AB „Energijos skirstymo operatorius"

eso

API documentation

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1. Documentation version history

The table below provides information on document version history:

Version	Date	Description
0.1	2023-10-16	Initial document version.
0.2	2023-11-27	Authentication and authorization section updated with the following changes: • both environments (sandbox and production) will use "api-key" as authentication method; • as additional security layer IP address whitelisting was implemented. Monthly consumption request parameter "objectId" was changed to mandatory. Updated parameters descriptions throughout endpoints.
0.3	2024-03-26	New endpoint "Get monthly consumption data by account" was added. Objects endpoint parameter "<powerPlantType>" description was updated with new values. Added information about the length of responses element fields (for all endpoints).
0.4	2024-07-16	Updated Objects endpoint: • block "<generatingObject>" becomes an array; • new field "<accountingScheme>" added in array "<generatingObject>"; • field "<payoffMethod>" has a new value: "B – Net payment".
0.5	2026-08-10	Updated the schema in the Preface topic. Updated the URLs of the environments. Authentication and authorization section updated with the following changes: • both environments (sandbox and production) will use OpenID Connect protocol to enable user authentication and oAuth2 to handle authorization. The "api-key" method will no longer be active. • Added information on how to obtain and use authorization token. • IP address whitelisting is enabled only for the "Sandbox" environment. API Gateway API documentation section updated with the following changes: • All "api-key" request headers were replaced with "Authorization"

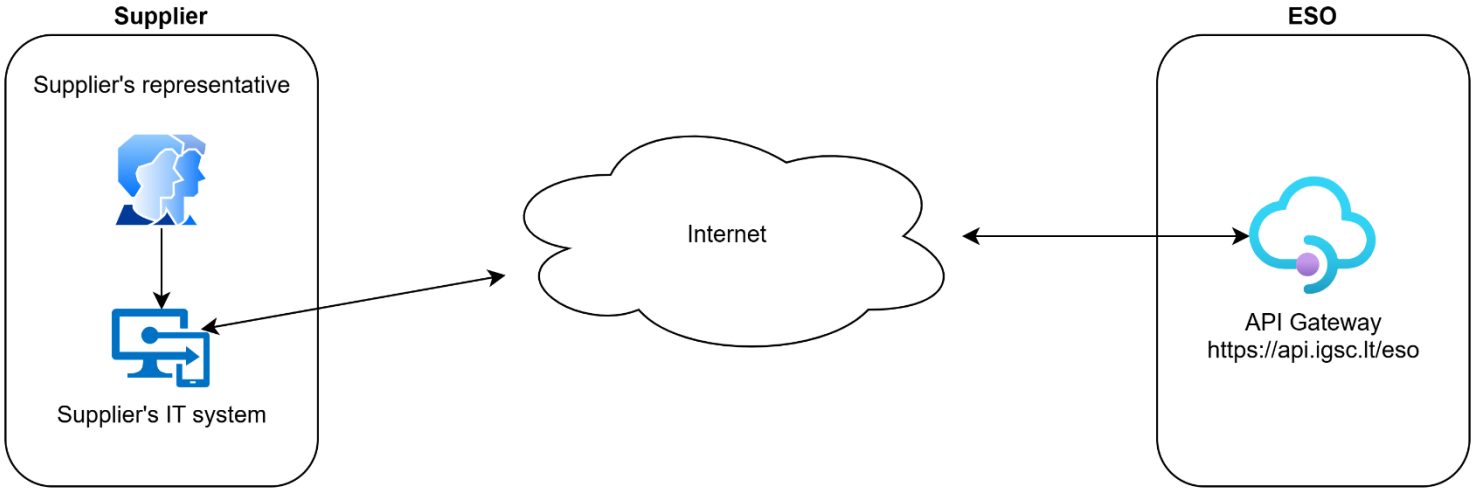
2. Preface

The ESO API Gateway serves as a component that empowers electricity consumers and prosumers to seamlessly integrate ESO data services into their IT systems. This, in turn, facilitates the automation of several essential business processes, including:

- Retrieving a list of objects;
- Accessing historical data related to electricity consumption and production.

The ESO API Gateway is organized around REST, has predictable resource-oriented URLs, returns JSON-encoded responses and works in synchronous way.

Further in this documentation you will find technical information on API interfaces.



3. Definitions and abbreviations

Definition/ abbreviation	Description
API Gateway	This component enabling Client to directly access the data services and achieve a higher-level degree of process automation
ESO	Distribution System Operator – AB „Energijos skirstymo operatorius“
Object	A site where electricity consumption or production takes place
Client	ESO customer who use data services

4. Environments

There are two API Gateway environments the Client might access:

- Sandbox environment
- Production environment

Sandbox environment uses real data, but with certain limitations:

- up to 200 requests per month are allowed on all endpoints;
- response cannot exceed 2 MB for consumption endpoints and 4 MB for objects endpoint;
- total size of all responses cannot exceed 200 MB per month.
- the environment is available for up to one month.

Exceeding the set limits will return an HTTP 403 or 413 error. For more details about response codes please refer to section Response codes and example.

All environments are provided in the table below:

Environment	Link
Production	https://api.igsc.lt/eso
Sandbox	https://test-api.igsc.lt/eso

5. Authentication and authorization

The OpenID Connect (OIDC) protocol is used to enable user authentication and oAuth2 to handle authorization to access necessary resources. The "client credentials" authorization flow is used.
The following parameters are used to obtain OAuth 2.0 access token:

- OIDC URL's:
  - "Sandbox": https://testauth.ignitis.lt/auth/realms/eims-external/protocol/openid-connect/token
  - Production: https://auth.ignitis.lt/auth/realms/eims-external/protocol/openid-connect/token
- Request headers:
  - Content-Type: application/x-www-form-urlencoded
- Request body:

client_id=**CLIENT**&client_secret=**CLIENT-SECRET**&grant_type=client_credentials&scope=openid,usage

where:

CLIENT	Id of client (provided separately after signing the contract)
CLIENT-SECRET	client secret (provided separately after signing the contract)

The token received is valid for 300 seconds.

To enhance the security, we have also implemented IP address whitelisting as an additional layer of protection. Before Client begin to use API, we will request to provide the IP addresses that will be accessing API gateway (only sandbox environment). This process ensures that only authorized systems and networks can interact with ESO API.

6. API Gateway API documentation

6.1 Objects

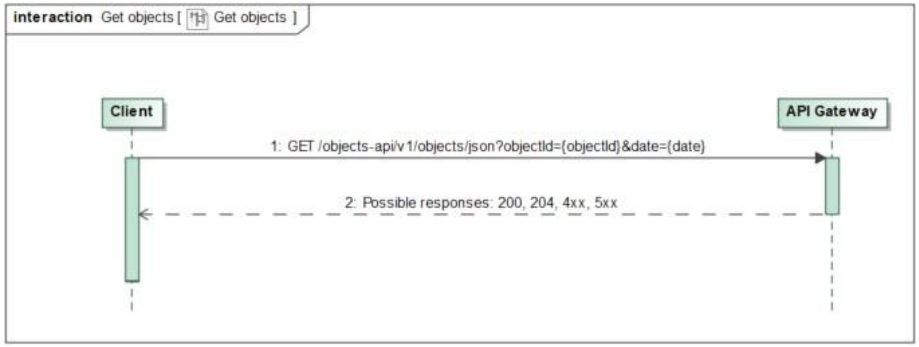
In order to get a list of Client's objects the following endpoint is used:
Note: The ***objectId*** received by the method will be used to call the consumption endpoints.

6.1.1 Get object data

GET /objects-api/v1/objects/json?objectId={objectId}&date={date}

Note that:

- **date** query parameter is mandatory;
- If **objectId** query parameter is provided, then response will contain only certain object;
- If **objectId** query parameter is *null,* then response will contain list of all Client's objects;
- List of **objects** may be empty if:
  - Object according to provided **objectId** not exists;
  - Provided **objectId** is not related with the Client;
  - There are no related objects with the Client.



6.1.1.1 Request parameters

No	Location -Header -Path -Query -Body	Name	Type	Mandatory	Value	Description
1	Header	Authorization	string	Yes	Bearer <token> For example: Bearer 8MeFLsqw4UWdieaRo8	Authorization header used to securely transmit token get from OIDC service to authorize requested resources.
2	Header	X-B3-TraceId	string *(uuid)*	Yes	GUID, for example: f8815f95-6782-4dcd-ad10-f81bfb0ca537	A unique request tracking identifier used to track and identify the exchange of request data between systems. The B3 propagation specification headers are used. The UUID format is used for the identifier.
3	Query	objectId	number	No	1234	Object identifier.
4	Query	date	string *(datetime)*	Yes	2022-03-01T00:00:00+02:00	The date on which data about object should be received.

6.1.1.2 Response parameters

The table below describes the JSON structure and elements of the response body:

No	Name	Type	Mandatory	Value	Description
1	objectId	number	Yes	111111	Object identifier.
2	objectNumber	string *(max length 20)*	Yes	12345	Object number.
3	objectName	string *(max length 200)*	No	GAMYBINIS PASTATAS	Object name.
4	objectType	string *(max length 200)*	No	Kitos paskirties patalpos	Type of the object.
5	objectAddress	string *(max length 4000)*	Yes	Dariaus ir Girėno g. 5-29, 02158 Vilnius	Full address of the object.
6	permissiblePowerConsumption	number *(float 20;2)*	No	15	Permissible power consumption, kW.
7	permissiblePowerGeneration	number *(float 20;2)*	No	10	Permissible power generation, kW.
8	metersQty	number	No	5	Amount of meters installed in the object.
9	smartMeterInstallationDate	string *(datetime)*	No	2022-03-01 T00:00:00+02:00	First SMART meter installation date in the object.
10	voltage	number *(float 20;2)*	No	0,4	Object voltage, kV.
11	productsQty	number	No	5	Number of products counted at the level of the object.
12	scalesQty	number	No	10	Number of scales counted at the level of the object.
13	technologicalCosts	boolean	Yes	true	Indicator if the object is accounted for technological costs.

<contract>					
14	contractType	string *(max length 4)*	Yes	SBTS	Contract type. Possible values and meanings: SBTS – contract for household purpose; SKMS – contract for commercial purpose.
15	contractModel	string *(max length 4)*	Yes	BSS	Contract model. Possible values and meanings: BSS – General contract for electricity distribution and supply – One bill; 2S2S – Two contracts, separately for distribution and supply – Two bills.
16	consumerCode	string *(max length 20)*	Yes	1234567	Internal consumer code.
17	personCode	string *(max length 20)*	No	31111111111	Person / Company registry code.
18	personName	string *(max length 200)*	Yes	Vardenis Pavardenis	Name, surname / Company name.
19	independentSupplier	string *(max length 200)*	No	Ignitis NT	Electricity supplier.
20	contractStart	string *(datetime)*	Yes	2022-03-01 T00:00:00+02:00	The contract with supplier is valid from.
21	contractEnd	string *(datetime)*	No	2022-03-01 T00:00:00+02:00	The contract with supplier is valid till.
<supply>					
22	supplyState	string *(max length 1)*	No	T	Power supply state. Possible values and meanings: T – Supply; P – Disconnected on request; A – Disconnected under sanction; R – Limited by sanction.
23	supplyStateFrom	string *(datetime)*	No	2022-03-01 T00:00:00+02:00	Supply state valid from.

24	supplyStateTo	string *(datetime)*	No	2022-03-01 T00:00:00+02:00	Supply state valid till.
<consumption>					
25	consumptionState	string *(max length 1)*	No	V	Power consumption state. Possible values and meanings: N – Temporarily inactive; V - Consuming; A - Alleged.
26	consumptionStateFrom	string *(datetime)*	No	2022-03-01 T00:00:00+02:00	Consumption state valid from.
27	consumptionStateTo	string *(datetime)*	No	2022-03-01 T00:00:00+02:00	Consumption state valid till.
<generatingObject>					
28	generatingObjectType	string *(max length 1)*	No	G	Prosumer type. Possible values and meanings: G – Gaminantis vartotojas (Generating locally); N – Nutolęs gaminantis vartotojas (Generating at a distance).
29	payoffMethod	string *(max length 1)*	No	E	Prosumer settlement method. Possible values and meanings: E – kWh – Recovered el. energy; G - kW – Power plant installed capacity; M - kWh and kW – Mixed; P - % - Payment percentage; S – kWh – PP recovered electricity. B – Net payment.
30	generatingObjectTypeFrom	string *(datetime)*	No	2022-03-01 T00:00:00+02:00	Prosumer valid from.
31	generatingObjectTypeTo	string *(datetime)*	No	2022-03-01 T00:00:00+02:00	Prosumer valid till.
32	powerPlantType	string *(max length 1)*	No	H	Type of the power plant. Possible values and meanings: A - Waist; B - Biomass;

					H - Hydroelectric; K - Other; S - Solar; T - Thermoelectric; V – Wind; P - Battery storage; I – Fossil; D – Biogas; R – Hybrid (if the object has several power plants of different types).
33	accountingScheme	string*(max length 2)*	No	NB	Accounting scheme. Possible values and meanings: NB – Net billing (Eur); NM – Net metering (kWh).
<tariff>					
34	timeZone	string *(max length 2)*	No	1	Number of time zones. Possible values and meanings: 1 - One; 2 - Two; VR - One with reactive; 4 - Four (Smart); DR - Differentiated with reactive; N - Not established.
35	tariffPlan	string *(max length 200)*	No	"Standartinis" I grupės vartotojams, gaunantiems elektros energiją iš žemosios įtampos elektros tinklų	Name of the tariff plan.
36	tariffPlanChangeDate	string *(datetime)*	No	2022-03-01 T00:00:00+02:00	Date of the tariff plan change.

6.1.1.3 Response example:


```
[
   {
      "objectId": 0,
      "objectNumber": "string",
      "objectName": "string",
      "objectType": "string",
      "objectAddress": "string",
      "permissiblePowerConsumption": 0,
      "permissiblePowerGeneration": 0,
      "metersQty": 0,
      "smartMeterInstallationDate": "string",
      "voltage": 0,
      "productsQty": 0,
      "scalesQty": 0,
      "technologicalCosts": "boolean",
      "contract": {
         "contractType": "string",
         "contractModel": "string",
         "consumerCode": "string",
         "personCode": "string",
         "personName": "string",
         "independentSupplier": "string",
         "contractStart": "string",
         "contractEnd": "string"
      },
      "supply": {
         "supplyState": "string",
         "supplyStateFrom": "string",
         "supplyStateTo": "string"
      },
```

```
    "consumption": {
       "consumptionState": "string",
       "consumptionStateFrom": "string",
       "consumptionStateTo": "string"
    },
    "generatingObject": [{
       "generatingObjectType": "string",
       "payoffMethod": "string",
       "generatingObjectTypeFrom": "string",
       "generatingObjectTypeTo": "string",
       "powerPlantType": "string"
    }],
    "tariff": {
       "timeZone": "string",
       "tariffPlan": "string",
       "tariffPlanChangeDate": "string"
    }
  }
]
```

6.2 Consumptions

There are several options to get consumption data:

1. Get monthly consumption data grouped by meter;
2. Get monthly consumption data grouped by object;
3. Get interval (by hour or by 15 min) consumption data grouped by meter (only for smart meters and regular meters with remote data collection);
4. Get interval (by hour or by 15 min) consumption data grouped by object (only if object has smart meters and regular meters with remote data collection).

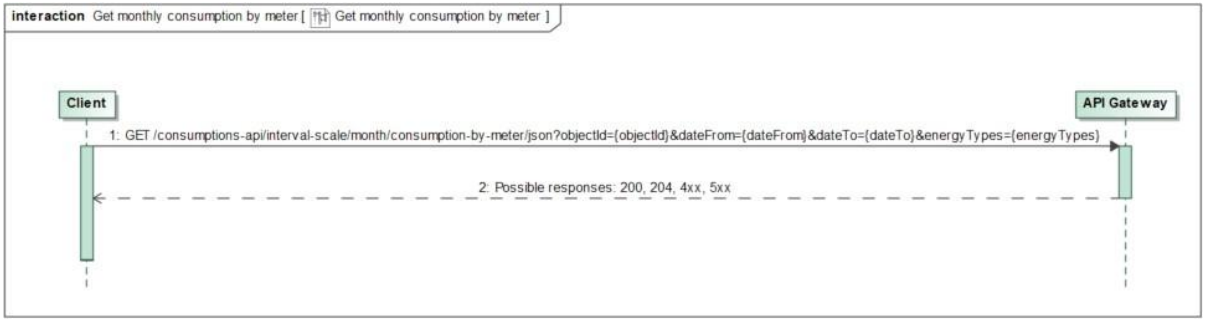
6.2.1 Get monthly consumption data grouped by meter

In order to get monthly consumption data grouped by meter the follow endpoint is used:

GET /consumptions-api/v1/interval-scale/month/consumption-by-meter/json?objectId={objectId}&dateFrom={dateFrom}&dateTo={dateTo}&energyTypes={energyTypes}

Note that:

- **dateFrom**, **dateTo, objectId** and **energyTypes** parameters are mandatory;
- The **objectId** can be obtained by calling Get object data endpoint;
- Response may be empty if:
  - Object according to provided **objectId** not exists.
  - Provided **objectId** is not related with the Client;
  - There are no related objects with the Client.



6.2.1.1 Request parameters

No	Location -Header -Path -Query -Body	Name	Type	Mandatory	Value	Description
1	Header	Authorization	string	Yes	Bearer <token> For example: Bearer 8MeFLsqw4UWdieaRo8	Authorization header used to securely transmit token get from OIDC service to authorize requested resources. s
2	Header	X-B3-TraceId	string *(uuid)*	Yes	GUID, pvz.: f8815f95-6782-4dcd-ad10-f81bfb0ca537	A unique request tracking identifier used to track and identify the exchange of request data between systems. The B3 propagation specification headers are used. The UUID format is used for the identifier.
3	Query	objectId	number	Yes	1234	Object identifier.
4	Query	dateFrom	string *(datetime)*	Yes	2022-03-01 T00:00:00+02:00	The period from (UTC + time zone). The value cannot be equal or greater to dateTo parameter and it should be the first day of the month starting from which the data should be received. *(the term restriction is applied up to 12 month, calculated as a difference between dateTo and dateFrom)*
5	Query	dateTo	string *(datetime)*	Yes	2022-03-31 T00:00:00+02:00	The period to (UTC + time zone). The value cannot be equal or lower to dateFrom parameter. *(the term restriction is applied up to 12 month, calculated as a difference between dateTo and dateFrom).*
6	Query	energyTypes	list of string	Yes	["P+", "P-", "Q+", "Q-"]	List of energy types. Possible values and meanings: "P+" - Active energy consumption; "P-" - Active energy generation; "Q+" - Reactive energy consumption; "Q-" - Reactive energy generation.

6.2.1.2 Response parameters

The table below describes the JSON structure and elements of the response body:

No	Name	Type	Mandatory	Value	Description
1	objectId	number	Yes	76543	Object identifier.
2	objectNumber	string *(max length 20)*	Yes	12345	Object number.
3	billingPeriods	array	Yes	<billingPeriods>	Billing periods.
<billingPeriods>					
4	billingPeriod	string (datetime)	Yes	2022-03-01T00:00:00+02:00	Billing period (UTC + time zone).
5	products	array	Yes	<products>	Products and their consumption.
<products>					
6	productCode	string *(max length 20)*	No	DIENINIS	Product code, which name is given in the parameter productName.
7	productName	string *(max length 200)*	No	El. en. persiuntimas dieniniu tarifu	Product name.
8	productType	string *(max length 2)*	No	DD	Product type.
9	unit	string *(max length 5)*	No	kWh	Unit of measurement. Possible values and meanings: when energy type is P+/P- - kWh; when energy type is Q+/Q- - kVArh.
10	energyType	string *(max length 2)*	Yes	P+	Energy type. Possible values and meanings: "P+" - Active energy consumption; "P-" - Active energy generation; "Q+" - Reactive energy consumption; "Q-" - Reactive energy generation.

11	consumptions	array	Yes	<consumptions>	Consumptions.
<consumptions>					
12	meterNumber	string *(max length 20)*	Yes	SAG234567	Meter number.
13	value	number *(float 20;6)*	Yes	12301.123456	Consumption / production amount.
14	productConsumptionType	string *(max length 10)*	No	SPR	Consumption type. Possible values and meanings: AMS - Abonentinis mok. (Subscription fee); FGS - Sutartiniai fiksuotos galios suvartojimo parametrai (Contractual fixed power consumption parameters); GGS - Generuojamos galios (Generated power); LGS - Leistinosios galios (Permissible power); REPS - Sutartiniai reaktyviosios EE parametrai (Contractual reactive electricity parameters); SPA - Pagal aktą (According to the act); SPR - Pagal rodmenis (According to readings); STA - Pagal taisykles (According to rules); TSPS - Sutartiniai technologinių sąnaudų parametrai (Contractual technological cost parameters); VAP - VIAP apskaitos parametrai (VIAP accounting parameters); SPP - Pagal parametrus (According to parameters).

6.2.1.3 Response example


```
[
   {
      "objectId": 0,
      "objectNumber": "string",
      "billingPeriods": [
         {
            "billingPeriod": "string",
            "products": [
               {
                  "productCode": "string",
                  "productName": "string",
                  "productType": "string",
                  "unit": "string",
                  "energyType": "string",
                  "consumptions": [
                     {
                        "meterNumber": "string",
                        "value": 0,
                        "productConsumptionType": "string"
                     }
                  ]
               }
            ]
         }
      ]
   }
]
```

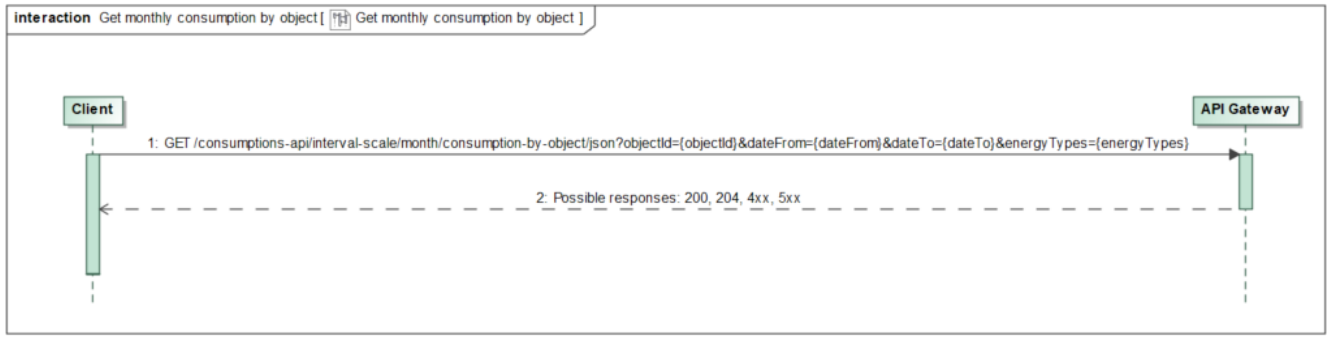
6.2.2 Get monthly consumption data grouped by object

In order to get monthly consumption data grouped by object the follow endpoint is used:

GET /consumptions-api/v1/interval-scale/month/consumption-by-object/json?objectId={objectId}&dateFrom={dateFrom}&dateTo={dateTo}&energyTypes={energyTypes}

Note that:

- **dateFrom**, **dateTo, objectId** and **energyTypes** query parameters are mandatory;
- The **objectId** can be obtained by calling Get object data endpoint;
- Response may be empty if:
  - Object according to provided **objectId** not exists.
  - Provided **objectId** is not related with the Client;
  - There are no related objects with the Client.



6.2.2.1 Request parameters

No	Location -Header -Path -Query -Body	Name	Type	Mandatory	Value	Description
1	Header	Authorization	string	Yes	Bearer <token> For example: Bearer 8MeFLsqw4UWdieaRo8	Authorization header used to securely transmit token get from OIDC service to authorize requested resources.
2	Header	X-B3-TraceId	string *(uuid)*	Yes	GUID, pvz.: f8815f95-6782-4dcd-ad10-f81bfb0ca537	A unique request tracking identifier used to track and identify the exchange of request data between systems. The B3 propagation specification headers are used. The UUID format is used for the identifier.
3	Query	objectId	number	Yes	1234	Object identifier.
4	Query	dateFrom	string *(datetime)*	Yes	2022-03-01 T00:00:00+02:00	The period from (UTC + time zone). The value cannot be equal or greater to dateTo parameter and it should be the first day of the month starting from which the data should be received. *(the term restriction is applied up to 12 month, calculated as a difference between dateTo and dateFrom)*
5	Query	dateTo	string *(datetime)*	Yes	2022-03-31 T00:00:00+02:00	The period to (UTC + time zone). The value cannot be equal or lower to dateFrom parameter. *(the term restriction is applied up to 12 month, calculated as a difference between dateTo and dateFrom).*
6	Query	energyTypes	list of string	Yes	["P+", "P-", "Q+", "Q-"]	Energy type. Possible values and meanings: "P+" - Active energy consumption; "P-" - Active energy generation; "Q+" - Reactive energy consumption; "Q-" - Reactive energy generation.

6.2.2.2 Response parameters

The table below describes the JSON structure and elements of the response body:

No	Name	Type	Mandatory	Value	Description
1	objectId	number	Yes	76543	Object identifier.
2	objectNumber	string *(max length 20)*	Yes	12345	Object number.
3	billingPeriods	array	Yes	<billingPeriods>	Billing periods.
<billingPeriods>					
4	billingPeriod	string *(datetime)*	Yes	2022-03-01T00:00:00+02:00	Billing period (UTC + time zone).
5	products	array	Yes	<products>	Products and their consumption.
<products>					
6	productCode	string *(max length 20)*	No	DIENINIS	Product code, which name is given in the parameter productName.
7	productName	string *(max length 200)*	No	El. en. persiuntimas dieniniu tarifu	Product name.
8	productType	string *(max length 2)*	No	DD	Product type.
9	unit	string *(max length 5)*	No	kWh	Unit of measurement. Possible values and meanings: when energy type is P+/P- - kWh; when energy type is Q+/Q- - kVArh.
10	energyType	string *(max length 2)*	Yes	P+	Energy type. Possible values and meanings: "P+" - Active energy consumption; "P-" - Active energy generation; "Q+" - Reactive energy consumption; "Q-" - Reactive energy generation.

11	consumptions	array	Yes	<consumptions>	Consumptions.
<consumptions>					
12	value	number *(float 20;6)*	Yes	12301.123456	Consumption / production amount.
13	productConsumptionType	string *(max length 10)*	No	SPR	Consumption type. Possible values and meanings: AMS - Abonentinis mok. (Subscription fee); FGS - Sutartiniai fiksuotos galios suvartojimo parametrai (Contractual fixed power consumption parameters); GGS - Generuojamos galios (Generated power); LGS - Leistinosios galios (Permissible power); REPS - Sutartiniai reaktyviosios EE parametrai (Contractual reactive electricity parameters); SPA - Pagal aktą (According to the act); SPR - Pagal rodmenis (According to readings); STA - Pagal taisykles (According to rules); TSPS - Sutartiniai technologinių sąnaudų parametrai (Contractual technological cost parameters); VAP - VIAP apskaitos parametrai (VIAP accounting parameters); SPP - Pagal parametrus (According to parameters).

6.2.2.3 Response example


```
[
   {
      "objectId": 0,
      "objectNumber": "string",
      "billingPeriods": [
         {
            "billingPeriod": "string",
            "products": [
               {
                  "productCode": "string",
                  "productName": "string",
                  "productType": "string",
                  "unit": "string",
                  "energyType": "string",
                  "consumptions": [
                     {
                        "value": 0,
                        "productConsumptionType": "string"
                     }
                  ]
               }
            ]
         }
      ]
   }
]
```

6.2.3 Get interval consumption data grouped by meter

In order to get interval consumption (by hour or by 15 min) data grouped according to the meters in the object the follow endpoint is used:

GET /consumptions-api/v1/interval/consumption-by-meter/json?objectId={objectId}&dateFrom={dateFrom}&dateTo={dateTo}&energyTypes={energyTypes}&interval={interval}

Note that:

- **dateFrom**, **dateTo**, **objectId**, **energyTypes** and interval query parameters are mandatory;
- The **objectId** can be obtained by calling Get object data endpoint;
- Response may be empty if:
  - Object according to provided **objectId** not exists;
  - Object is not related with the Client;
  - Object has no smart meters or regular meters with remote data collection.



6.2.3.1 Request parameters

No	Location -Header -Path -Query -Body	Name	Type	Mandatory	Value	Description
1	Header	Authorization	string	Yes	Bearer <token> For example: Bearer 8MeFLsqw4UWdieaRo8	Authorization header used to securely transmit token get from OIDC service to authorize requested resources.
2	Header	X-B3-TraceId	string *(uuid)*	Yes	f8815f95-6782-4dcd-ad10-f81bfb0ca537	A unique request tracking identifier used to track and identify the exchange of request data between systems. The B3 propagation specification headers are used. The UUID format is used for the identifier.
3	Query	objectId	number	Yes	1234	Object identifier.
4	Query	dateFrom	string *(datetime)*	Yes	2022-03-01 T00:00:00+02:00	The period from (UTC + time zone). The value cannot be equal or greater to dateTo parameter value. *(the term restriction is applied up to 1095 days (3 years), calculated as a difference between dateTo and dateFrom)*
5	Query	dateTo	string *(datetime)*	Yes	2022-03-31 T00:00:00+02:00	The period to (UTC + time zone). The value cannot be equal or lower to dateFrom parameter value. *(the term restriction is applied up to 1095 days (3 years), calculated as a difference between dateTo and dateFrom)*
6	Query	energyTypes	list of string	Yes	["P+", "P-", "Q+", "Q-"]	Energy type. Possible values and meanings: "P+" - Active energy consumption; "P-" - Active energy generation; "Q+" - Reactive energy consumption; "Q-" - Reactive energy generation.

7	Query	interval	enum	Yes	QUARTER	Consumption / production interval. Possible values and meanings: HOUR - 1 hour interval; QUARTER - 15 min. interval.

6.2.3.2 Response parameters

The table below describes the JSON structure and elements of the response body:

No	Name	Type	Mandatory	Value	Description
1	meterNumber	string *(max length 20)*	Yes	SAG12023000000345654	Meter number.
2	consumptions	Array	Yes	<consumptions>	Meter consumptions.
<consumptions>					
3	dateTime	string *(datetime)*	Yes	2022-03-01T00:00:00+02:00	Consumption time (UTC + time zone).
4	energyType	string *(max length 2)*	Yes	P-	Energy type. Possible values and meanings: "P+" - Active energy consumption (kWh); "P-" - Active energy production (kWh); "Q+" - Reactive energy consumption (kVArh); "Q-" - Reactive energy production (kVArh).
5	valueType	string *(max length 3)*	Yes	VAL	Value type. Possible values and meanings: EST – estimated; VAL – validated.
6	value	number *(float 20;6)*	Yes	12301.123456	Consumption / production amount. Positive meaning.

6.2.3.3 Response example


```
{
  "meters": [
    {
       "consumptions": [
         {
           "dateTime": "string",
           "energyType": "string",
           "valueType": "string",
           "value": 0
         }
       ],
       "meterNumber": 0
    }
  ]
}
```

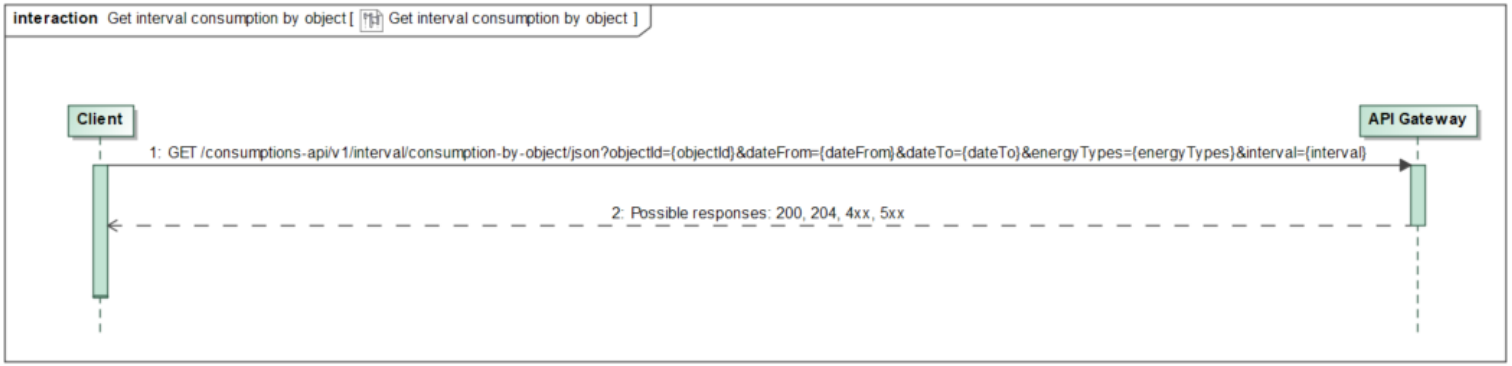
6.2.4 Get interval consumption data grouped by object

In order to get interval consumption (by hour or by 15 min) data grouped by the object the follow endpoint is used:

GET /consumptions-api/v1/interval/consumption-by-object/json?objectId={objectId}&dateFrom={dateFrom}&dateTo={dateTo}&energyTypes={energyTypes}&interval={interval}

Note that:

- **dateFrom**, **dateTo**, **objectId**, **energyTypes** and interval query parameters are mandatory;
- The **objectId** can be obtained by calling Get object data endpoint;
- Response may be empty if:
  - Object according to provided **objectId** not exists.
  - Object is not related with the Client;
  - Object has no smart meters or regular meters with remote data collection.



6.2.4.1 Request parameters

No	Location -Header -Path -Query -Body	Name	Type	Mandatory	Value	Description
1	Header	Authorization	string	Yes	Bearer <token> For example: Bearer 8MeFLsqw4UWdieaRo8	Authorization header used to securely transmit token get from OIDC service to authorize requested resources.
2	Header	X-B3-TraceId	string *(uuid)*	Yes	GUID, pvz.: f8815f95-6782-4dcd-ad10-f81bfb0ca537	A unique request tracking identifier used to track and identify the exchange of request data between systems. The B3 propagation specification headers are used. The UUID format is used for the identifier.
3	Query	objectId	number	Yes	1234	Object identifier.
4	Query	dateFrom	string *(datetime)*	Yes	2022-03-01 T00:00:00+02:00	The period from (UTC + time zone). The value cannot be equal or greater to dateTo parameter value. *(the term restriction is applied up to 1095 days (3 years), calculated as a difference between dateTo and dateFrom)*
5	Query	dateTo	string *(datetime)*	Yes	2022-03-31 T00:00:00+02:00	The period to (UTC + time zone). The value cannot be equal or lower to dateFrom parameter value. *(the term restriction is applied up to 1095 days (3 years), calculated as a difference between dateTo and dateFrom)*
6	Query	energyTypes	list of string	Yes	["P+", "P-", "Q+", "Q-"]	Energy type. Possible values and meanings: "P+" - Active energy consumption; "P-" - Active energy production; "Q+" - Reactive energy consumption; "Q-" - Reactive energy production.

7	Query	interval	enum	Yes	QUARTER	Consumption / production interval. Possible values and meanings: HOUR - 1 hour interval; QUARTER - 15 min. interval.

6.2.4.2 Response parameters

The table below describes the JSON structure and elements of the response body:

No	Name	Type	Mandatory	Value	Description
1	consumptions	array	Yes	<consumptions>	Consumptions.
<consumptions>					
2	dateTime	string *(datetime)*	Yes	2022-03-01T00:00:00+02:00	Consumption time (UTC + time zone).
3	energyType	string *(max length 2)*	Yes	P-	Energy type. Possible values and meanings: "P+" - Active energy consumption (kWh); "P-" - Active energy production (kWh); "Q+" - Reactive energy consumption (kVArh); "Q-" - Reactive energy production (kVArh).
4	valueType	string *(max length 3)*	Yes	VAL	Value type. Possible values and meanings: EST – estimated; VAL – validated.
5	value	number *(float 20;6)*	Yes	12301.123456	Consumption / production amount. Positive meaning.

6.2.4.3 Response example


```
{
  "consumptions": [
    {
      "dateTime": "string",
      "energyType": "string",
      "valueType": "string",
      "value": 0
    }
  ]
}
```

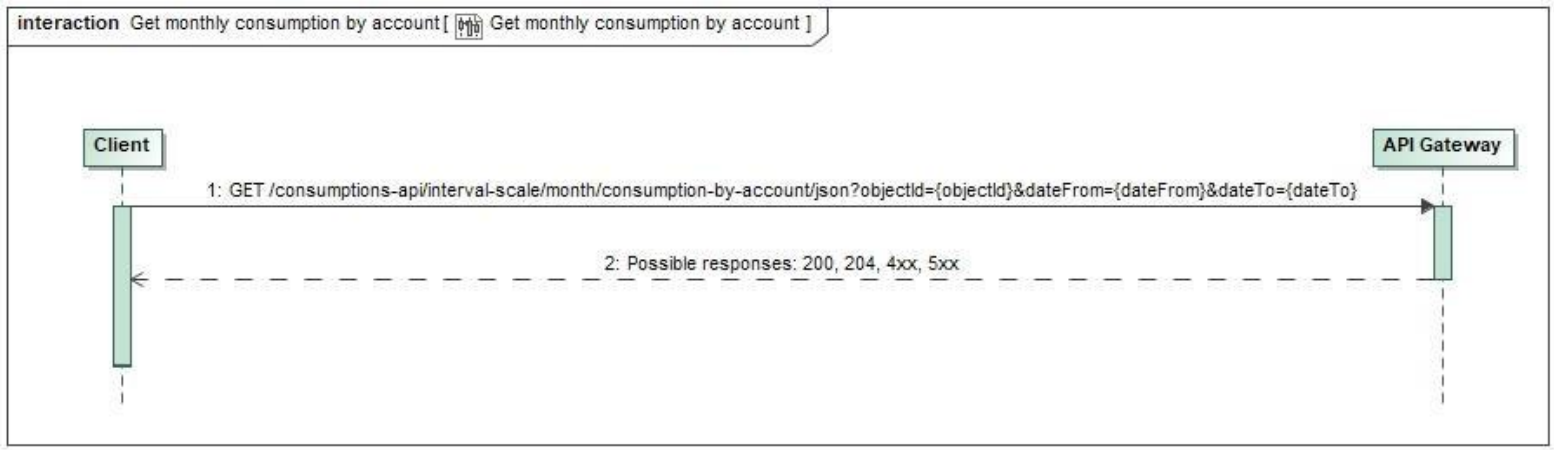
6.2.5 Get monthly consumption data by account

In order to get monthly consumption data by account the follow endpoint is used:

GET /consumptions-api/v1/interval-scale/month/consumption-by-accounts/json?objectId={objectId}&dateFrom={dateFrom}&dateTo={dateTo}

Note that:

- **DateFrom, dateTo** and **objectId** parameters are mandatory;
- The **objectId** can be obtained by calling Get object data endpoint;
- Response may be empty if:
  - Object according to provided **objectId** not exists.
  - Provided **objectId** is not related with the Client;
  - There are no related objects with the Client.



6.2.5.1 Request parameters

No	Location -Header -Path -Query -Body	Name	Type	Mandatory	Value	Description
1	Header	Authorization	string	Yes	Bearer <token> For example: Bearer 8MeFLsqw4UWdieaRo8	Authorization header used to securely transmit token get from OIDC service to authorize requested resources.
2	Header	X-B3-TraceId	string *(uuid)*	Yes	GUID, pvz.: f8815f95-6782-4dcd-ad10-f81bfb0ca537	A unique request tracking identifier used to track and identify the exchange of request data between systems. The B3 propagation specification headers are used. The UUID format is used for the identifier.
3	Query	objectId	number	Yes	1234	Object identifier.
4	Query	dateFrom	string *(datetime)*	Yes	2022-03-01 T00:00:00+02:00	The period from (UTC + time zone). The value cannot be equal or greater to dateTo parameter and it should be the first day of the month starting from which the data should be received. *(the term restriction is applied up to 12 month, calculated as a difference between dateTo and dateFrom)*
5	Query	dateTo	string *(datetime)*	Yes	2022-03-31 T00:00:00+02:00	The period to (UTC + time zone). The value cannot be equal or lower to dateFrom parameter. *(the term restriction is applied up to 12 month, calculated as a difference between dateTo and dateFrom).*

6.2.5.2 Response parameters

The table below describes the JSON structure and elements of the response body:

No	Name	Type	Mandatory	Value	Description
1	vatInvoiceNumber	string *(max length 25)*	Yes	11111111	VAT invoice number. For individual's is returned **null** value.
2	vatInvoiceSeries	string *(max length 10)*	Yes	EASR	VAT invoice series. For individual's is returned **null** value.
3	objects	array	Yes	<objects>	Objects.
<objects>					
4	objectId	number	Yes	76543	Object identifier.
5	objectNumber	string *(max length 20)*	Yes	12345	Object number.
6	products	array	Yes	<products>	Products and their consumption / production.
<products>					
7	billingPeriod	string *(datetime)*	Yes	2022-03-01T00:00:00+02:00	Billing period (UTC + time zone).
8	generatingObjectPriorityGroup	number	No	1	Priority of the object in the prosumer's general accounting group.
9	productCode	string *(max length 20)*	No	DIENINIS	Product code, which name is given in the parameter productName.
10	productName	string *(max length 200)*	No	El. en. persiuntimas dieniniu tarifu	Product name.
11	productType	string *(max length 2)*	No	DD	Product type.
12	unit	string *(max length 5)*	No	kWh	Unit of measurement. Possible meaning: when energy type is P+/P- - kWh;

					when energy type is Q+/Q- - kVArh.
13	energyType	string *(max length 2)*	Yes	P+	Energy type.
14	consumptions	array	Yes	<consumptions>	Consumptions.
<consumptions>					
15	meterNumber	string *(max length 20)*	No	SAG234567	Meter number.
16	value	number *(float 20;6)*	Yes	12301.123456	Consumption / production amount.
17	amount	number *(float 20;2)*	No	100.99	Amount in EUR. For individual's is returned **null** value.
18	productConsumptionType	string *(max length 10)*	No	SPR	Consumption type. Possible values and meanings: AMS - Abonentinis mok. (Subscription fee); FGS - Sutartiniai fiksuotos galios suvartojimo parametrai (Contractual fixed power consumption parameters); GGS - Generuojamos galios (Generated power); LGS - Leistinosios galios (Permissible power); REPS - Sutartiniai reaktyviosios EE parametrai (Contractual reactive electricity parameters); SPA - Pagal aktą (According to the act); SPR - Pagal rodmenis (According to readings); STA - Pagal taisykles (According to rules); TSPS - Sutartiniai technologinių sąnaudų parametrai (Contractual technological cost parameters); VAP - VIAP apskaitos parametrai (VIAP accounting parameters); SPP - Pagal parametrus (According to parameters).

6.2.5.3 Response example


```
[{
      "vatInvoiceNumber": "string",
      "vatInvoiceSeries": "string",
      "objects": [
         {
            "objectId": 0,
            "objectNumber": "string",
            "products": [
               {
                  "billingPeriod": "string",
                  "generatingObjectPriorityGroup: 0,
                  "productCode": "string",
                  "productName": "string",
                  "productType": "string",
                  "unit": "string",
                  "energyType": "string",
                  "consumptions": [
                     {
                        "meterNumber": "string",
                        "value": 0,
                        "amount": 0,
                        "productConsumptionType": "string"
                     }
                  ]
               }
            ]
         }
      ]
   }]
```

6.3 Response codes and example

The following table describes the response codes and applies to all endpoints:

No	Validation	HTTP status code	Description
1	OK	200	The request has succeeded.
2	No Content	204	The request has succeeded, but no data found according to the given parameters.
3	Bad Request	400	The server cannot or will not process the request due to a client error (e.g. malformed request syntax: mandatory parameters, headers, etc. must be specified).
4	Unauthorized	401	The authentication credentials are incorrect. The user may repeat the request with a new or replaced Authorization header field.
5	Forbidden	403	• Client doesn't have the necessary privilege to access the resource; or • Exceeding quota limits. Error message text: "Out of call volume quota. Quota will be replenished in {dd.hh:mm:ss}".
6	Not Found	404	The server cannot find the requested resource.
7	Payload Too Large	413	Exceeding response size limits. Error message text: "Maximum allowed size for the response is … bytes (… MB). This response has size of … bytes."

Response example:

```
{
  "errorMessages":  [
    {
      "code": "string",
      "text": "string"
    }
  ]
}
```