Actual Sourcing Locations (before creating Intervention)

id	material	supplier	businessUnit	adminRegion	interventionId	intervType
sl_1	Rubber	SupplierA	Tires	India	null	null
sl_2	Cotton	SupplierB	Clothes	China	null	null
sl_3	Palm Oil	SupplierC	Food	Indonesia	null	null

Actual Sourcing Records (before creating Intervention)

id	sl_id	year	tonnage
sr_1	sl_1	2022	500
sr_2	sl_2	2022	600
sr_3	sl_3	2022	700

Actual SourcIIndocatorg Records (before creating Intervention)

id	sr_id	indicator	value
ir_1	sr_1	deforest	5000
ir_2	sr_2	deforest	6000
ir_3	sr_3	deforest	7000

Creating new Scenario

id	title	description
scen_1	Rubber Change	…

Creating 2 Interventions for new Scenario
According to this Scenario - 50% of Rubber will be purchased from new SupplierD, 25% - from new SupplierF and 25% will continue to be purchased from SupplierA

id	scenarioId	title	description	type	percentage	….
si_1	scen_1	Change to SupplierD	Adding new supplier for half of the Rubber	Change of Supplier	50	…..

id	scenarioId	title	description	type	percentage	….
si_2	scen_1	Change to SupplierF	Adding new supplier for half of the Rubber	Change of Supplier	25	…..

After creation of Scenario and Scenario Intervention, Sourcing Locations, Sourcing Records and Indicator Records tables will look like this:

- 4 New Sourcing Locations will be created, with reference to Scenario Intervention Id (2 per Intervention)
- Each of them will have its own Sourcing Records and Indicator records
- Since interventions cover 50% and 25% of Rubber - tonnages of Sourcing Records and values of Indicator Records will be calculated accordingly

Actual Sourcing Locations (after creating Intervention)

id	material	supplier	businessUnit	adminRegion	interventionId	intervType
sl_1	Rubber	SupplierA	Tires	India	null	null
sl_2	Cotton	SupplierB	Clothes	China	null	null
sl_3	Palm Oil	SupplierC	Food	Indonesia	null	null
sl_4	Rubber	SupplierA	Tires	India	si_1	Canceled
sl_5	Rubber	SupplierD	Tires	Brazil	si_1	New
sl_6	Rubber	SupplierA	Tires	India	si_2	Canceled
sl_7	Rubber	SupplierF	Tires	Spain	si_2	New

Actual Sourcing Records (after creating Intervention)

id	sl_id	year	tonnage
sr_1	sl_1	2022	500
sr_2	sl_2	2022	600
sr_3	sl_3	2022	700
sr_4	sl_4	2022	250 (50%)
sr_5	sl_5	2022	250 (50%)
sr_6	sl_6	2022	125 (25%)
sr_7	sl_7	2022	125 (25%)

Actual SourcIIndocatorg Records (after creating Intervention)

id	sr_id	indicator	value
ir_1	sr_1	deforest	5000
ir_2	sr_2	deforest	6000
ir_3	sr_3	deforest	7000
ir_4	sr_4	deforest	-2500
ir_5	sr_5	deforest	2000
ir_6	sr_6	deforest	-1250
ir_7	sr_7	deforest	1000

Use case: User requests comparison table - Actual Data vs Data with Scenario implemented.
User wants to see all the materials, not just the one affected by Scenario
Api will receive following data:

- Filters for material, supplier, business unit, admin region - **none**
- Scenario id - **'scen_1'**

Expected response from api in json format :

```
impactTable: [
   {
     indicatorShortName : 'Deforestation,
     groupBy: 'material',
     rows: [
       {
         name: 'Cotton',
         values : [
           {
             year : 2022,
             value : 6000,
             scenarioValue : 6000,
             absoluteDifference : 0,
             percentageDifference : 0,
             isProjected: false
           },
         ],
       },
       {
         name: 'Palm Oil',
         values : [
           {
             year : 2022,
             value : 7000,
             scenarioValue : 7000,
             absoluteDifference : 0,
             percentageDifference : 0,
             isProjected: false
           },
         ],
       },
       {
         name: 'Rubber',
         children : [],
         values : [
           {
             year : 2022,
             value : 5000,
             scenarioValue : 5000 - 2500 (canceled) - 1250 (canceled) + 2000 (new)  + 1000 (new) = 4250  ,
             absoluteDifference : -750,
             percentageDifference : -15%,
             isProjected: false
           },
         ],
       },
     ],
   },
 ],
};
```

Data Processing Questions:

In order to get data from database, following WHERE must be added to the sourcing_locations query ('sl'):

```
WHERE 'sl.scenarioInterventionId'=null OR 'sl.scenarioInterventionId' in ('si_1', 'si_2')
```

Unprocessed array of results will be the following (from '`getDataForImpactTable`' method)

```
[
      {
       year: 2022,
       name: Rubber,
       tonnes: 500,
       impact: 5000,
       scenarioInterventionId: null,
       typeByIntervention: null
      },
      {
       year: 2022,
       name: Rubber,
       tonnes: 250,
       impact: 2500,
       scenarioInterventionId: si_1,
       typeByIntervention: CANCELED
      },
      {
       year: 2022,
       name: Rubber,
       tonnes: 125,
       impact: 1250,
       scenarioInterventionId: si_2,
       typeByIntervention: CANCELED
      },
      {
       year: 2022,
       name: Rubber,
       tonnes: 250,
       impact: 2000,
       scenarioInterventionId: si_1,
       typeByIntervention: NEW
      },
      {
       year: 2022,
       name: Rubber,
       tonnes: 125,
       impact: 1000,
       scenarioInterventionId: si_2,
       typeByIntervention: NEW
      },
      {
       year: 2022,
       name: Palm Oil,
       tonnes: 700,
       impact: 7000,
       scenarioInterventionId: null,
       typeByIntervention: null
      },
      {
       year: 2022,
       name: Cotton,
       tonnes: 600,
       impact: 6000,
       scenarioInterventionId: null,
       typeByIntervention: null
      },
]
```

Processing Data

Sort the objects to find those with null intervention (real data)

For each of those sorted real data objects find the ones with same 'name' and 'year' and with ***scenarioInterventionId*** not null

Found

Create **scenarioImpact** property by:
Iterating and reducing the intervention object:

- For each entity-year object, create scenarioImpact property, that by default and before iteration is equal to impact (real impact)
- If during iteration objects with same entity-year values, belonging to scenario are found - their impacts will be added to scenarioImpact of the original entity-year object (since canceled impacts are negative values, technically those impacts will be substracted)

Not found

- Since the intervention values doesn't exist for the name and year, **scenarioImpact** will be equal to real **impact**