP_DateTimeInterval"
285 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
286 schema-cim16#Period.timeInterval"/>
287             <xs:element name="resolution" type="xs:duration" minOccurs="1"
288 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
289 cim16#Period.resolution"/>
290             <xs:element name="Point" type="Point" minOccurs="1"
291 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
292 cim16#Period.Point"/>
293         </xs:sequence>
294     </xs:complexType>
295     <xs:simpleType name="ID_String"
296 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
297         <xs:restriction base="xs:string">
298             <xs:maxLength value="35"/>
299         </xs:restriction>
300     </xs:simpleType>
301     <xs:simpleType name="ESMPVersion_String"
302 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
303         <xs:restriction base="xs:string">
304             <xs:pattern value="[1-9]([0-9]){0,2}"/>
305         </xs:restriction>
306     </xs:simpleType>
307     <xs:simpleType name="MessageKind_String"
308 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
309         <xs:restriction base="ecl:MessageTypeList"/>
310     </xs:simpleType>

```

```
311     <xs:simpleType name="ProcessKind_String"
312 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
313     <xs:restriction base="ecl:ProcesstypeList"/>
314 </xs:simpleType>
315     <xs:simpleType name="PartyID_String-base"
316 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
317     <xs:restriction base="xs:string">
318     <xs:maxLength value="16"/>
319 </xs:restriction>
320 </xs:simpleType>
321     <xs:complexType name="PartyID_String"
322 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
323     <xs:simpleContent>
324     <xs:extension base="PartyID_String-base">
325     <xs:attribute name="codingScheme"
326 type="ecl:CodingSchemeTypeList" use="required"/>
327 </xs:extension>
328 </xs:simpleContent>
329 </xs:complexType>
330     <xs:simpleType name="MarketRoleKind_String"
331 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
332     <xs:restriction base="ecl:RoleTypeList"/>
333 </xs:simpleType>
334     <xs:simpleType name="ESMP_DateTime"
335 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#DateTime">
336     <xs:restriction base="xs:dateTime">
337     <xs:pattern value="((([0-9]{4})[\-](0[13578]|1[02])[\-](0[1-
338 9]|12)[0-9]|3[01]))((0[0-9]{4})[\-](0[469])|(11))[\-](0[1-9]|12)[0-
339 9]|30))T((0[1][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-
340 9])Z)|((13579)[26][02468][048]|13579[01345789](0)[48]|13579[01345789][2468][0
341 48]|02468[048][02468][048]|02468[1235679](0)[48]|02468[1235679][2468][048]|[
342 0-9][0-9][13579][26])[\-](02)[\-](0[1-9]|1[0-9]|2[0-9])T((0[1][0-9]|2[0-3]):[0-
343 5][0-9]:[0-5][0-
344 9])Z)|((13579)[26][02468][1235679]|13579[01345789](0)[01235679]|13579[0134578
345 9][2468][1235679]|02468[048][02468][1235679]|02468[1235679](0)[01235679]|0246
346 8[1235679][2468][1235679]|0[0-9][0-9][13579][01345789])[\-](02)[\-](0[1-9]|1[0-
347 9]|2[0-8])T((0[1][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9])Z)"/>
348 </xs:restriction>
349 </xs:simpleType>
350     <xs:complexType name="ShortMediumTermAdequacyPrognosis_MarketDocument"
351 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketDocument">
352     <xs:sequence>
353     <xs:element name="mRID" type="ID_String" minOccurs="1"
354 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
355 cim16#IdentifiedObject.mRID"/>
356     <xs:element name="revisionNumber" type="ESMPVersion_String"
357 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
358 schema-cim16#Document.revisionNumber"/>
359     <xs:element name="type" type="MessageKind_String" minOccurs="1"
360 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
361 cim16#Document.type"/>
362     <xs:element name="processType_Process.processType"
363 type="ProcessKind_String" minOccurs="1" maxOccurs="1"
364 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
365 cim16#Process.processType"/>
```

```
366         <xs:element name="sender_MarketParticipant.mRID"  
367 type="PartyID_String" minOccurs="1" maxOccurs="1"  
368 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
369 cim16#IdentifiedObject.mRID"/>  
370         <xs:element name="sender_MarketParticipant.marketRole.type"  
371 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"  
372 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>  
373         <xs:element name="receiver_MarketParticipant.mRID"  
374 type="PartyID_String" minOccurs="1" maxOccurs="1"  
375 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
376 cim16#IdentifiedObject.mRID"/>  
377         <xs:element name="receiver_MarketParticipant.marketRole.type"  
378 type="MarketRoleKind_String" minOccurs="1" maxOccurs="1"  
379 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#MarketRole.type"/>  
380         <xs:element name="createdDateTime" type="ESMP_DateTime"  
381 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-  
382 schema-cim16#Document.createdDateTime"/>  
383         <xs:element name="time_Period.timeInterval"  
384 type="ESMP_DateTimeInterval" minOccurs="1" maxOccurs="1"  
385 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
386 cim16#Period.timeInterval"/>  
387         <xs:element name="TimeSeries" type="TimeSeries" minOccurs="1"  
388 maxOccurs="unbounded" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-  
389 cim16#MarketDocument.TimeSeries"/>  
390     </xs:sequence>  
391 </xs:complexType>  
392 <xs:simpleType name="BusinessKind_String"  
393 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
394     <xs:restriction base="ecl:BusinessTypeList"/>  
395 </xs:simpleType>  
396 <xs:simpleType name="CurveType_String"  
397 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
398     <xs:restriction base="ecl:CurveTypeList"/>  
399 </xs:simpleType>  
400 <xs:simpleType name="MeasurementUnitKind_String"  
401 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
402     <xs:restriction base="ecl:UnitOfMeasureTypeList"/>  
403 </xs:simpleType>  
404 <xs:simpleType name="AreaID_String-base"  
405 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
406     <xs:restriction base="xs:string">  
407         <xs:maxLength value="18"/>  
408     </xs:restriction>  
409 </xs:simpleType>  
410 <xs:complexType name="AreaID_String"  
411 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
412     <xs:simpleContent>  
413         <xs:extension base="AreaID_String-base">  
414             <xs:attribute name="codingScheme"  
415 type="ecl:CodingSchemeTypeList" use="required"/>  
416         </xs:extension>  
417     </xs:simpleContent>  
418 </xs:complexType>  
419 <xs:simpleType name="PsrType_String"  
420 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">  
421     <xs:restriction base="ecl:AssetTypeList"/>
```

```
422     </xs:simpleType>
423     <xs:simpleType name="DirectionKind_String"
424 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#String">
425         <xs:restriction base="ecl:DirectionTypeList"/>
426     </xs:simpleType>
427     <xs:complexType name="TimeSeries"
428 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#TimeSeries">
429         <xs:sequence>
430             <xs:element name="mRID" type="ID_String" minOccurs="1"
431 maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
432 cim16#IdentifiedObject.mRID"/>
433             <xs:element name="businessType" type="BusinessKind_String"
434 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
435 schema-cim16#TimeSeries.businessType"/>
436             <xs:element name="curveType" type="CurveType_String"
437 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
438 schema-cim16#TimeSeries.curveType"/>
439             <xs:element name="measurement_Unit.name"
440 type="MeasurementUnitKind_String" minOccurs="1" maxOccurs="1"
441 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-cim16#Unit.name"/>
442             <xs:element name="domain.mRID" type="AreaID_String"
443 minOccurs="1" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
444 schema-cim16#IdentifiedObject.mRID"/>
445             <xs:element name="mktPSRType.psrType" type="PsrType_String"
446 minOccurs="0" maxOccurs="1" sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-
447 schema-cim16#MktPSRType.psrType"/>
448             <xs:element name="flowDirection.direction"
449 type="DirectionKind_String" minOccurs="0" maxOccurs="1"
450 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
451 cim16#FlowDirection.direction"/>
452             <xs:element name="Series_Period" type="Series_Period"
453 minOccurs="1" maxOccurs="unbounded"
454 sawsdl:modelReference="http://iec.ch/TC57/2013/CIM-schema-
455 cim16#TimeSeries.Series_Period"/>
456         </xs:sequence>
457     </xs:complexType>
458 </xs:schema>
459
```