PARTNER

Building Intelligent and Sustainability Scenario with SAP BTP

EP320-SAP Analytics Cloud Maintenance Cost & Sustainability Planning

Exercise04 – Sustainability Planning Story

This document will guide you step by step on the process of creating sustainability planning story

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Table of Contents

DISCLAIMER

All functionality presented here is subject to change and may be changed by SAP at any time for any reason without notice.

OBJECTIVE

The objective of this exercise is to provide the steps needed to create SAP Analytics Cloud story to plan and analyze key process indicators of sustainability

SCENARIO

This exercise follows the scenario you were introduced to in the demo Maintenance Cost & Sustainability Planning for Bagnoli & Co.
This exercise explains how to create SAP analytics cloud story to analyze the past performance of sustainability KPIs , how to predict energy rate utilizing the predictive capabilities of SAP analytics cloud and how to configure value driver tree to simulate the key components of sustainability.

ENVIRONMENT ACCESS – SAP ANALYTICS CLOUD

Before the exercise, please obtain the Tenant details and Login Credentials of SAP Analytics Cloud provided to you as instruction below.

SAP Analytics Cloud (To login SAP Analytics Cloud and perform the exercise.)

- Tenant URL
- Username: Your assigned User ID
- Password: Your assigned User Password

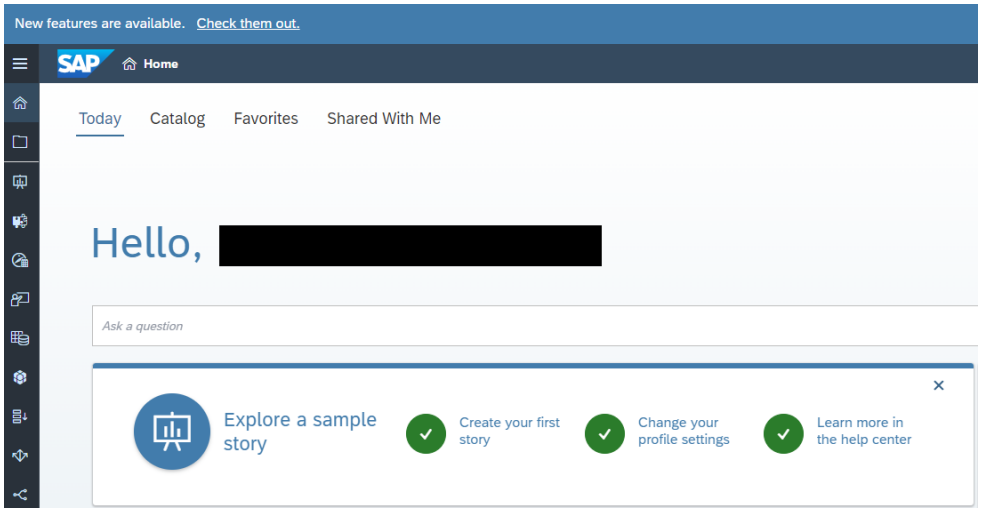
For the Bootcamp participants, please use the SAP Analytics Cloud tenant provided by SAP, and your assigned user id and password.

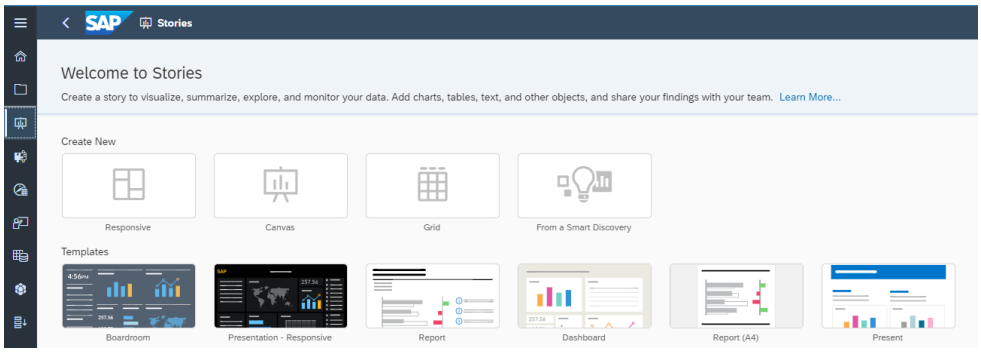
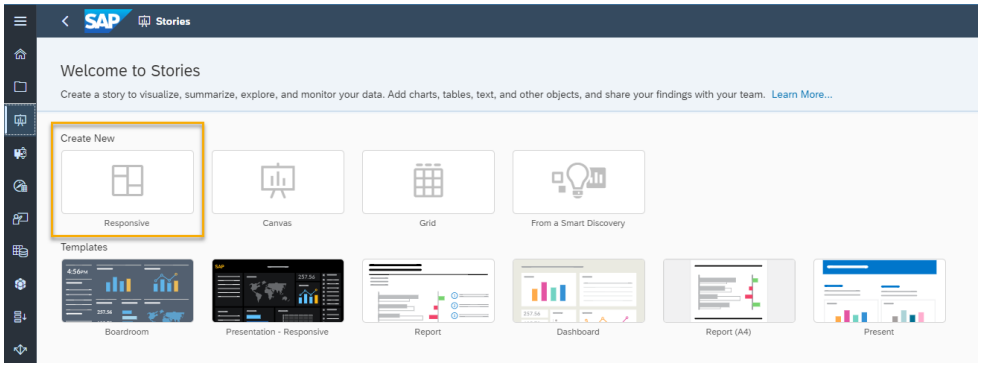
- The SAP Analytics cloud tenant URL is available in the dedicated Microsoft Teams > General (Channel) > System Access (Tab) > SAP Analytics Cloud (Section), which you have been invited.
- Your assigned user id and password for SAP Analytics Cloud are communicated individually via email.

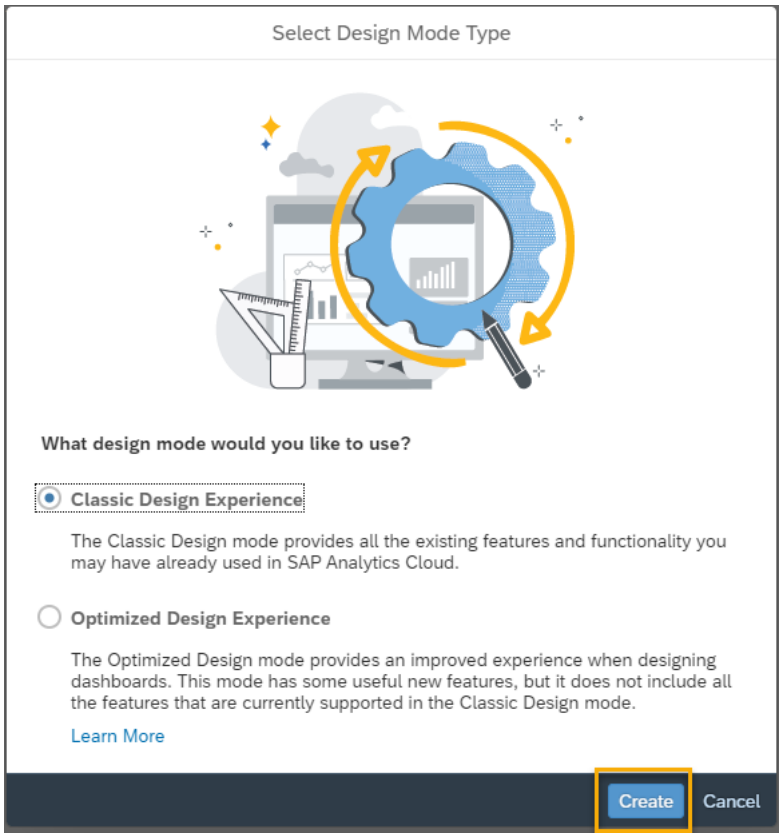
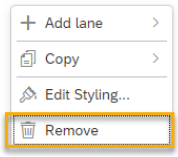
PREREQUISITES

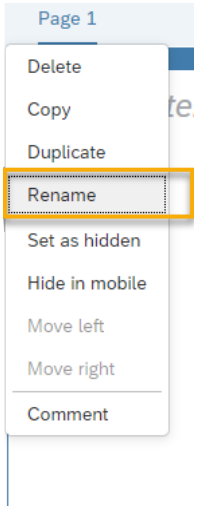
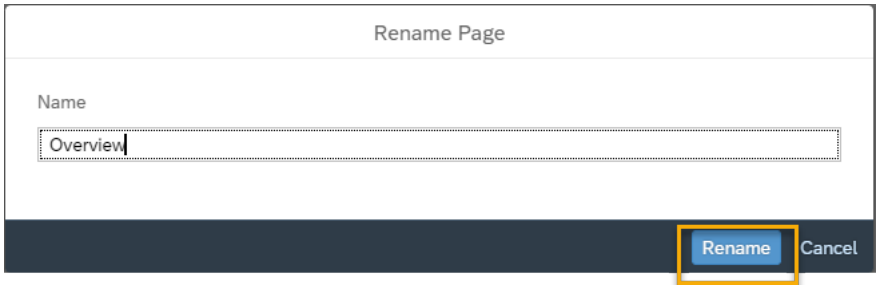
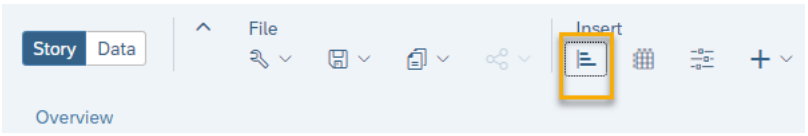
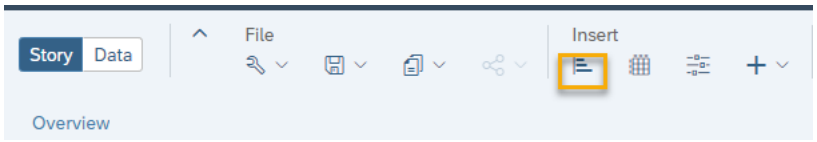
You have completed exercise 1, 2 and 3

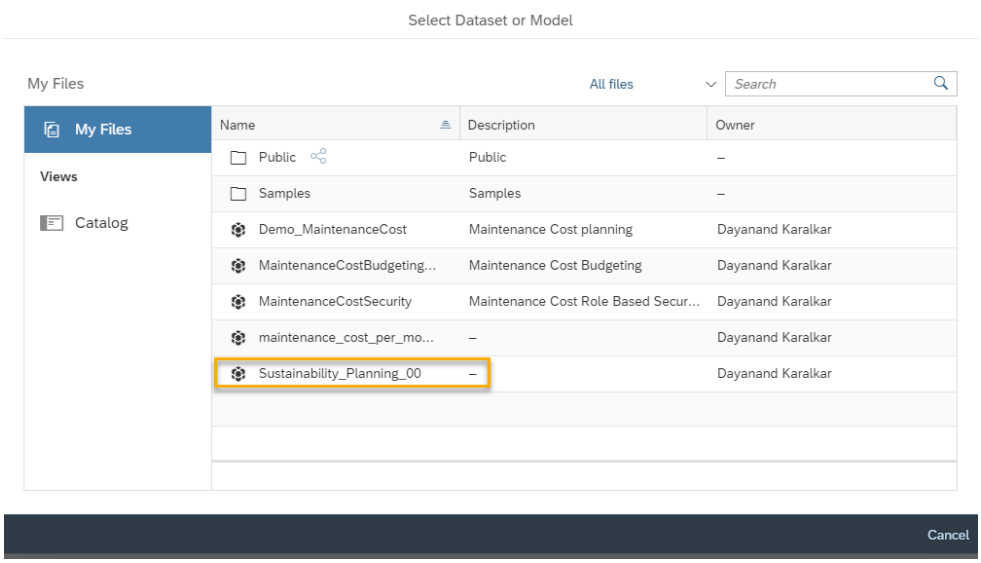
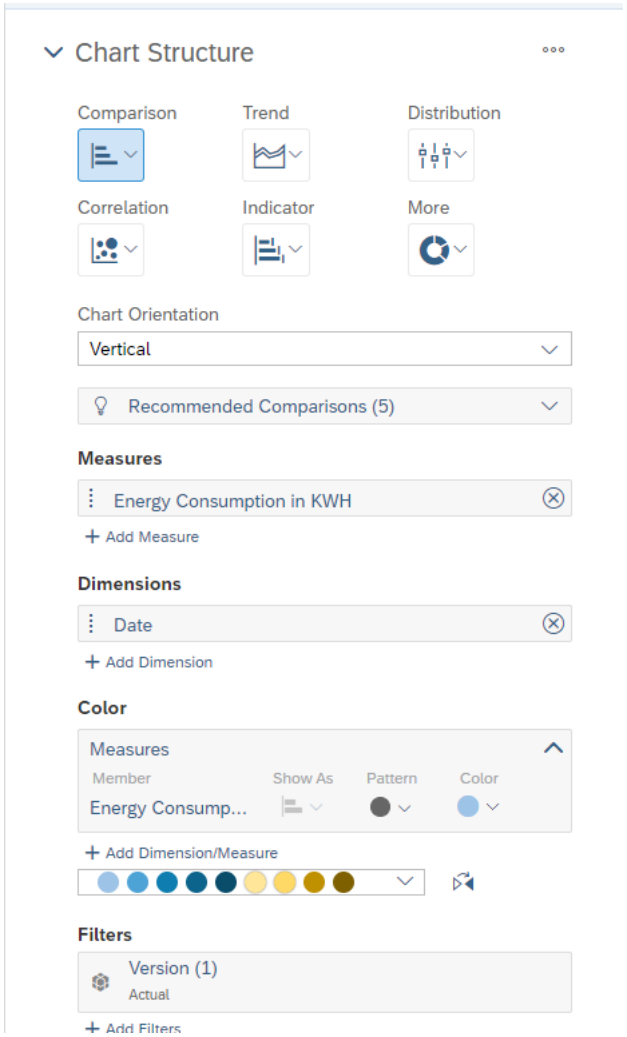
EXERCISE STEP DETAILS

Explanation	Screenshot
Log on to SAP Analytics Cloud with the given tenant URL and assigned user credential mentioned above. Go to the Home Screen.	

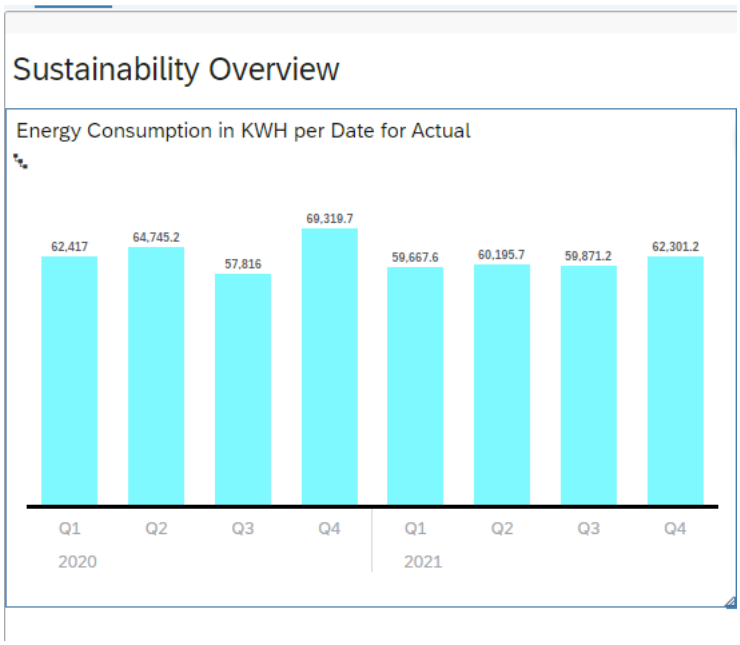
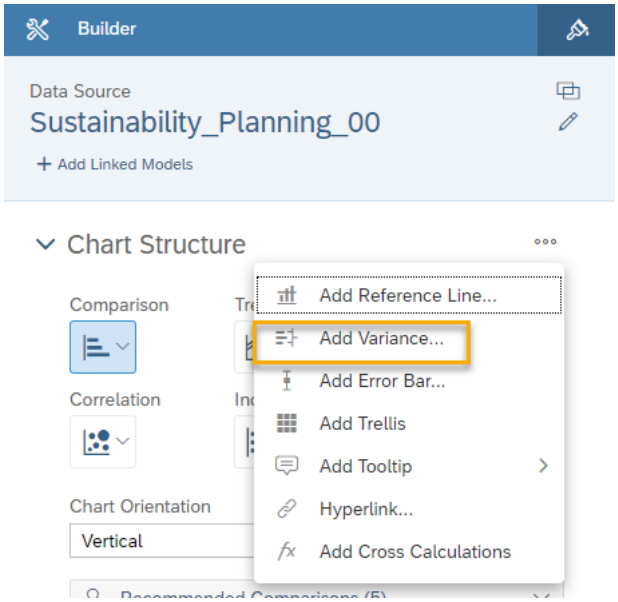
Explanation	Screenshot
Click on the stories  Icon, the system opens home page for Stories.	
Click on Create New -> Responsive	

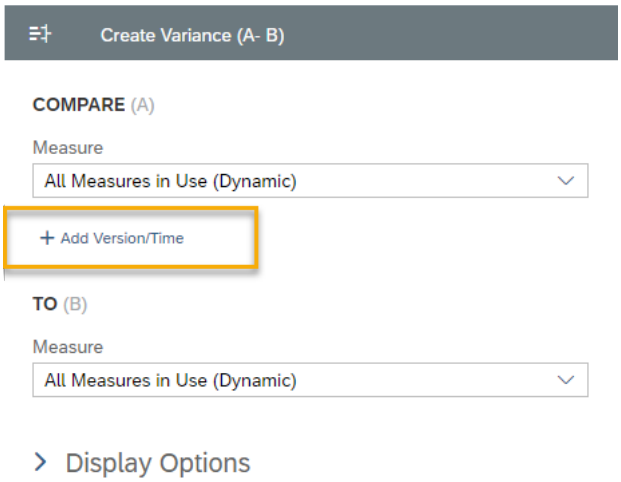
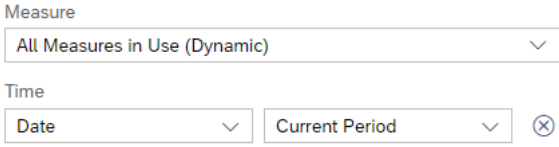
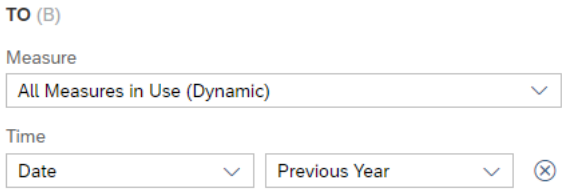
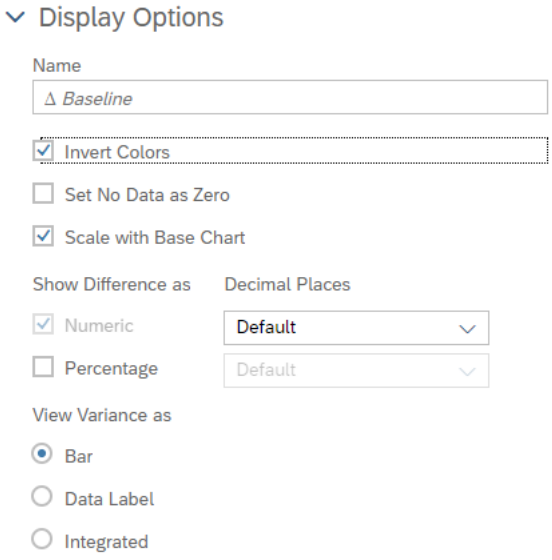
Explanation	Screenshot
In the design mode selection pop up select Classic Design Experience and click Create	
Right Click on the right lane and choose Remove	

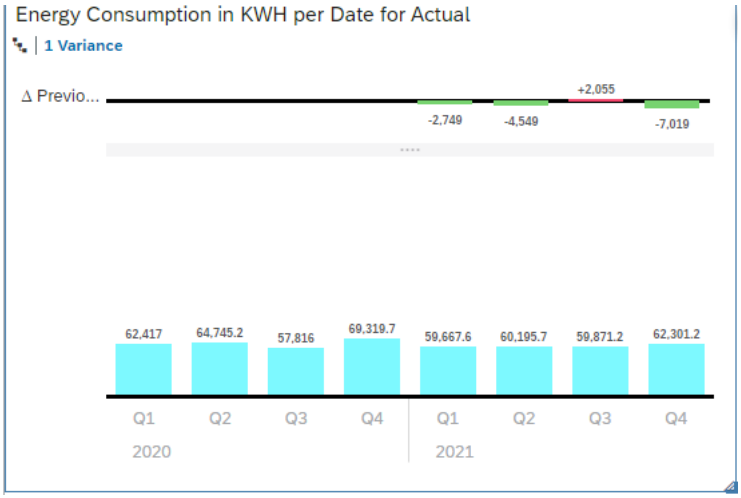
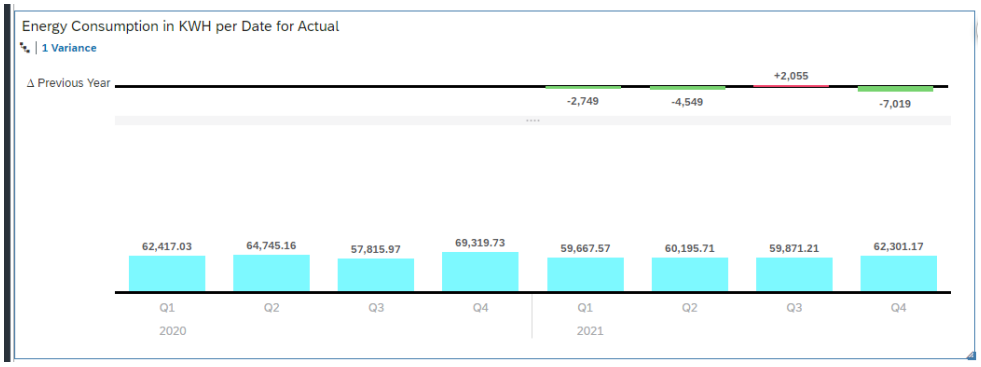
Explanation	Screenshot
Click on the Page 1 and select Rename	
Rename the page as “Overview” and click on Rename	
Provide title “Sustainability Overview”	
Click on  to insert a Chart	

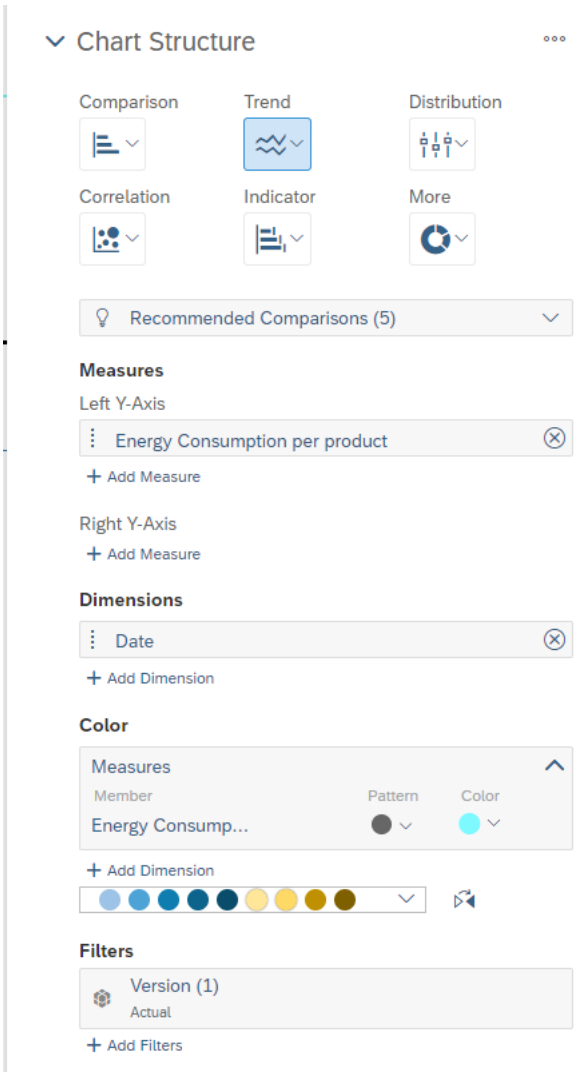
Explanation	Screenshot
In the model selection pop-up, select the Sustainability planning model created in Exercise 1	
Configure the chart as below, Type: Bar Orientation: Vertical Measure: Energy Consumption in KWH Dimension: Date Make sure the date Hierarchy is Year, Quarter Month and Level is set to 3 by clicking on the  on the date dimension Filters: Version-> Actual	

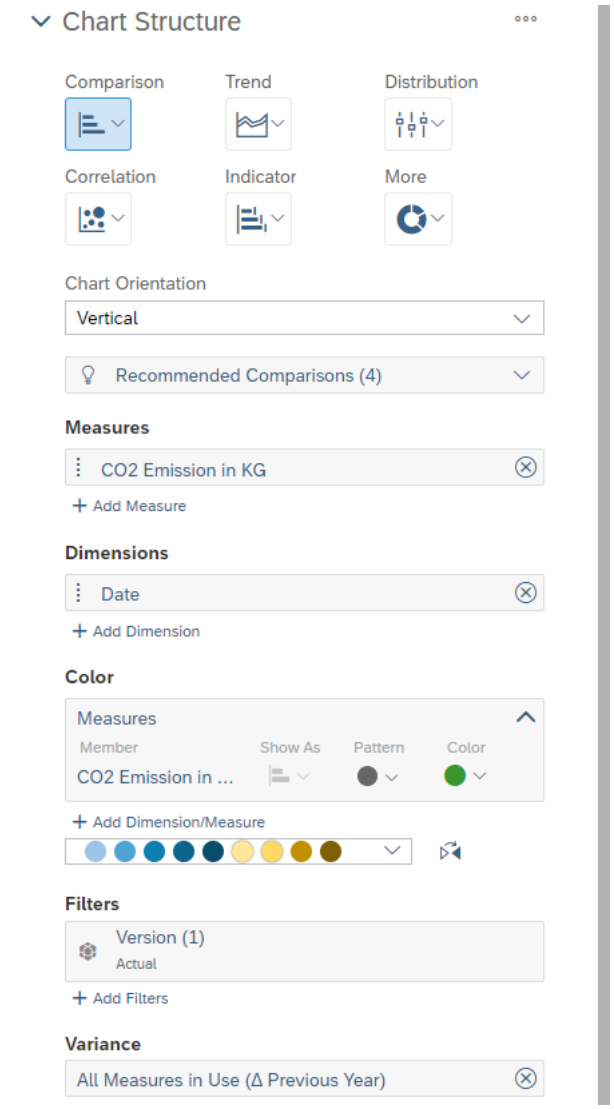
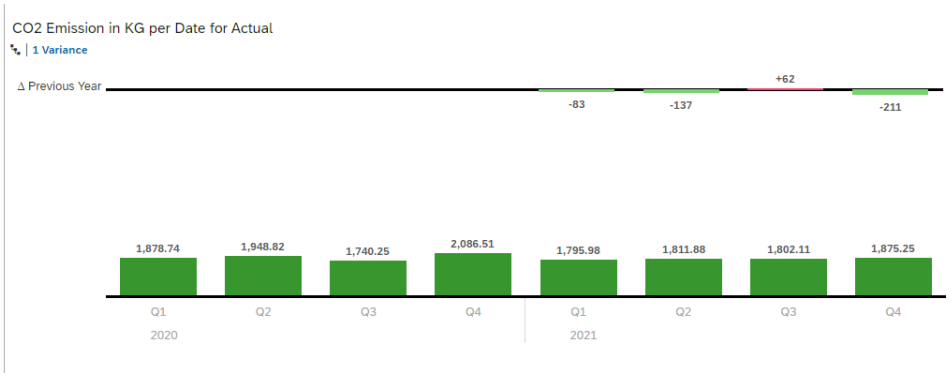
Explanation	Screenshot
The energy Consumption chart is displayed in the story as per the configuration	
Click on the color section and input the hex value 7df9ff to change the color of the bars	

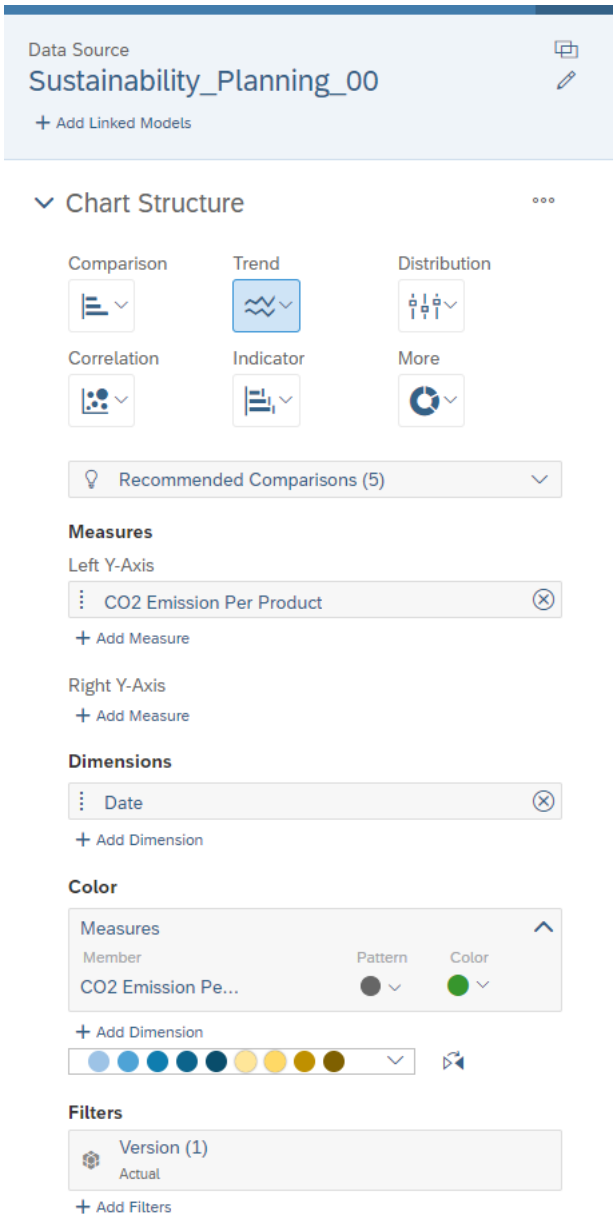
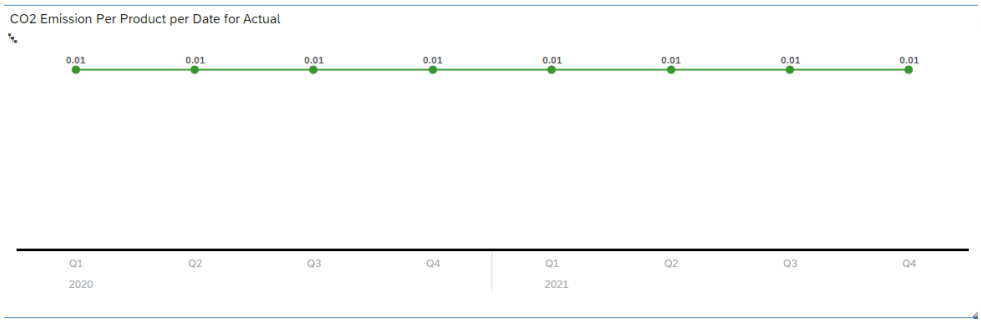
Explanation	Screenshot
The chart display is changed as per the color selected	
We need to compare the change in energy consumption resulted due to proactive maintenance. Click on ••• on the right hand of Chart Structure and select Add Variance	

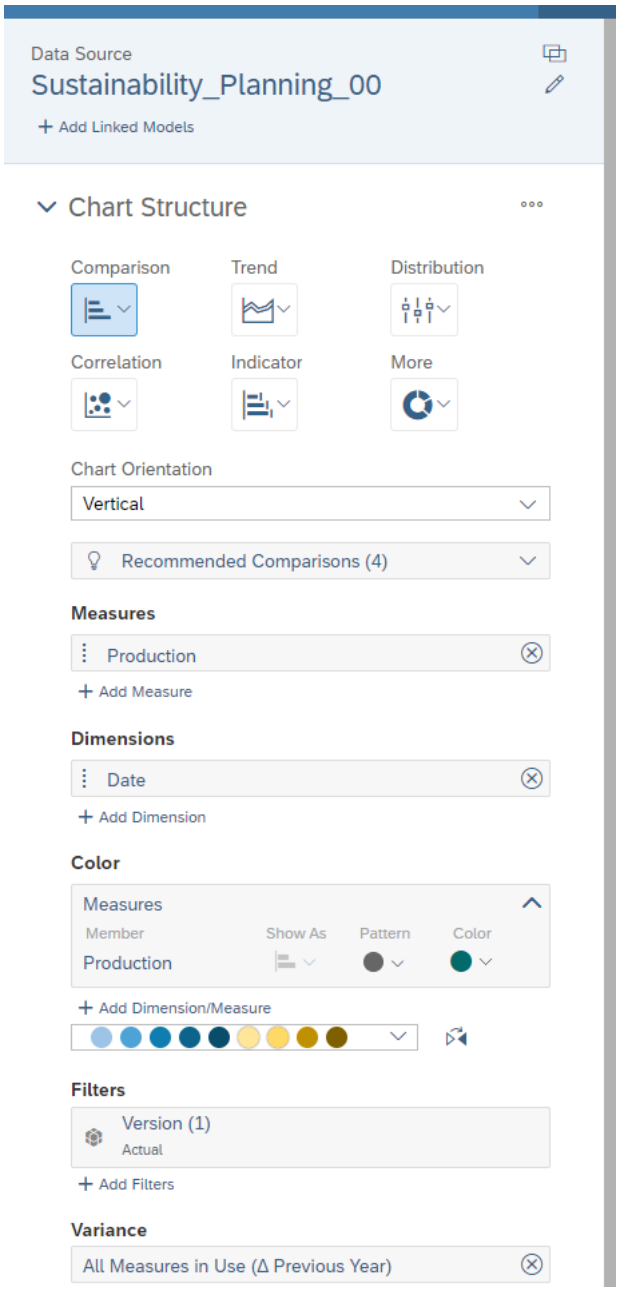
Explanation	Screenshot
The variance Configuration screen appears. Click on the + Add Version/Time	
In the drop down select Date Current Period	
In To section, for Time dimension select Date Previous year	
In Display Option Select Invert Colors as lower energy consumption is a positive sign	

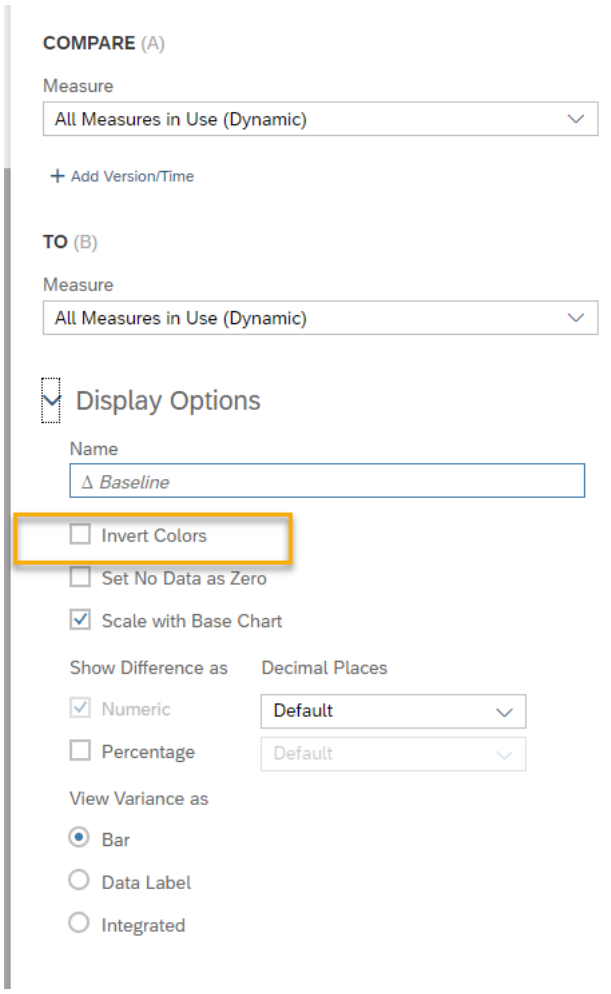
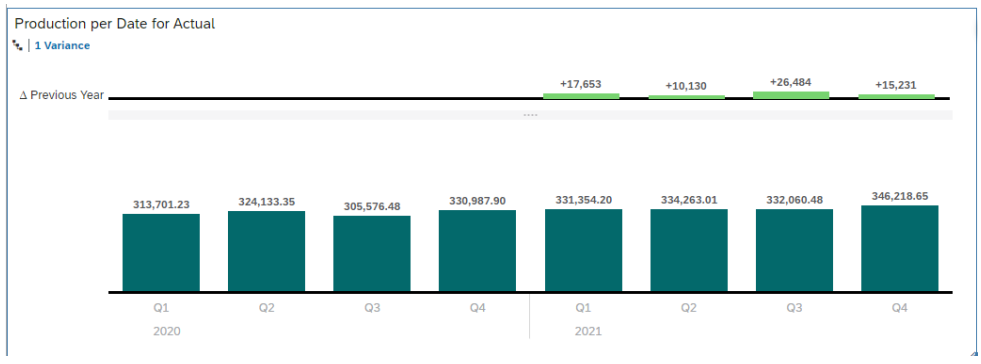
Explanation	Screenshot
The chart displays the variance configured	
Resize the chart as required	

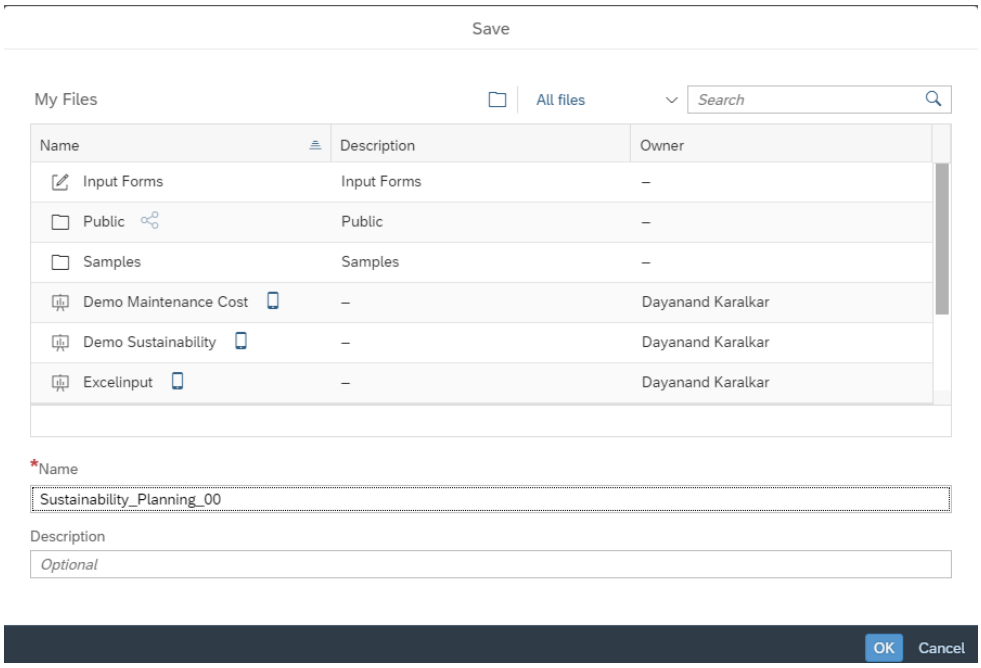
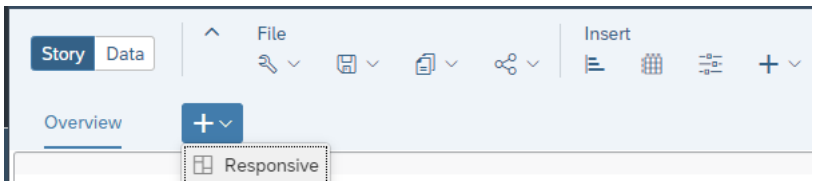
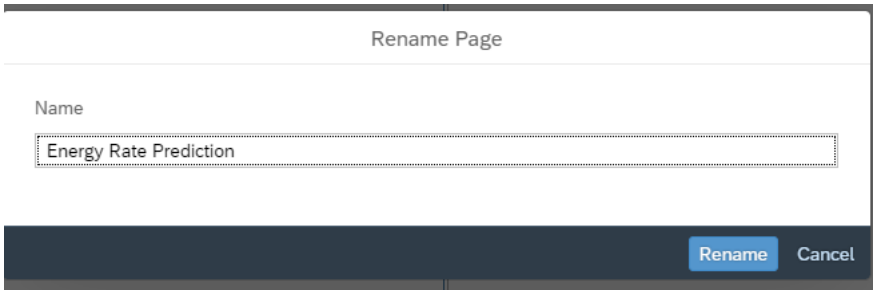
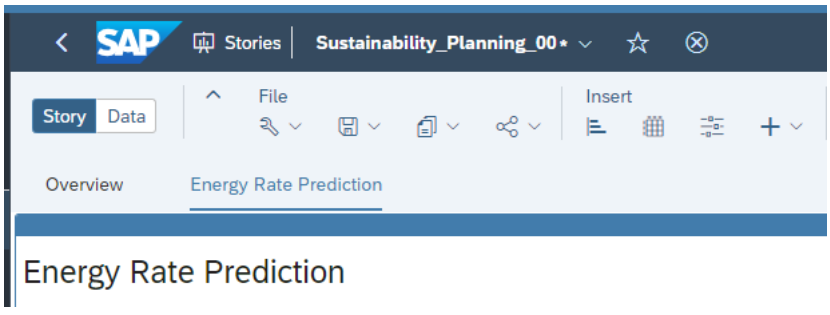
Explanation	Screenshot
Insert Another chart to show the energy consumption per product Configure the chart as shown, Type: Line Y Axis: Energy Consumption per product Dimension Date Color: 7df9ff	

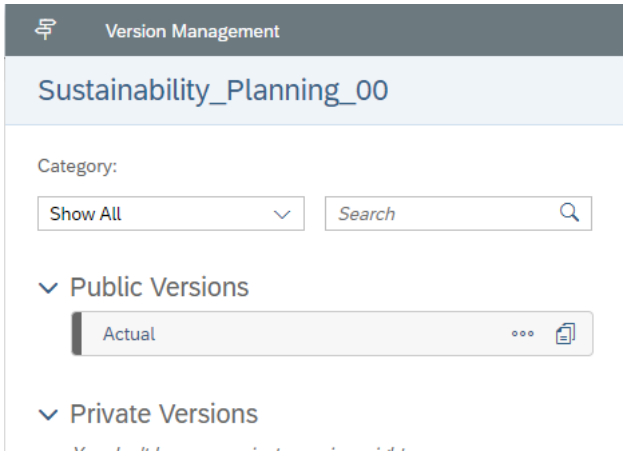
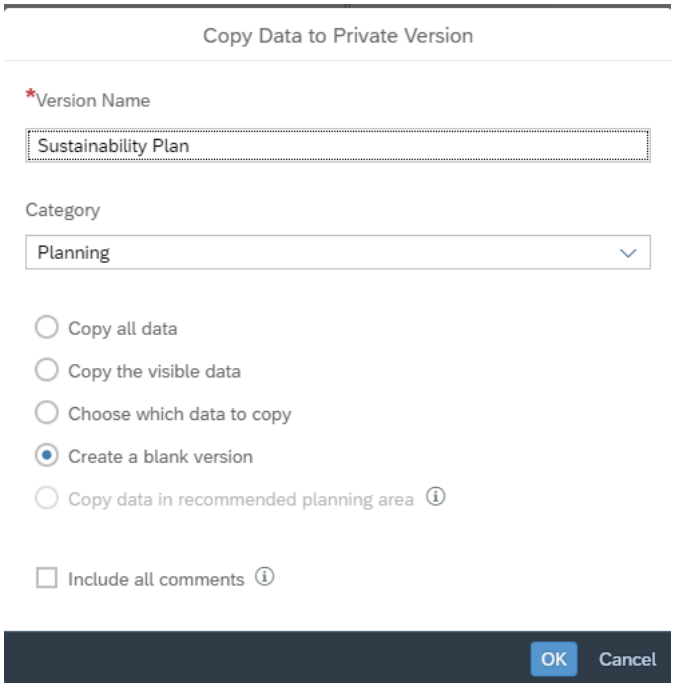
Explanation	Screenshot
Insert charts for CO2 emission comparison	
CO2 Emission Comparison	

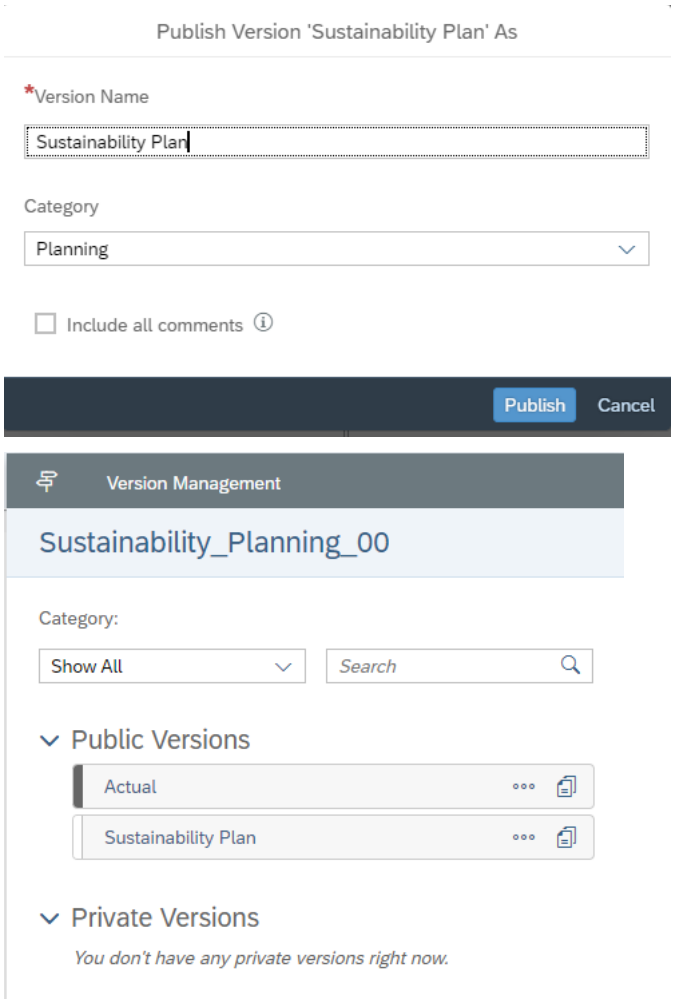
Explanation	Screenshot
Insert chart to show the trend of CO2 emission per Product	
C02 Emission Per Product Trend	

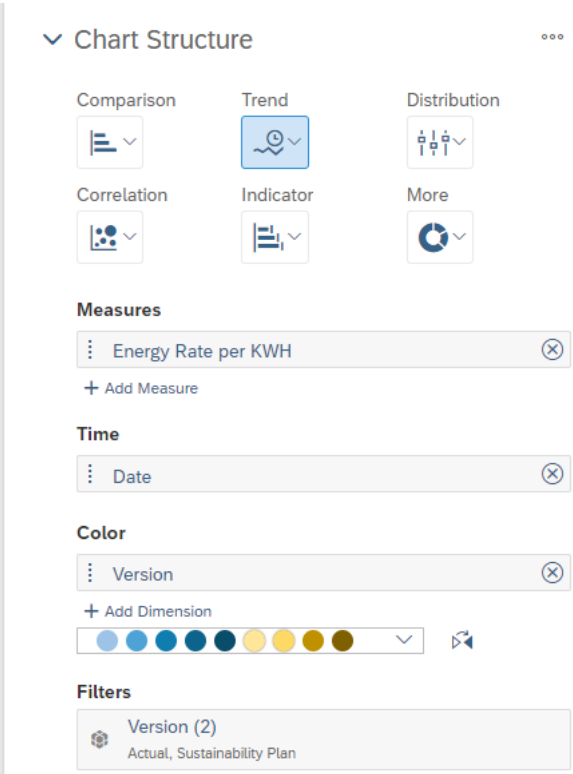
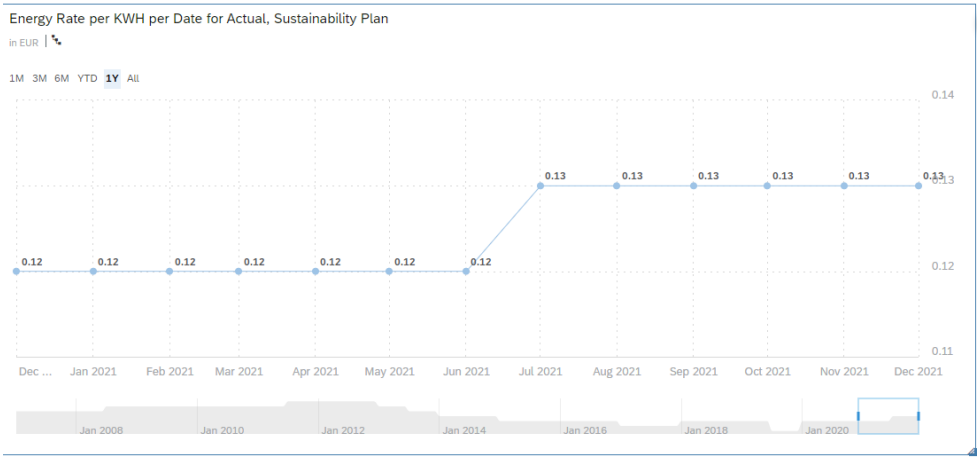
Explanation	Screenshot
Insert Chart to compare the Production after the implementation of Proactive maintenance	 Untick the Invert colours as increase in production is a positive sign

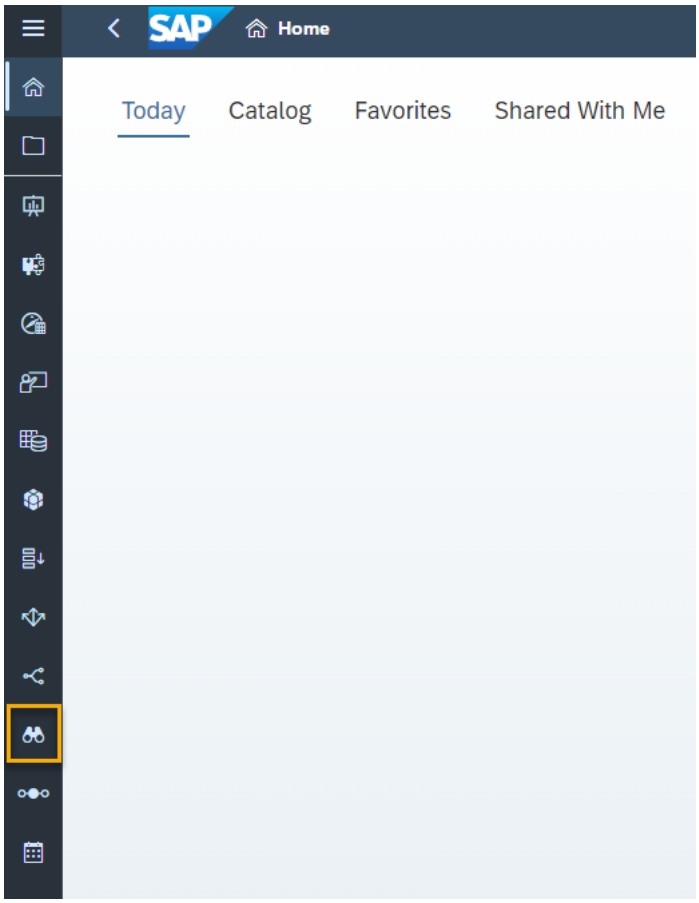
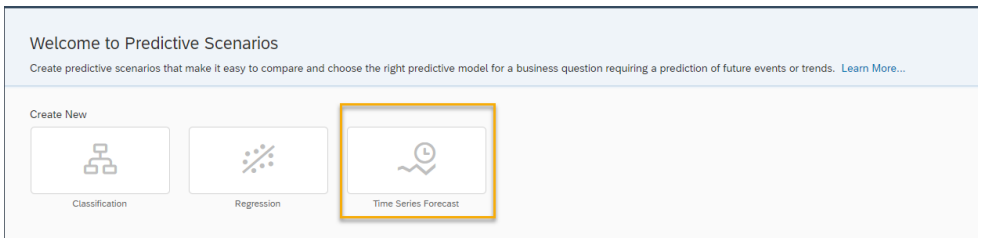
Explanation	Screenshot
	
The production comparison chart is displayed as configured	

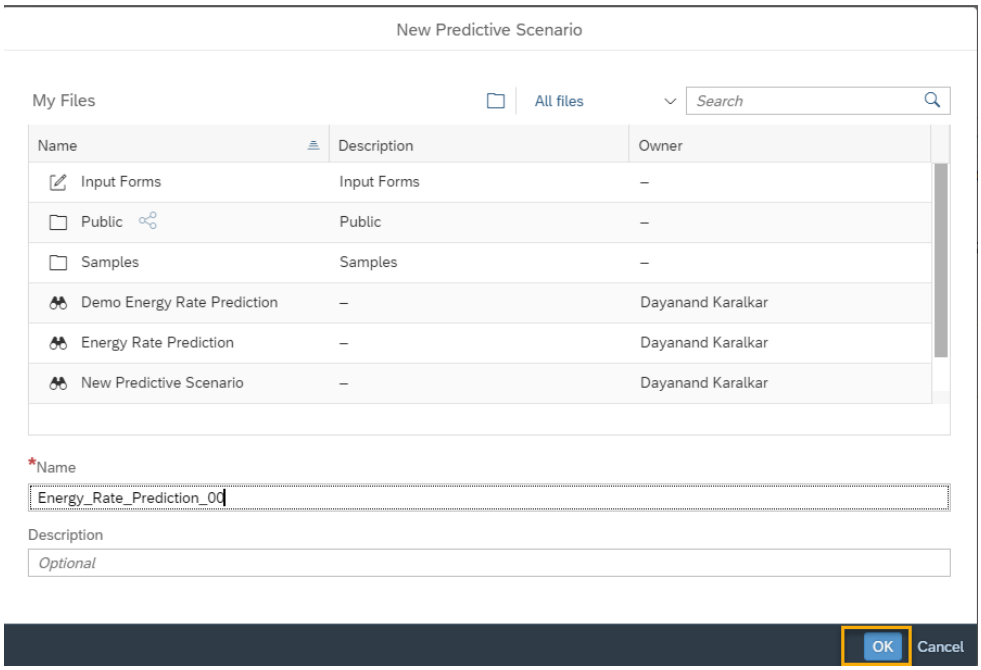
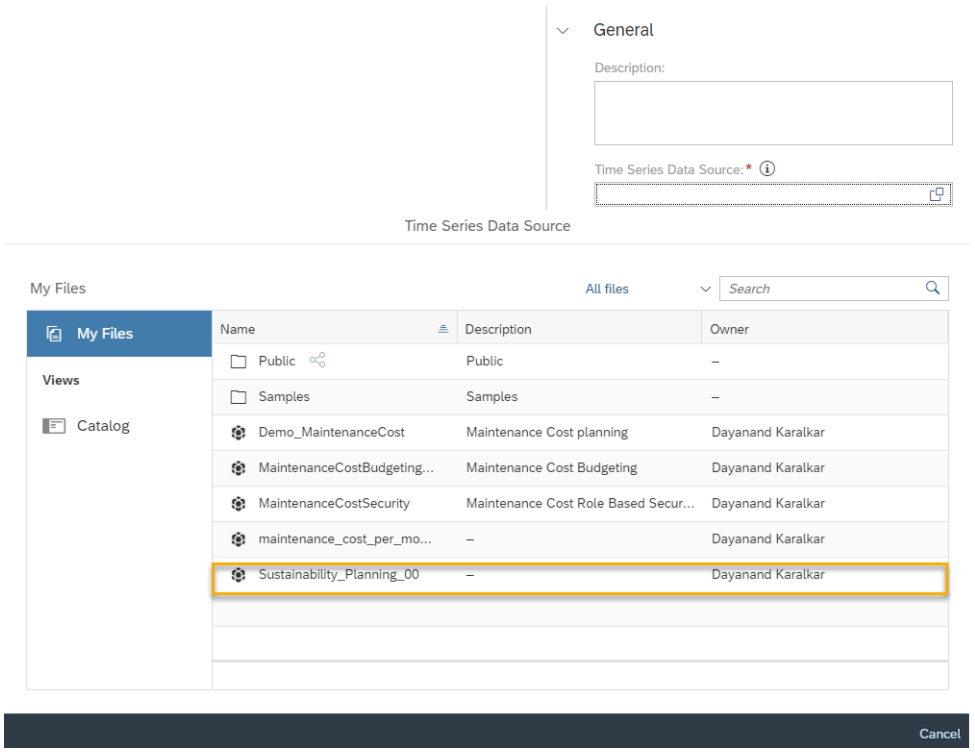
Explanation	Screenshot
Save the Story as Sustainability_Planning_XX	
Energy Rate Prediction	
Insert a New Responsive Page in the story	
Rename the page as Energy Rate Prediction	
In the title enter Energy Rate Prediction	

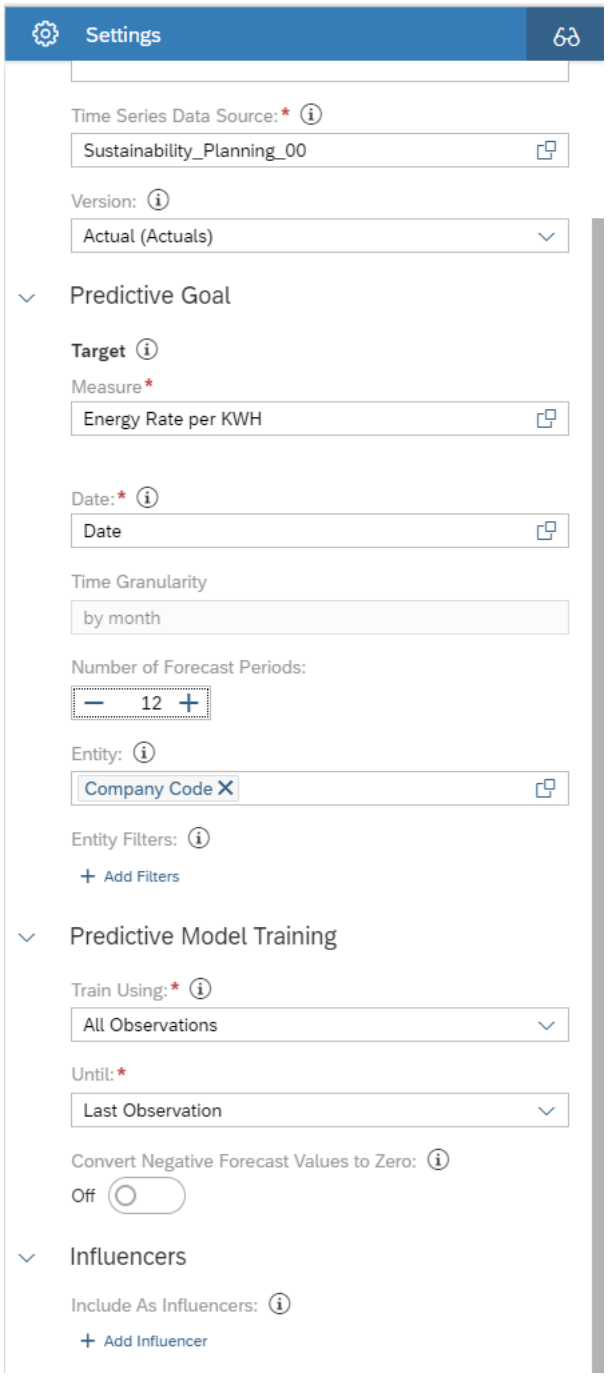
Explanation	Screenshot
From the insert menu Insert a table	
Click on the table and click on Version Management	
Following the same steps as Maintenance cost planning Create a Public version Sustainability Plan	

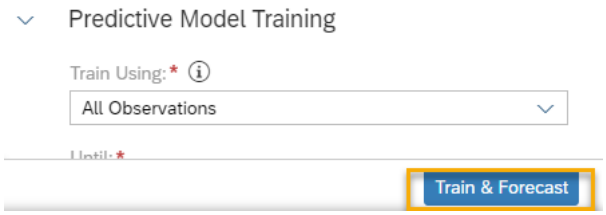
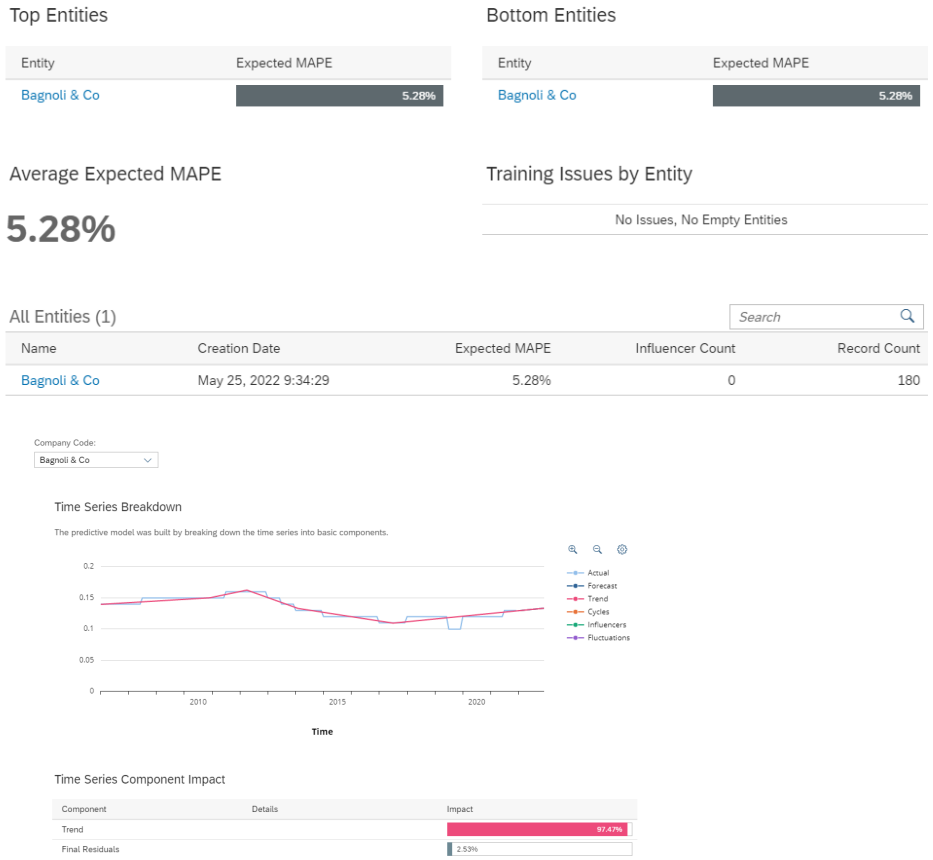
Explanation	Screenshot
	
Close the version Management	
Click on  beside the table and choose Remove	

Explanation	Screenshot
Insert Chart for energy rate and configure as shown . there is no data in Plan version yet hence for selecting the filter switch on the unbooked member option	
The Time series chart is added to the story	
Save the story and Navigate back to the homepage	

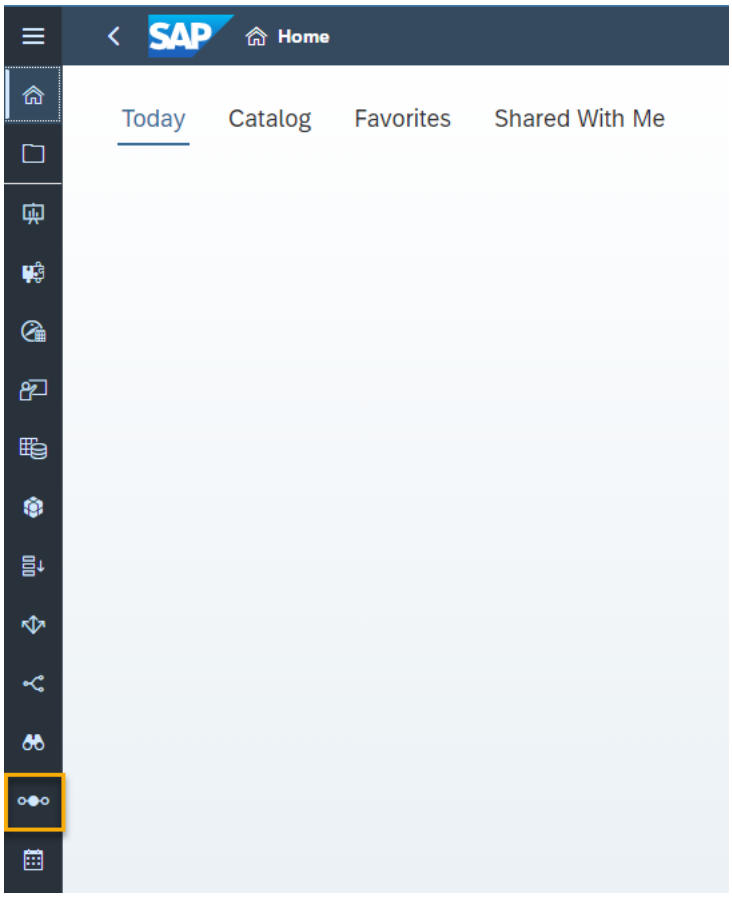
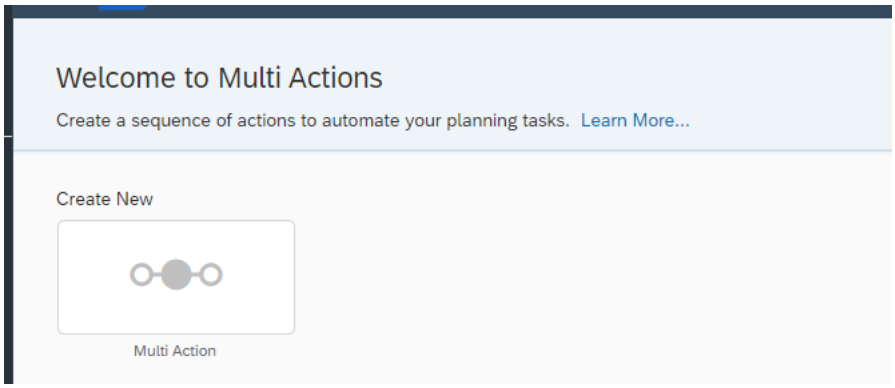
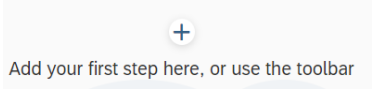
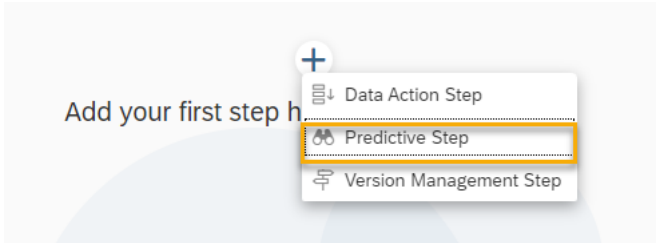
Explanation	Screenshot
On the home page click on  (predictive Scenario)	
The predictive scenario configuration page opens. In the Create new click on Time Series Forecast	

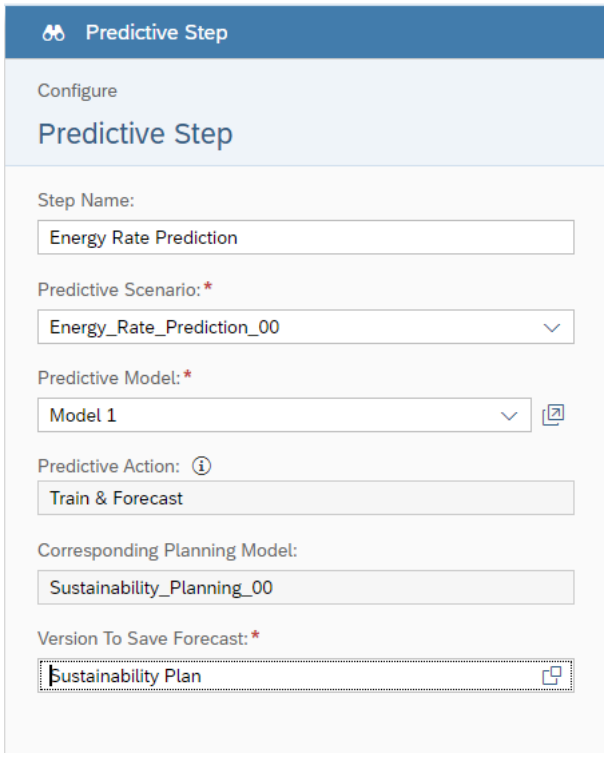
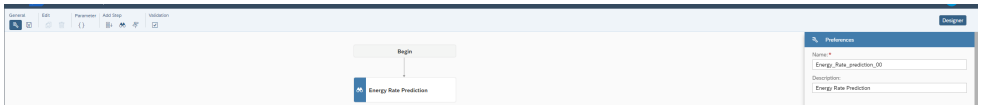
Explanation	Screenshot
In the new Predictive Scenario Screen provide name Eneregy_Rate_Prediction_00 and Click OK	
The predictive scenario configuration opens. In the data source select your sustainability Model	

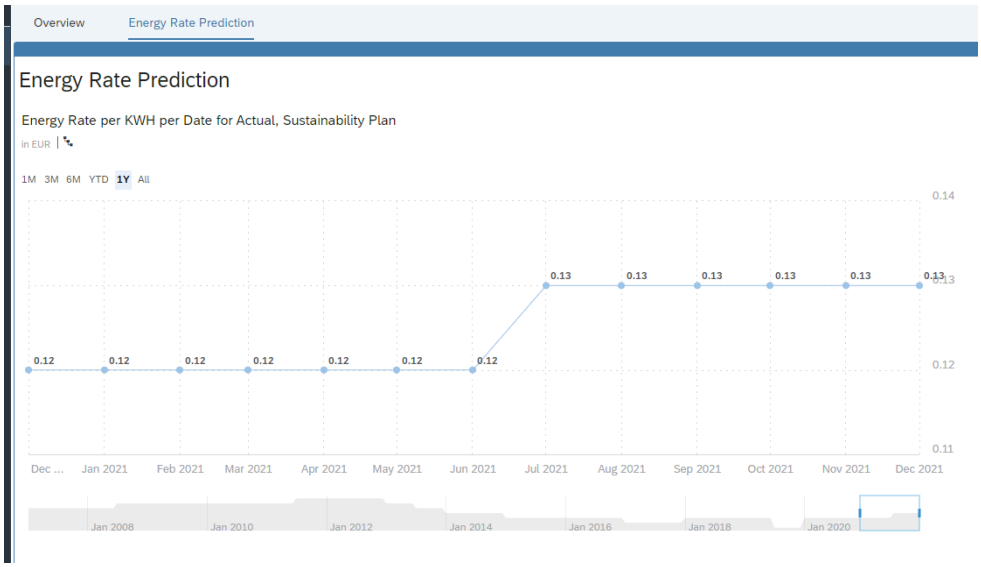
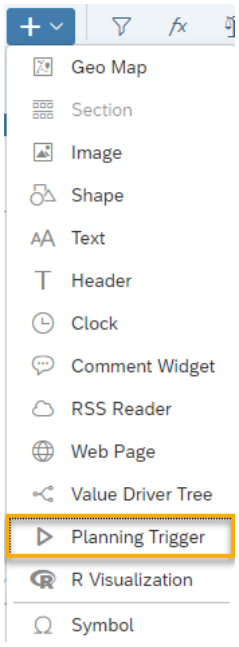
Explanation	Screenshot
Configure the setting as below Version: Actual Target measure: Energy Rate Per KWH Date: Date dimension of the model Time Granularity :- month Number of Forecast Periods :- 12 Entity : Company Code Predictive Model training Train Using: - All observation Until:- Last Observation	
Click on to save the settings	

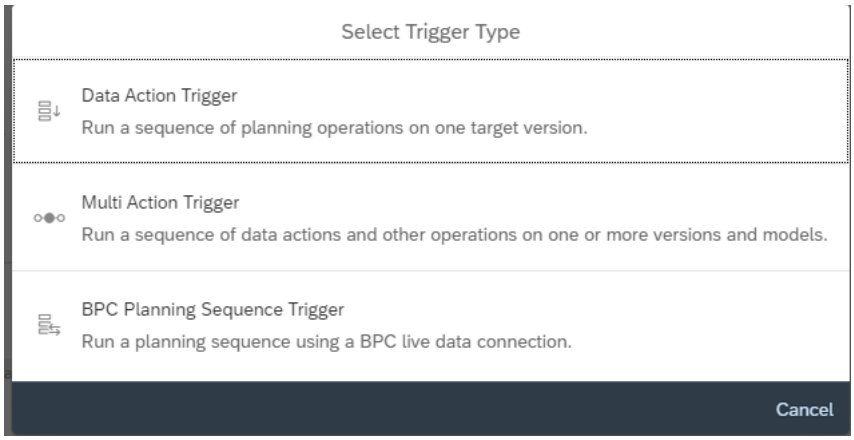
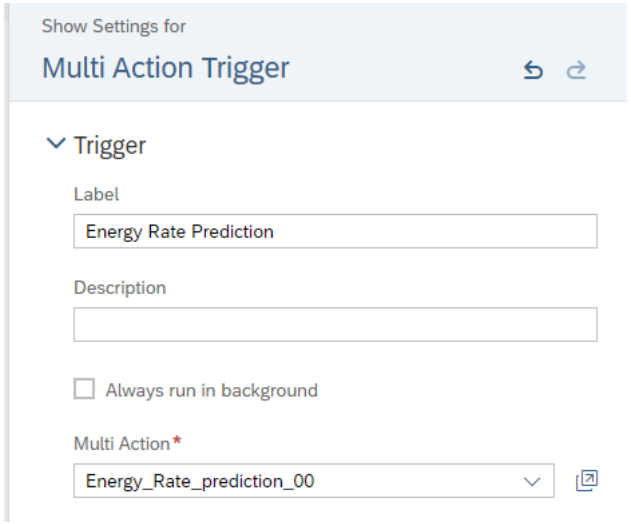
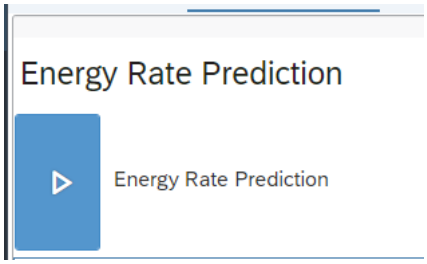
Explanation	Screenshot
Click on “ Train & Forecast”	
The model provides the results of the prediction	
Navigate Back to the Home Page	

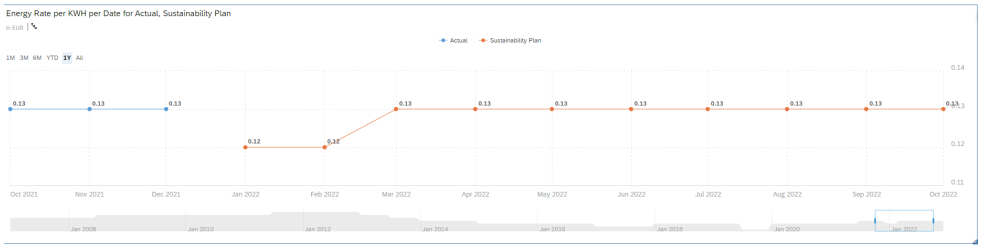
MultiAction Configuration

Explanation	Screenshot
We need to provide users the functionality to run predictive forecast from SAP Analytics cloud stories. To enable that the predictive scenario configured should be available to the users in SAC stories. Multi Action is used to configure such scenario. From home screen click on  to create Navigate to a Multi Action Screen	
The Multi action Configuration screen opens. Click on Create -> New	
Click on  And select Predictive Step	

Explanation	Screenshot
Configure the step as below, Name: Energy Rate Prediction Predictive Scenario: Select the predictive scenario you have created in the previous step System derives the Model: Model1 Version: Sustainability Plan	
Click on  and provide name as Energy_Rate_Prediction_00 Description: Energy rate prediction	
Click on  to Save the Multi Action	
Including Multi Action in the Story	

Explanation	Screenshot
Open the Sustainability planning story in Edit mode and navigate to the Energy Rate prediction page	
Click on  in the insert menu and select Planning Trigger	

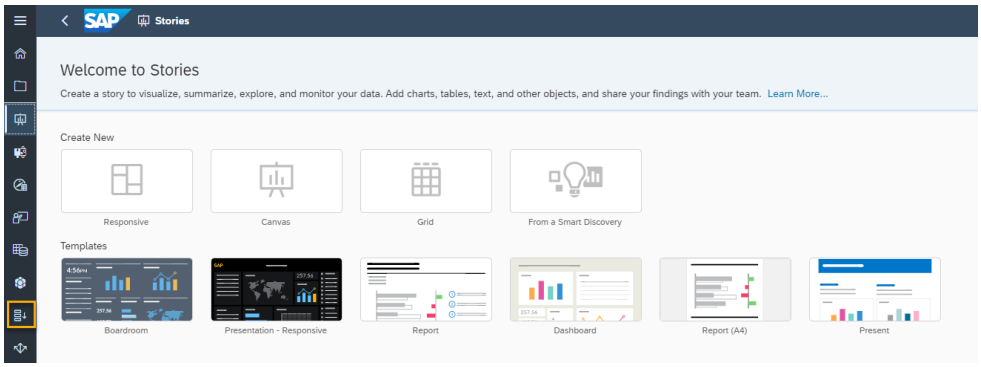
Explanation	Screenshot
Click on Multi Action Trigger	
In the Multi Action select the multi action configured in the last step. Provide label as “Energy Rate Prediction”	
Place the Multiaction on top of the chart and click to save the story	
Click on the Multi Action to execute it	

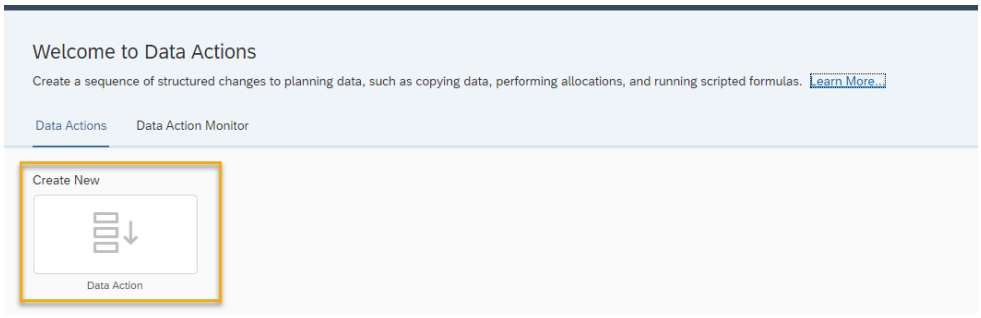
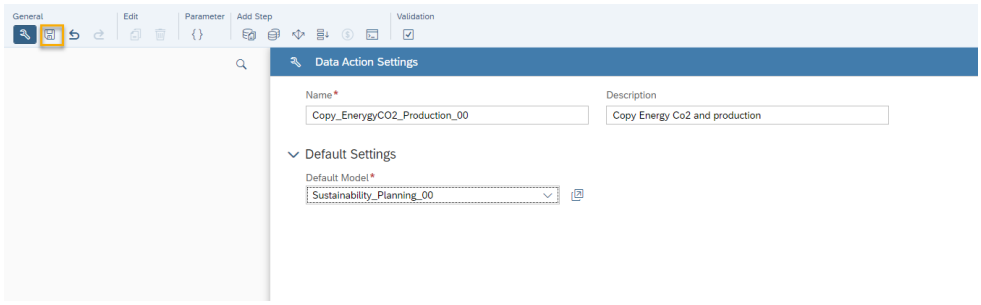
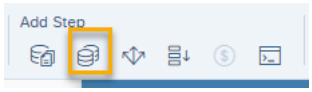
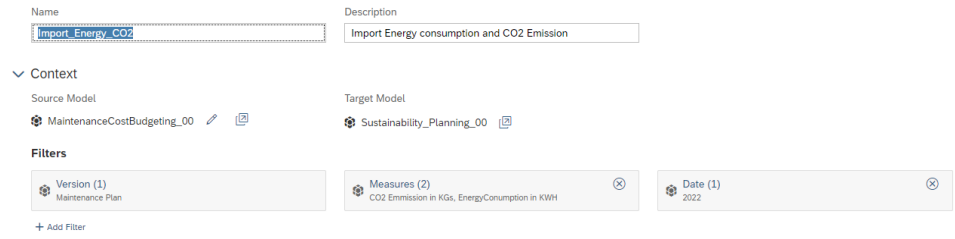
Explanation	Screenshot
The Multi action triggers the predictive scenario and provides the energy rate for 2022	
Change the color palette to select differentiate the Actual and Plan values more clearly	
Click on  to save the story	

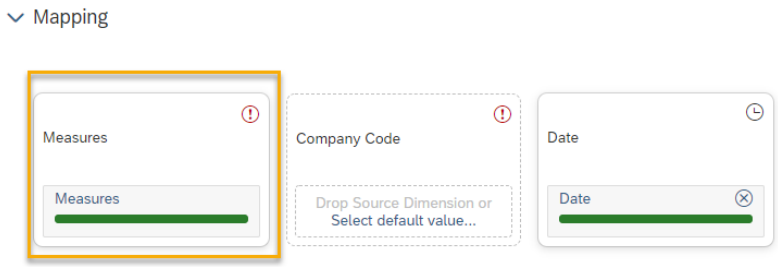
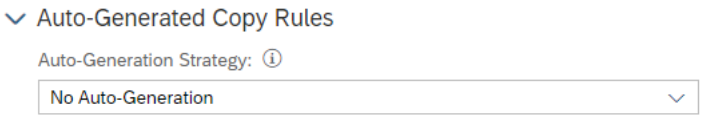
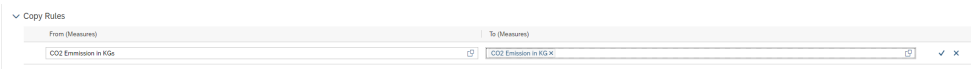
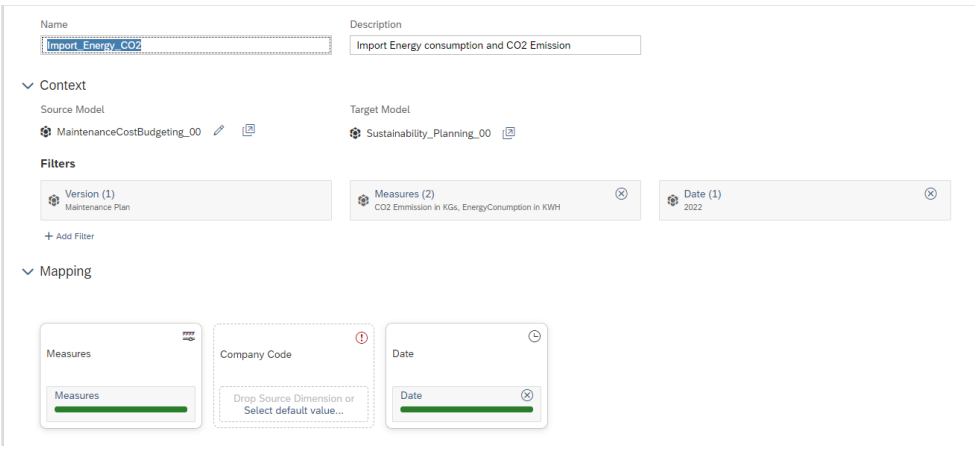
Colloboration with Maintenance Planning

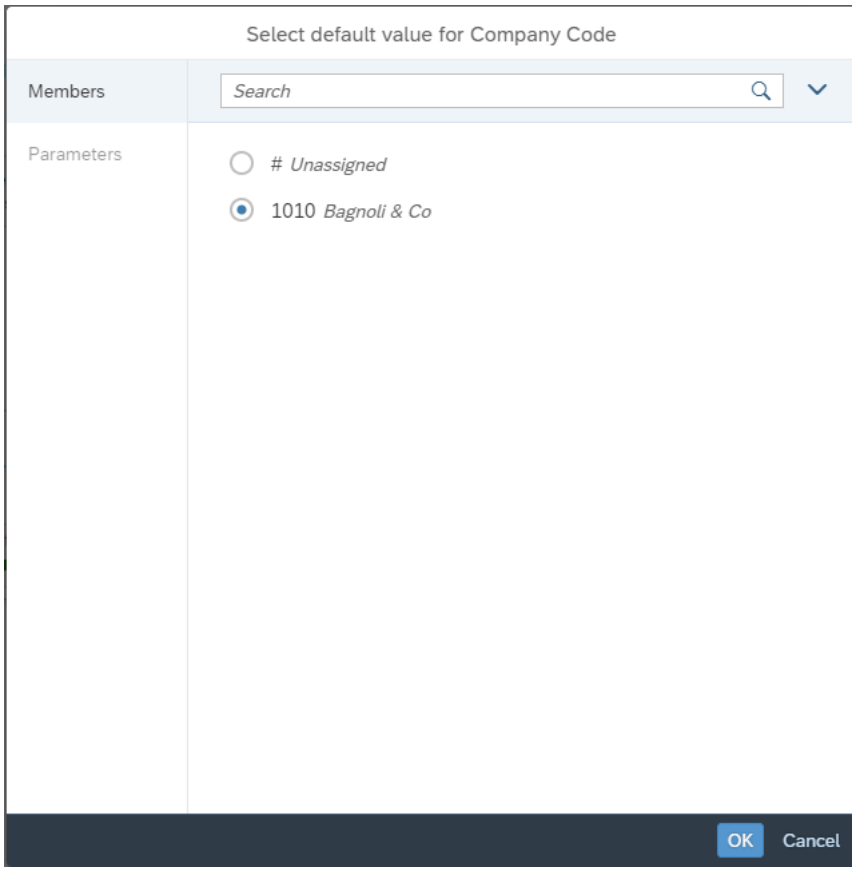
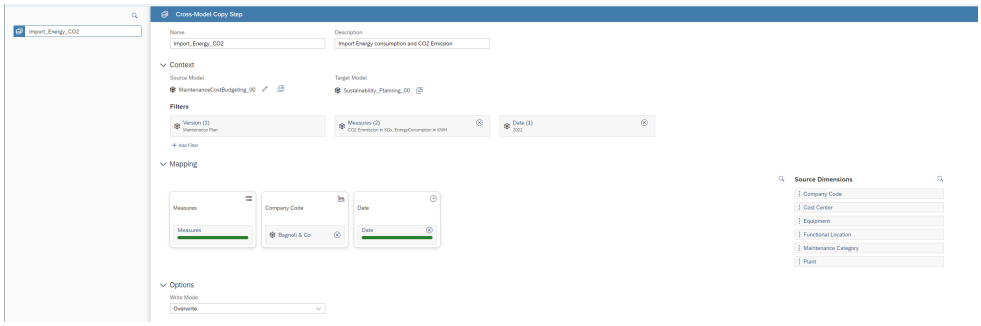
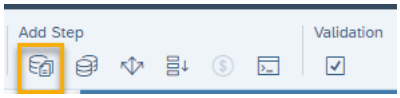
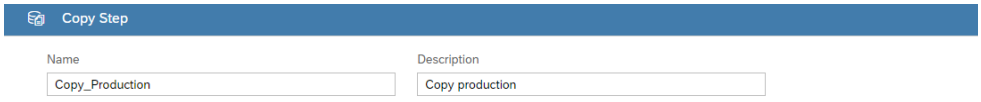
The Smart Factory application has provided us the energy consumption and C02 emission per equipment. We have loaded that data into the Maintenance Planning Model and created maintenance Plan. The sustainability Planner will get that plan and look at the impact of that plan on Sustainability KPIs.

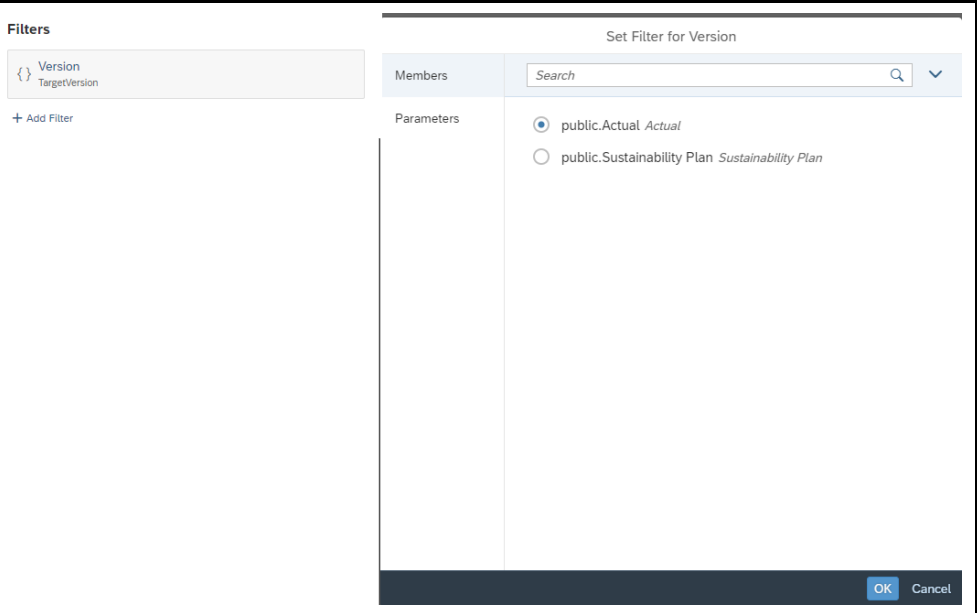
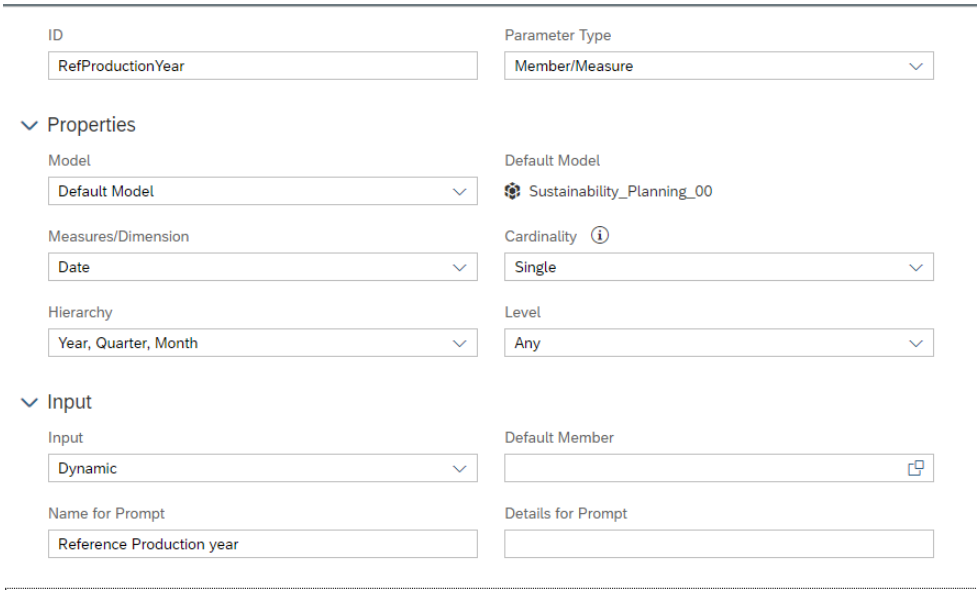
Also, the sustainability planner will plan the production based on the historical data. In this section we will configure Data actions to get the Energy Consumption from Maintenance Cost Planning and create production plan based on history

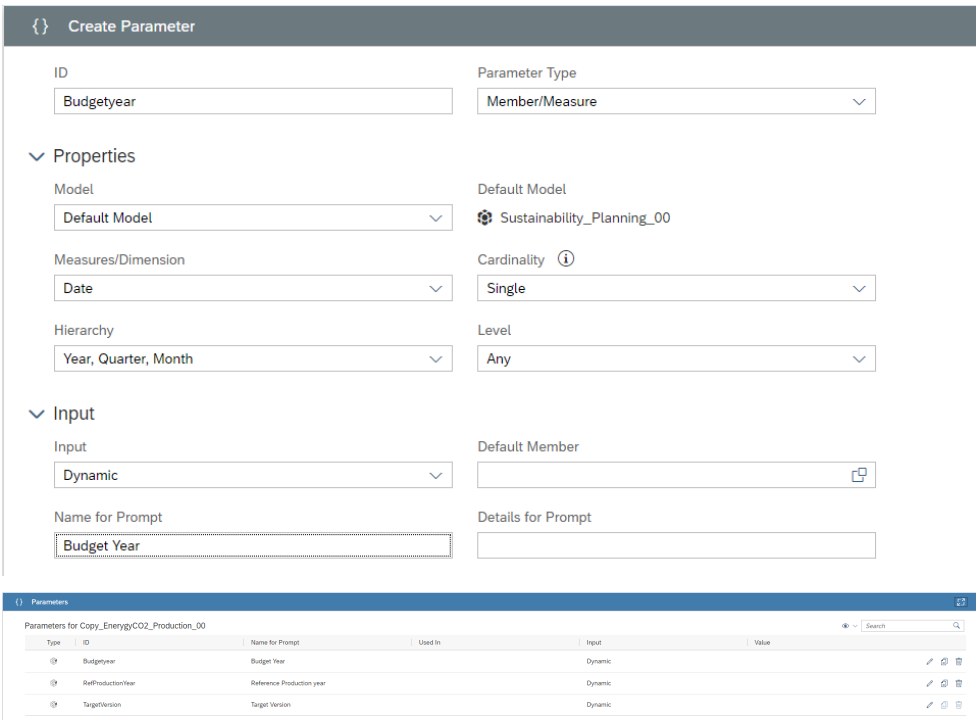
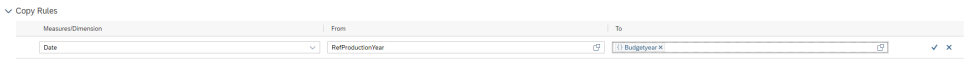
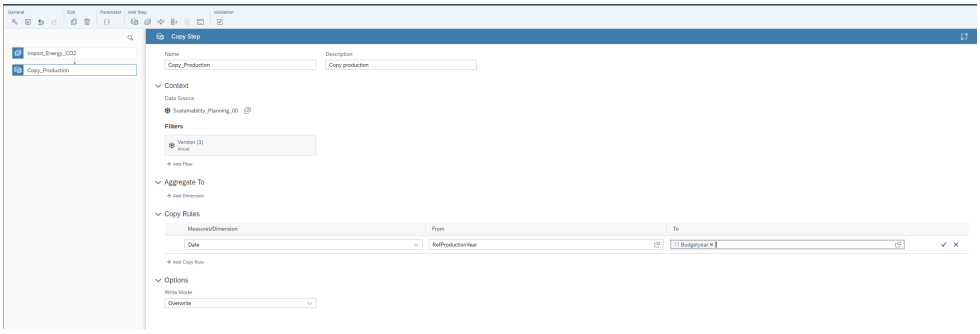
Click on  on Home Screen of SAP Analytics Cloud to Navigate to the Data Action Page	

Explanation	Screenshot
Click on Create New	
Provide name and the base model for the data action Name: Copy_EnerygyCO2_Production_XX Default Model : Sustainability Model you have created Description: Copy Energy CO2 and production and click Save	
From the Add Step and cross model copy step	
Configure the step as below Name: Import_Energy_CO2 Description: Import Energy & Co2 Emission Context Souce Model : Your Maintenance Cost Planning Model Filters Version(available by default) Maintenance Plan Add filter for Measures and select CO2 Emission in KG Energy Consumption in KWH Add Filter for Date and Select 2022	

Explanation	Screenshot
In the mapping section click on Measures	
In the measure mapping Select No Auto generation	
In copy rule section click on + Add Rule	
In the From measure Select CO2 Emission in KGs And select the Target measure CO2 Emission in KG in the To measure	
Add another rule to copy the energy consumption	
Click Done. The system navigates back to the step configuration	

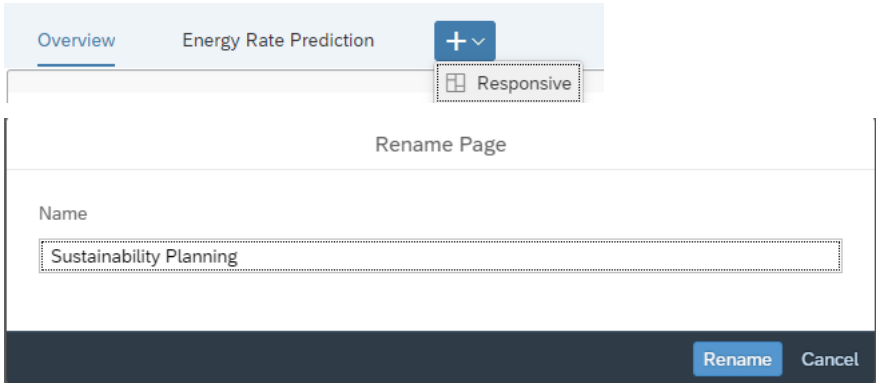
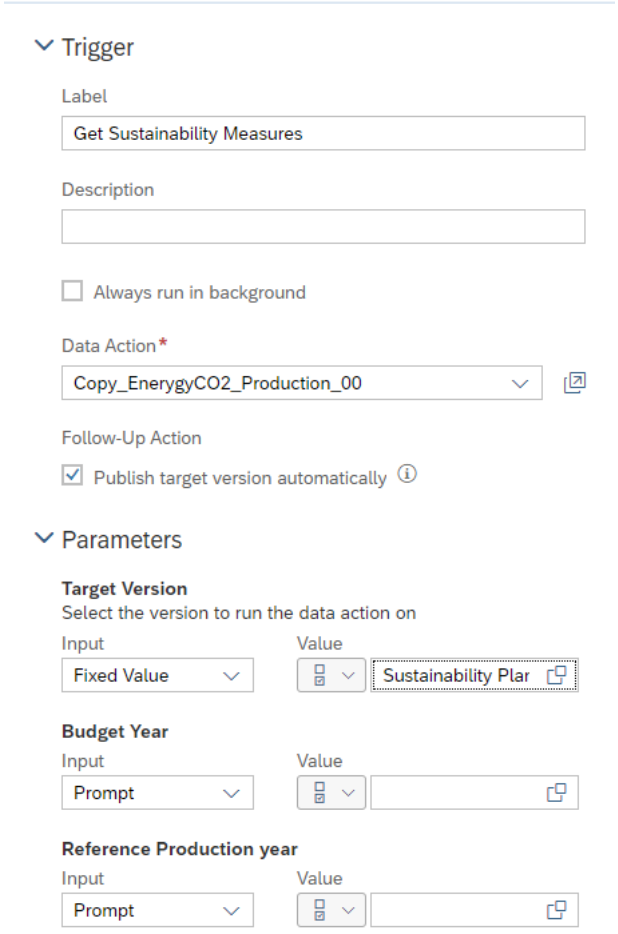
Explanation	Screenshot
Click on the Company Code and select the company code from the member list and click ok	
Keep the Write Mode to Overwrite and Save the step	
Add a Copy Step by clicking on 	
Configure the step as below Name: Copy_Production Description : Copy Production	

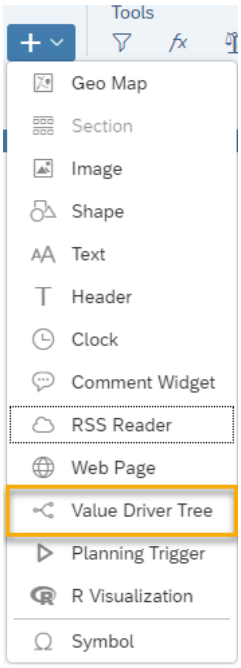
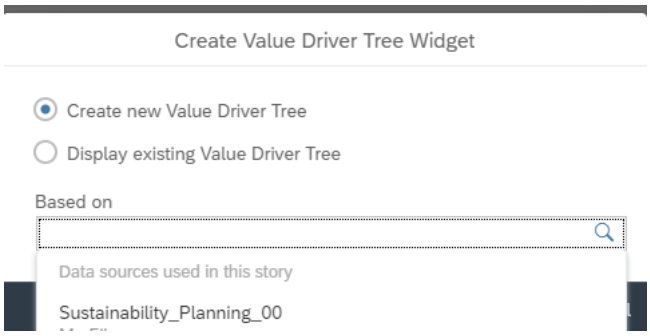
Explanation	Screenshot
In the Filters click on Version and select Actual From the Member List and click OK	
Click on the parameter and define two parameters to allow user to chose from which year the production is to be copied and what is the budget year. Follow the same steps in exercise 3 to create parameters for data actions	

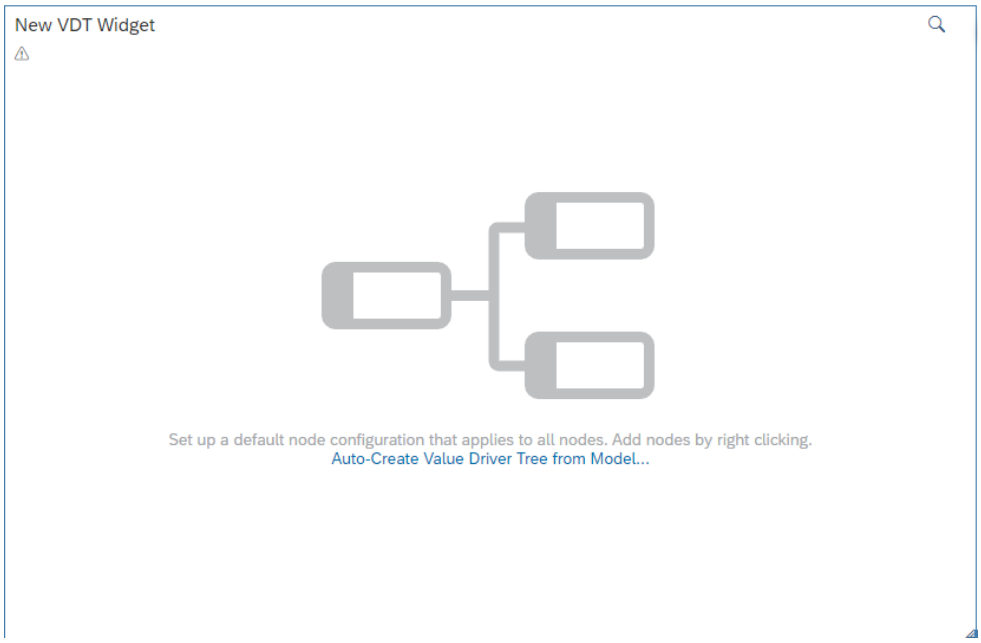
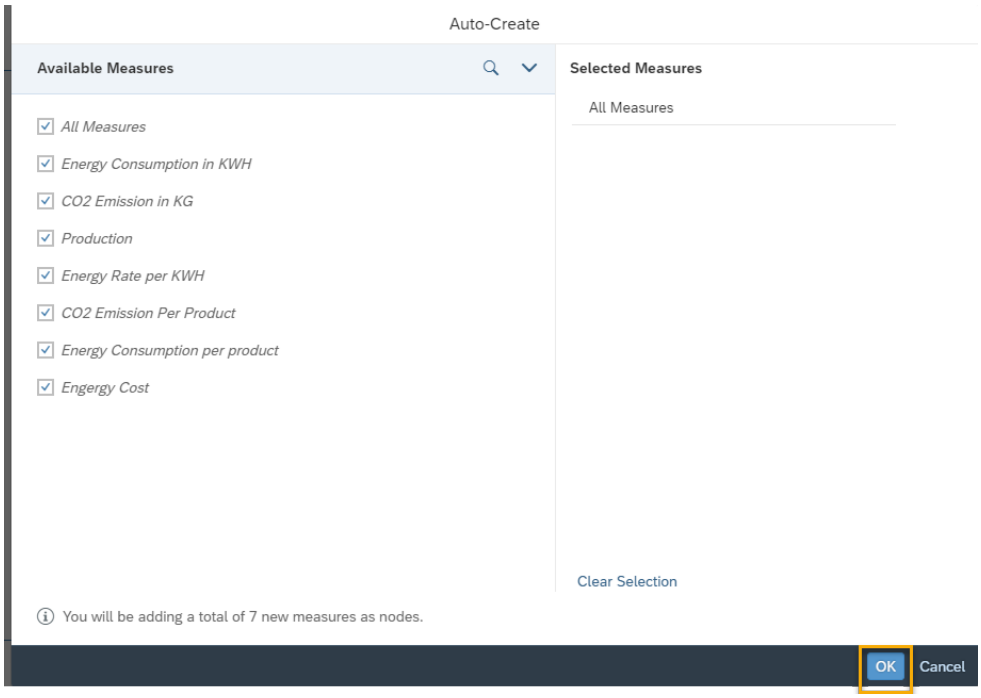
Explanation	Screenshot
	
Click on the Copy production step again and click on + Add Copy Rule in the Copy Rule Section Configure the copy rule as shown	
Keep the Write mode to Overwrite and Save the Data Action	

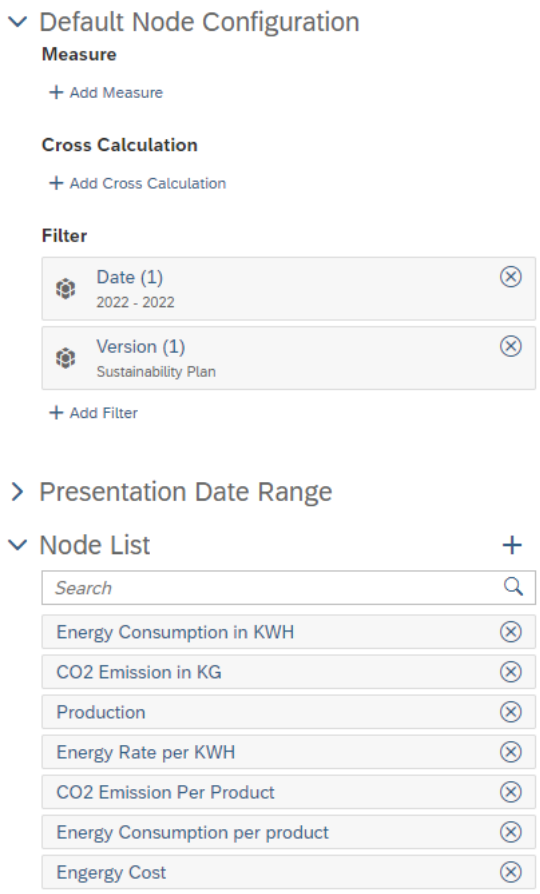
Sustaninability KPI Planning

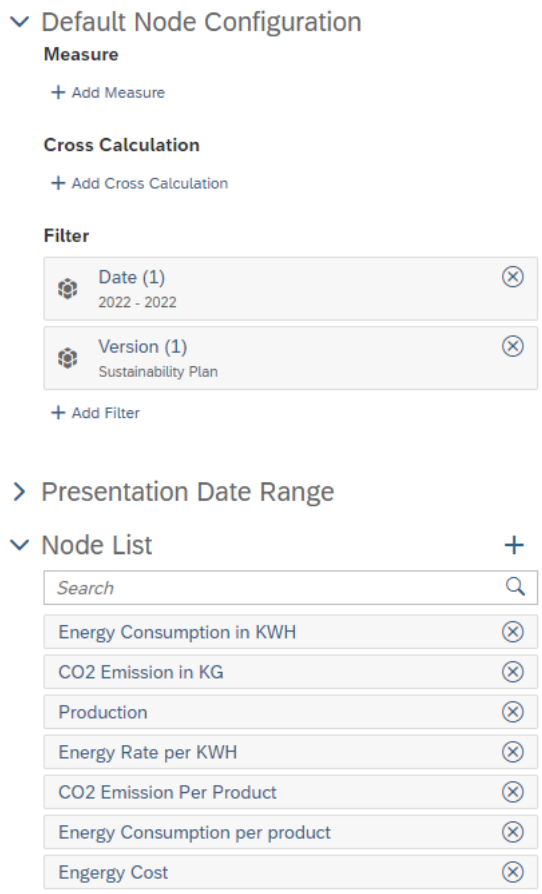
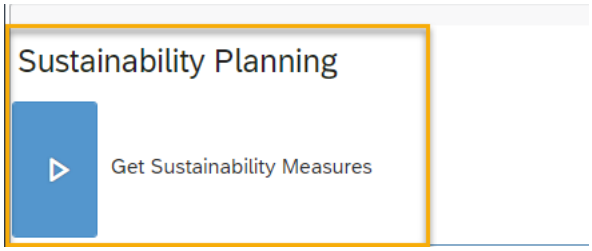
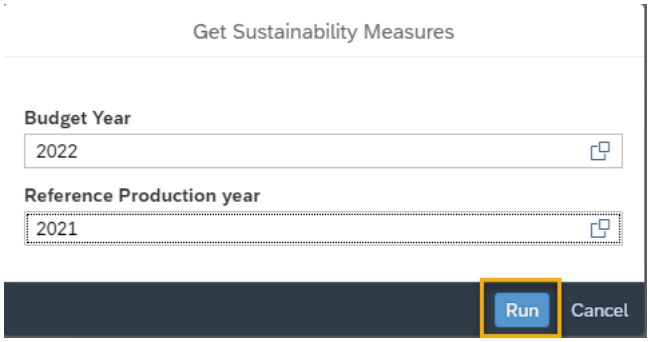
In this step we will add a new page to our Sustainability planning story and include the data action created above so that the sustainability planner can import the Sustainability KPIs and Production quantities. We will include a value driver to provide the key components of sustainability. . The user can Simulate the impact of different components on the sustainability KPIS

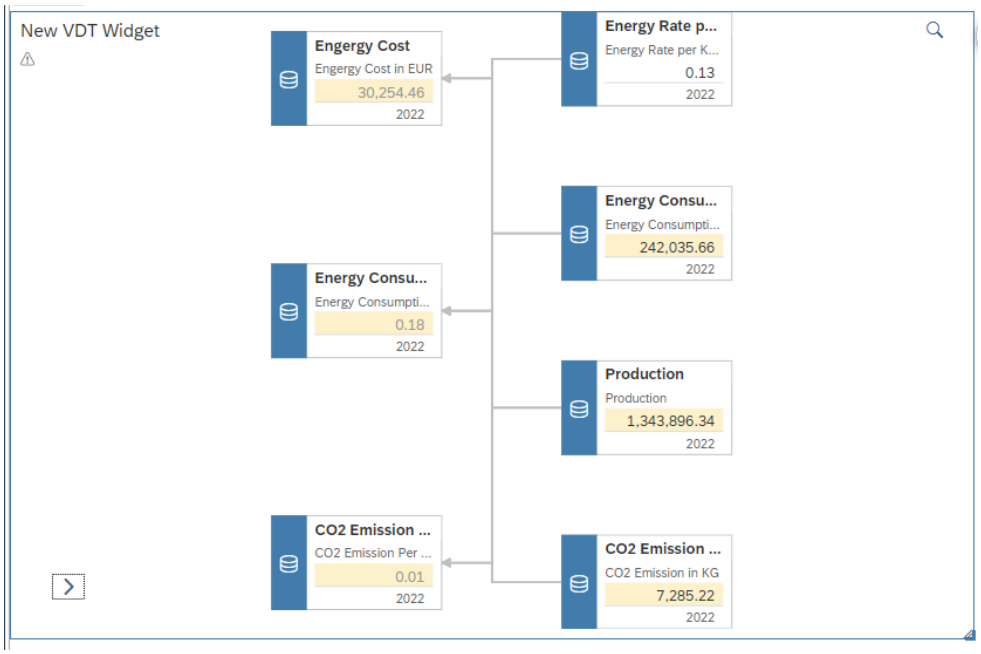
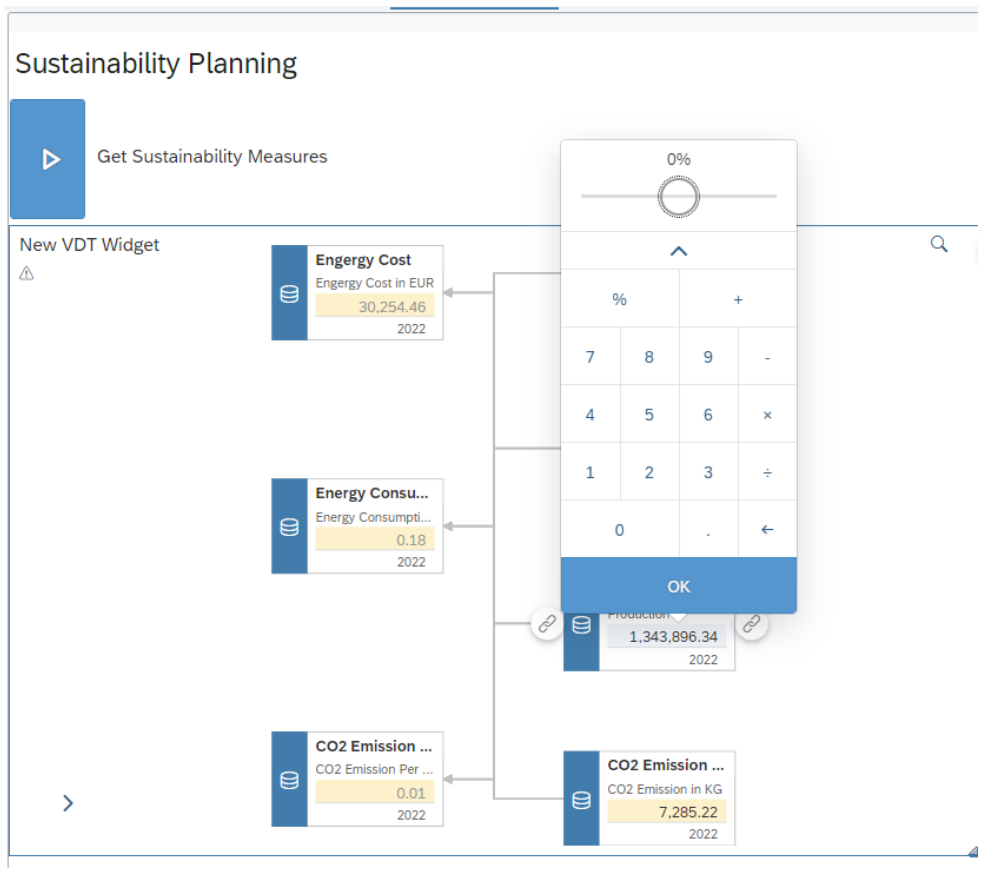
Explanation	Screenshot
Open the Sustainability Planning Story in edit mode and add a new page and rename it as “Sustainability Planning”	
Click on the title and provide Sustainability Planning as title	
Insert the data action we have created in the previous step to import the data of Sustainability KPIS And Configure the Data Action as shown	

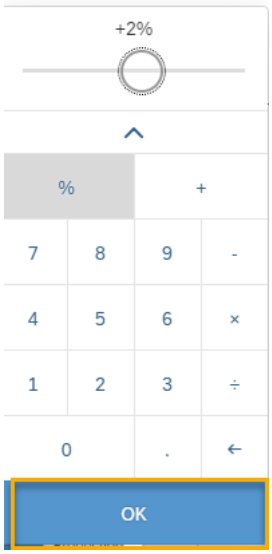
Explanation	Screenshot
In the Insert click on + and choose Value Driver Tree	
The value Driver tree Widget opens. Select New Value Driver tree and select the sustainability Model as Source	

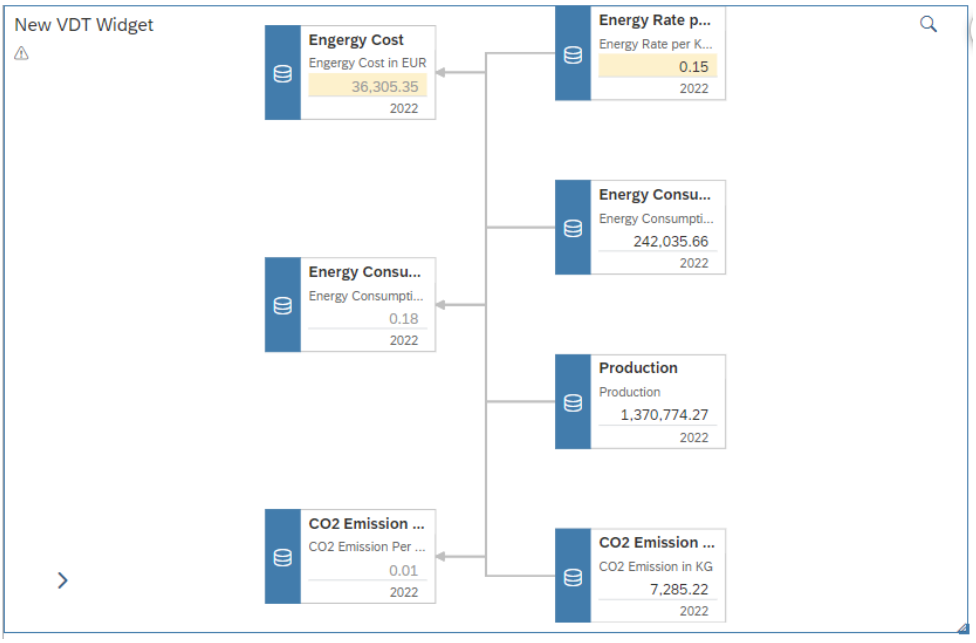
Explanation	Screenshot
Value Driver tree is inserted in the Story	
Click on Auto-Create Value Driver Tree from Model... System ask us to select the measure we would like to have in the value driver tree. Select all measures of the model and click OK	

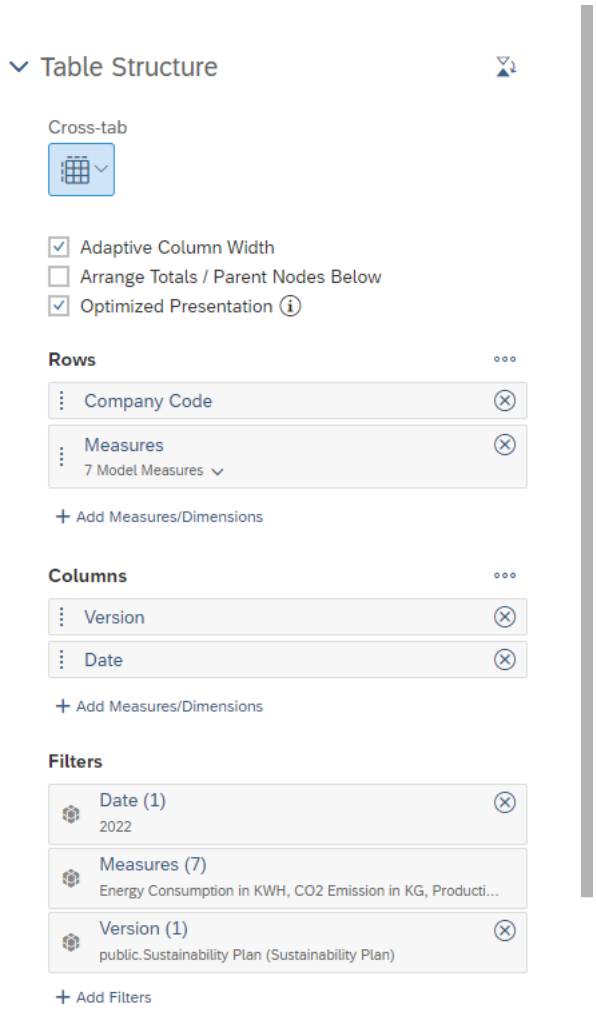
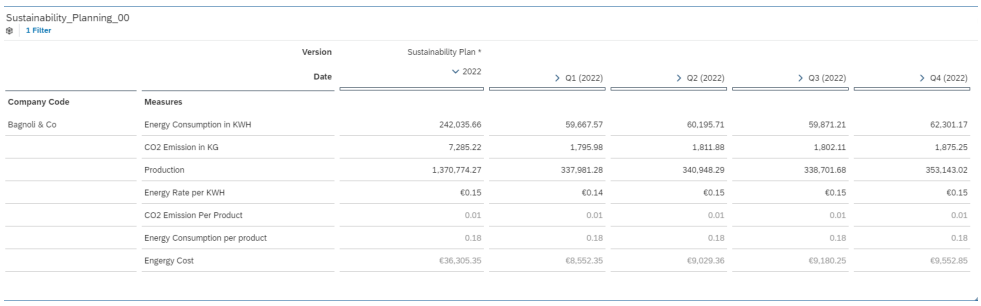
Explanation	Screenshot
In the value Driver tree configuration change the Version to Sustainability Plan	

Explanation	Screenshot
System provides the values of the KPI in the value Driver Tree	
Run the Data Action included the story to get the Energy Consumption, CO2 Emission and Production	
Provide the Budget Values and the reference year for production and click on Run	

Explanation	Screenshot
The data action Runs Successfully and populates the KPIs	
Click on the production KPI in the value driver tree . System provide us a slider to adjust the Production KPI and see the impact of the change	

Explanation	Screenshot
In the slider increase the production by 2 % and see the impact	
Similarly change the energy rate by some percentage and analyze the impact on energy Cost	

Explanation	Screenshot
	

Explanation	Screenshot
Include a table to show all the KPIs in table format. Configure the table as shown	
The planner can look at the table if required to get the details.	

Sustainability_Planning_00

1 Filter

	Version	Sustainability Plan *				
	Date	2022	Q1 (2022)	Q2 (2022)	Q3 (2022)	Q4 (2022)
Company Code	Measures					
Bagnoli & Co	Energy Consumption in KWH	242,035.66	59,667.57	60,195.71	59,871.21	62,301.17
	CO2 Emission in KG	7,285.22	1,795.98	1,811.88	1,802.11	1,875.25
	Production	1,370,774.27	337,981.28	340,948.29	338,701.68	353,143.02
	Energy Rate per KWH	€0.15	€0.14	€0.15	€0.15	€0.15
	CO2 Emission Per Product	0.01	0.01	0.01	0.01	0.01
	Energy Consumption per product	0.18	0.18	0.18	0.18	0.18
	Engergy Cost	€36,305.35	€8,552.35	€9,029.36	€9,180.25	€9,552.85

Explanation	Screenshot
Click on  to save the story