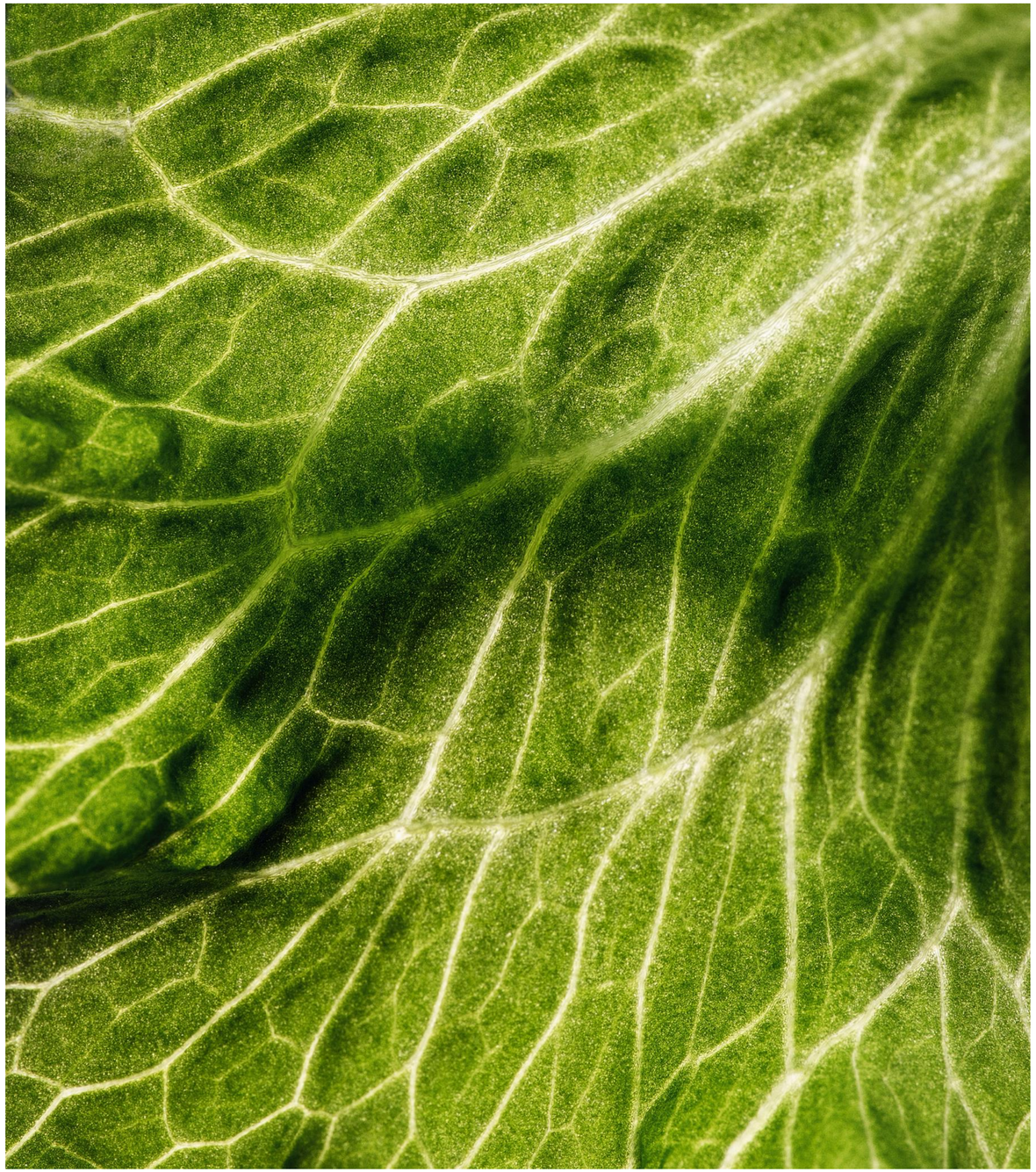
Sustainability Planning and Simulation



IBM Planning Analytics for sustainability

Overview and details for current accelerator-models

Steffen Wittenauer

Principal Solution Specialist - IBM Thought Leader
steffen.wittenauer@ch.ibm.com

IBM

Version: 19th Sept. 2023

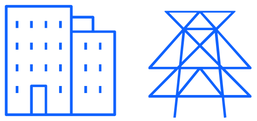
Turn sustainability ambition into action

Sustainability Strategy and Roadmap

Co-creating a sustainability agenda and pathways towards delivering corporate social impact and business value

ESG Data, Reporting and Risk Management

System of record for ESG data and insights to measure, report, operationalize and achieve your sustainability roadmap



Intelligent assets, facilities and infrastructure

Operational insights to drive clean energy transition, efficient waste management, and decarbonization

Responsible computing and green IT

Optimize infrastructure and computing to enable more efficient IT and drive social impact

Sustainable supply chains and circularity

Intelligent workflows for equitable, transparent, and carbon regenerative supply chains

IBM Sustainability Portfolio: Technology & Consulting

IBM Consulting and Ecosystem Partners

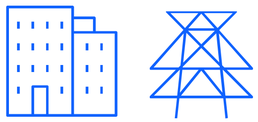
Strategy, experience, technology, and managed services

Sustainability Strategy and Roadmap

Garage for Sustainability (co-creation)
Sustainability strategic advisory services

ESG Data, Reporting and Risk Management

Envizi ESG Suite
Environmental Intelligence Suite
Planning Analytics | OpenPages



Intelligent assets, facilities and infrastructure

Maximo
TRIRIGA

Responsible computing and green IT

Turbonomic
z16 | LinuxONE | Power | Storage
IBM Cloud

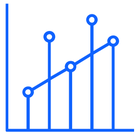
Sustainable supply chains and circularity

Supply Chain Intelligence Suite
Sterling Order Management

IBM Technology and Ecosystem Partners

Accelerate from sustainability insights to sustainability action

Companies need to improve management of data across siloed sources and datasets



Data challenges

Access, management and operationalization of sustainability data across siloed sources and evolving reporting datasets

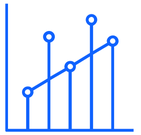
Slow integration of sustainability planning, reporting and result analysis into financial and business planning

Lack of data quality and accuracy as basis

Stakeholder challenges

Pressure to move from data management to actions with impact for different stakeholder

Diverse Stakeholder demands for transparency and accuracy from Leadership, regulators, investors, and customers

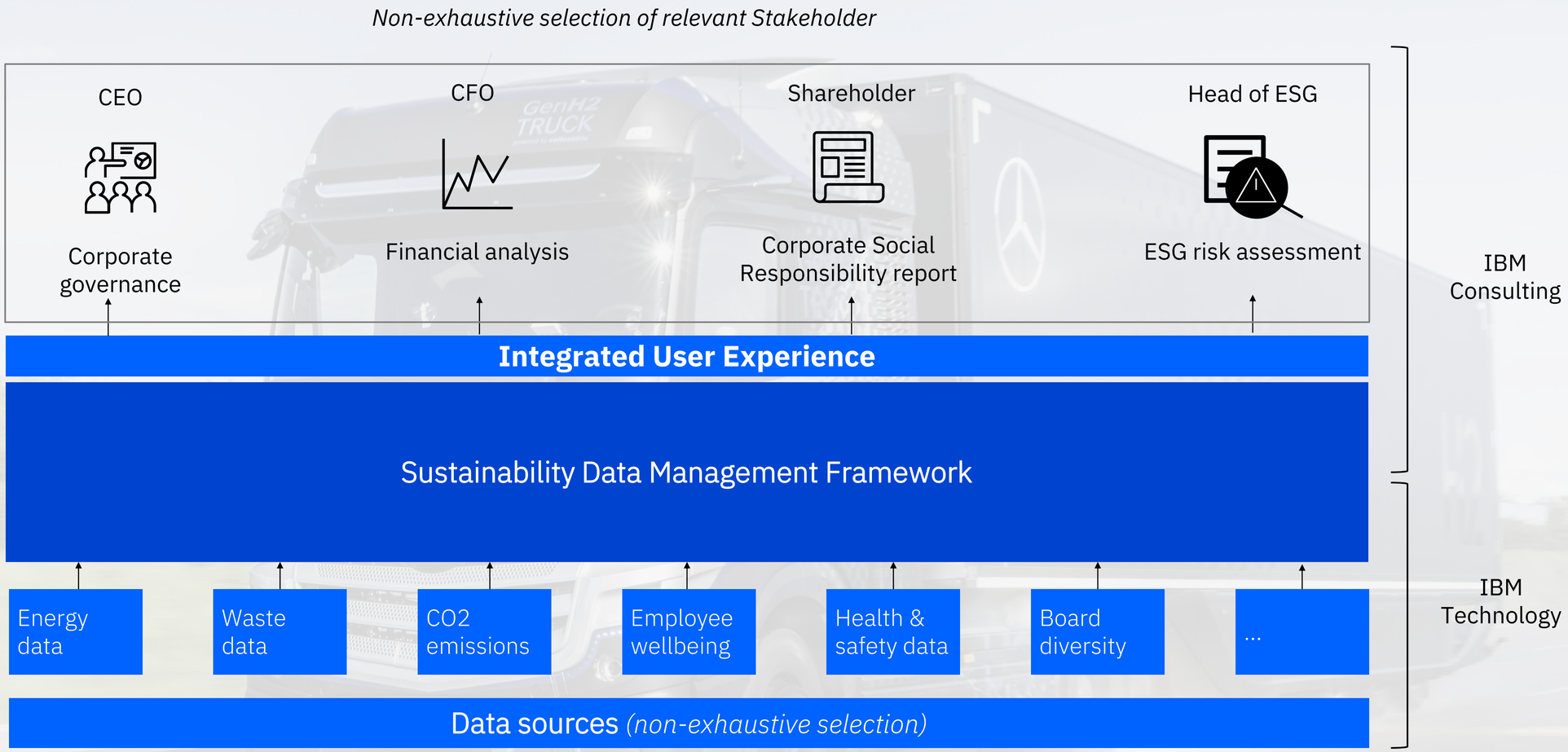


Pressure to act

Lack of standardized industry reporting metrics

Accelerate from sustainability insights to sustainability action

Integrate and streamline with IBMs sustainability solutions

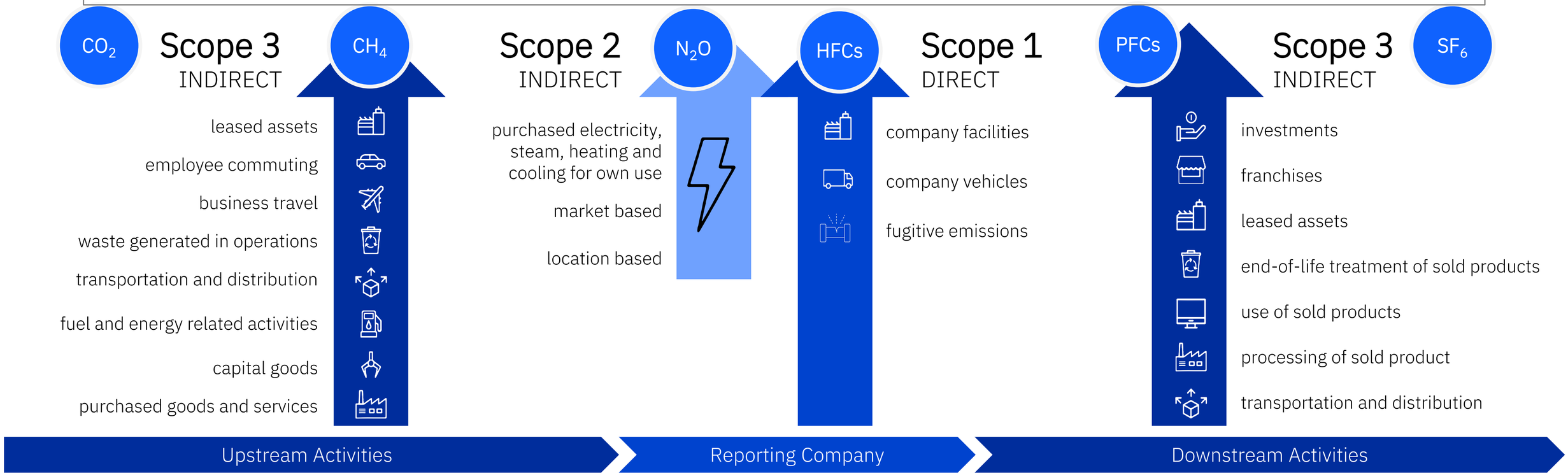


It’s all about data

IBM Technology – Sustainability Offerings – Data sources

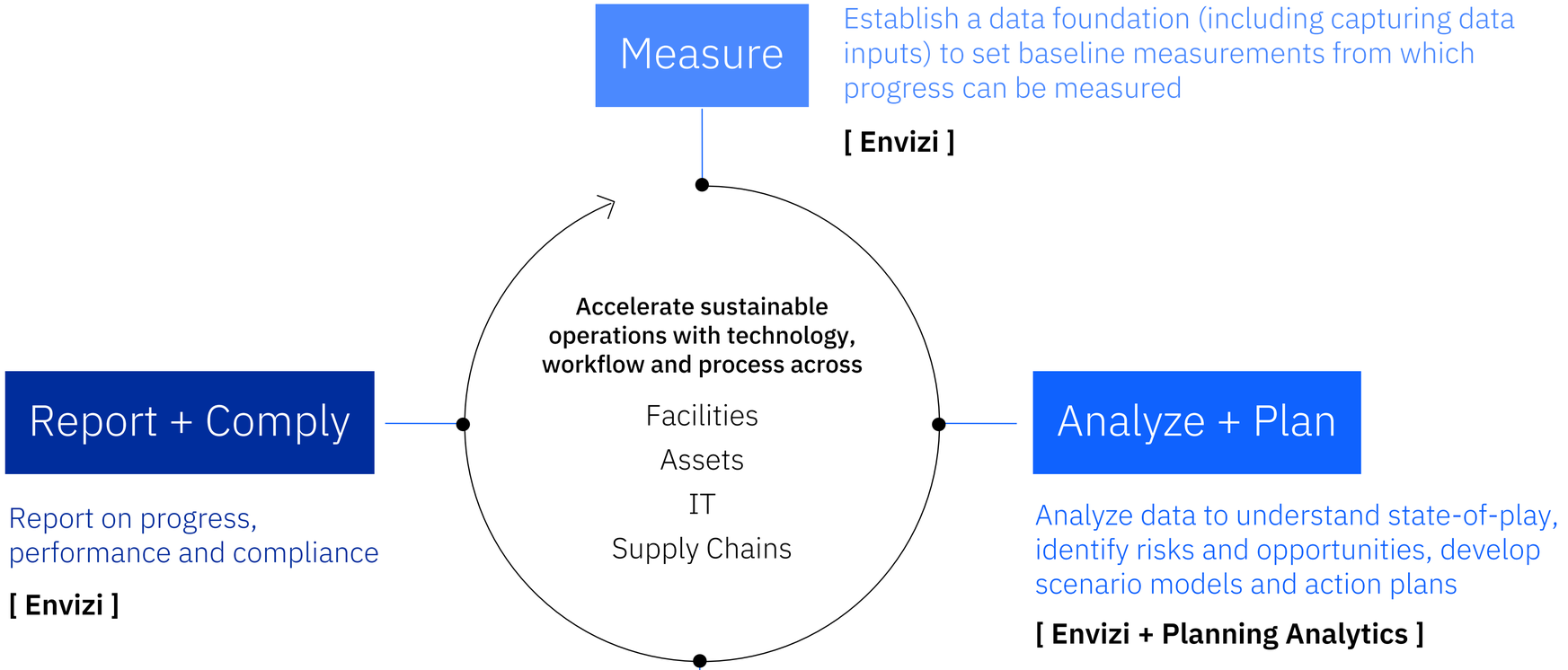
IBM Sustainability Data Management Framework

- Weather & Geospatial Analytics
- Sustainability Planning / Analysis / Simulation (incl. financial aspects)
- Emissions / Energy / Asset Management + ESG-Reporting
- *Connected to wider sustainability ecosystem solutions*
- Asset & Facility Management
- IT Performance & Resource Management
- Supply Chain



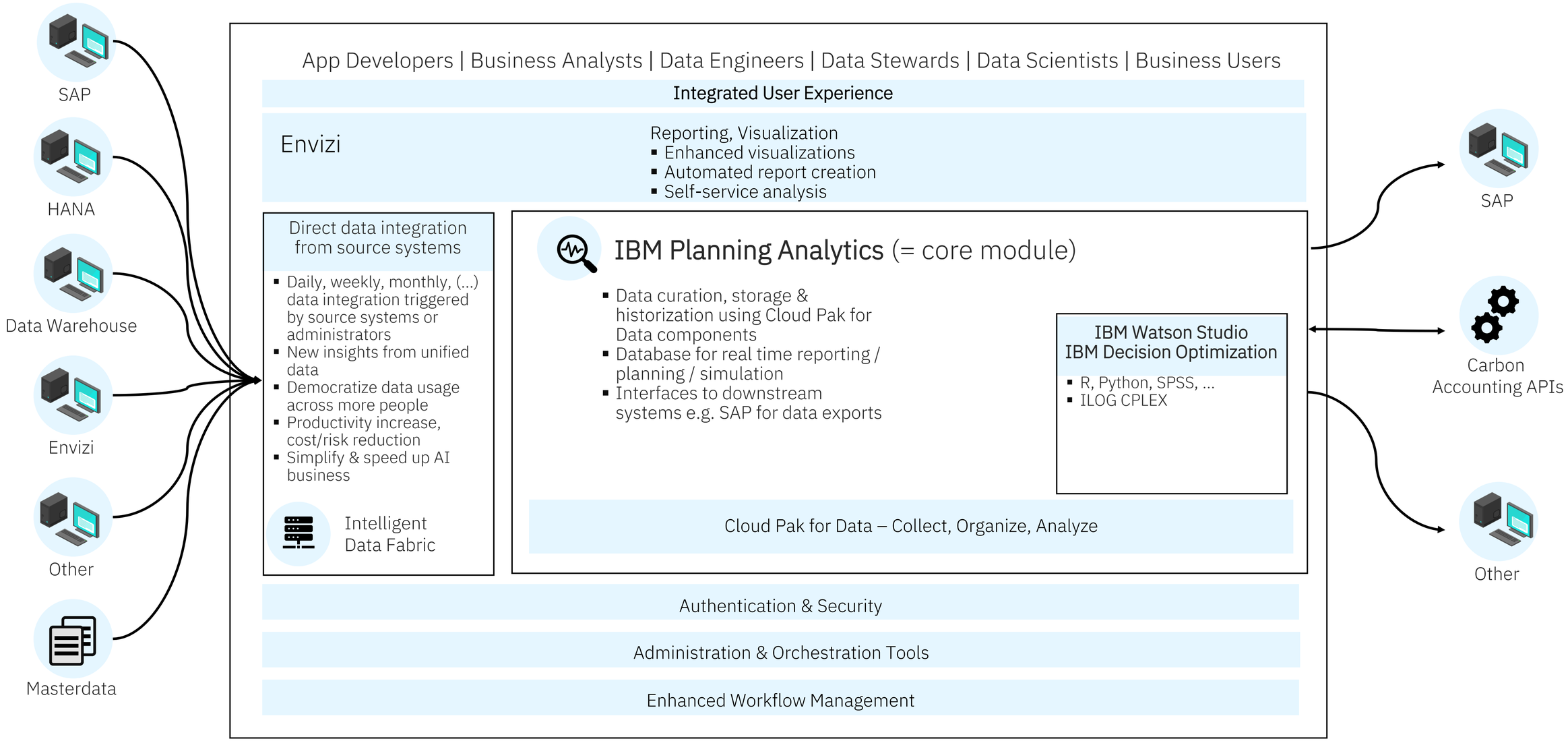
The IBM sustainability client journey

One IBM Sustainability Technology



How is it delivered – a modular solution approach?

A fully integrated Sustainability Solution architecture



IBM Planning Analytics as integrated planning tool

We support planning, reporting and analysis of sustainability data for corporate use cases

Sustainability

Sustainability Analytics
Strategic planning to Net Zero
Procurement optimization
Supply Chain or Asset simulation
Forecasting of initiatives, emissions (GHG)
Connection to financial perspectives (Tradeoff)

IT

IT portfolio planning
Project planning
IT budgeting

OPERATIONS & HR

Demand planning
Supply chain planning, inventory planning
Sales & operations planning
Workforce planning
Headcount and staffing planning
Salary & compensation planning

FINANCE

Financial planning & analysis
Strategic planning
Capital planning
Expense planning

MARKETING

Promotion planning
Revenue planning
Customer profitability
Customer churn analysis

SALES

Sales forecasting
Sales territory planning
Sales quota planning
Sales capacity planning

Energy data | Waste data | CO2 emissions | Employee wellbeing | Health & safety data | Compliance Cases | Board diversity | Employee training | ...

Collect I Organize I Analyze I Infuse

Available: on premise (local) or IBM SaaS (PA on Cloud or PA aaS)

One integrated platform

Built-in reporting

Flexible deployment options

Superior scale to enable AI

Use Excel

IBM Planning Analytics

Sustainability planning, simulation and optimization

Path to Net Zero ESG

Scope 3 in Procurement – optimizing procurement to reduce emissions

Logistics

Simulate and compare sustainability measures for logistics assets

Sustainability in the Supply Chain

Product footprint throughout supply chain

Green Portfolio

Optimize asset-portfolio against sustainability KPIs

Sustainability in the Chemical Sector

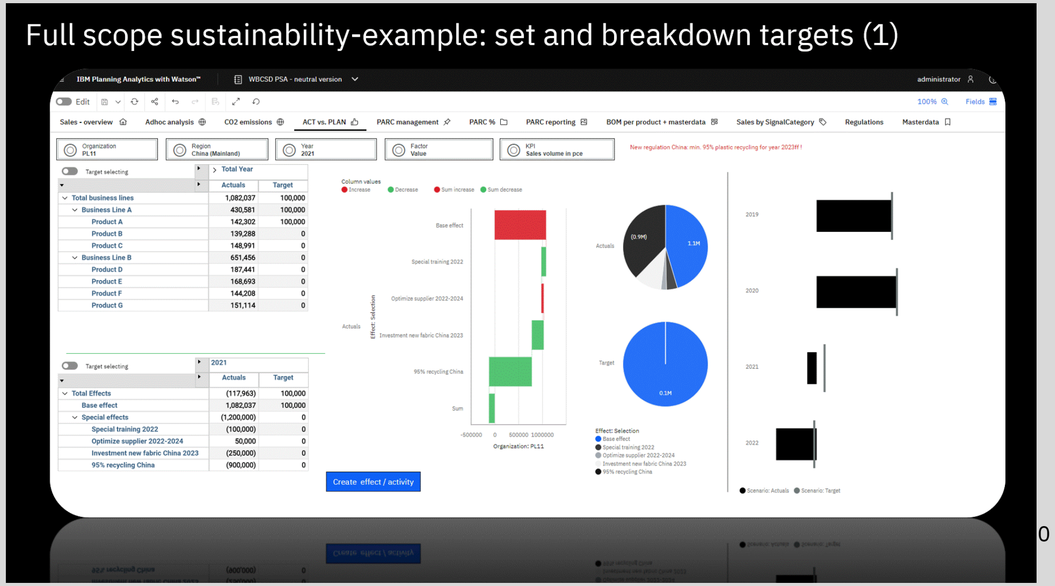
WBCSD PSA, Mass Balance

SDG Analytics

17 United Nations Sustainable Development Goals (SDGs)

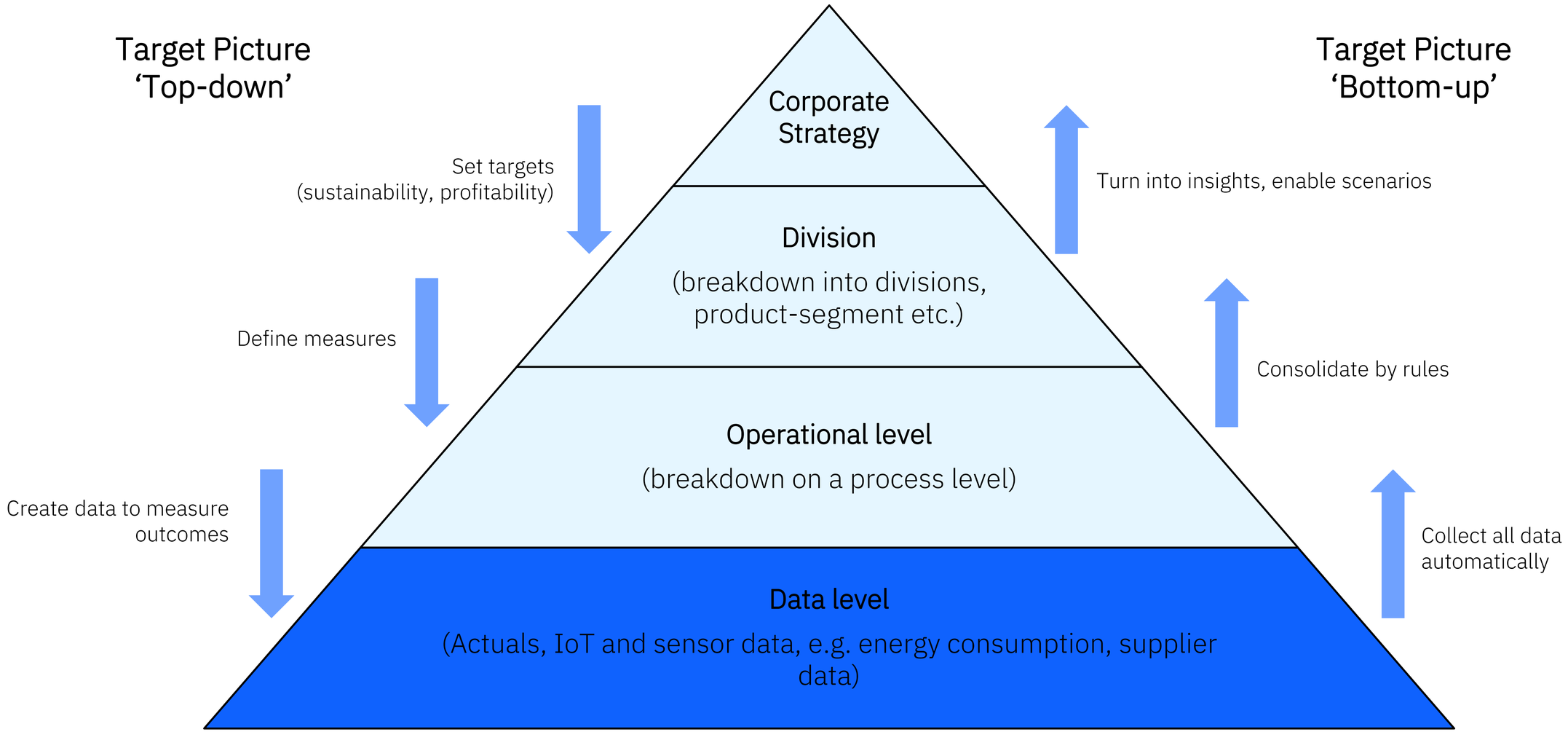
IBM Planning Analytics is an integrated solution with built in modeling and AI capability that supports planning, analysis, and optimization of sustainability data as part of an integrated planning process.

- Model your ESG targets & goals (top-down/bottom-up) and analyze deviations against your actual data
- Create & manage initiatives and corrective actions to meet set targets. Use AI to optimize automatically different concerning costs / sustainability / etc.
- Link sustainability results and ESG performance to financial indicators
- Incorporate ESG data into the supply chain planning process –optimizing procurement decisions for GHG and ESG objectives
- Analyze and visualize your goals and indicators in the context of the UN's 17 Sustainable Development Goals (SDGs) through a modern and customizable workspace.



Plan on all levels in all directions

A fully implemented Sustainability Data Management solution will help to close the loop



IBM Planning Analytics accelerators

We support your fast start for sustainability planning

Enhance your ESG-solution.

Fast start.

No costs for the models.

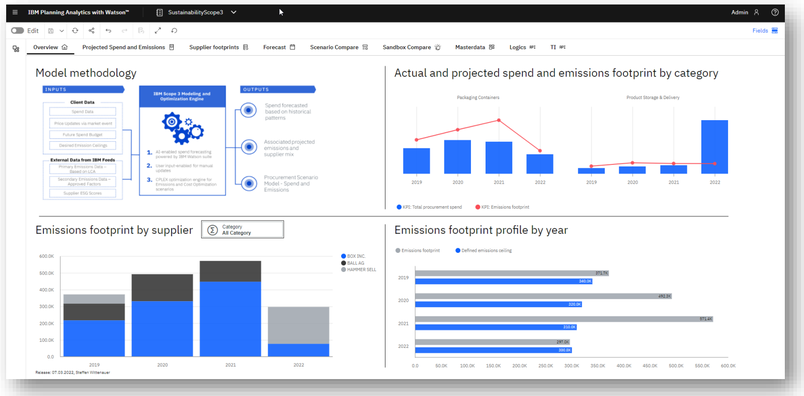
Unbeatable out of the box functions.

IBM is offering to clients and business partners an ongoing growing set of pre-build models for sustainability planning. Everything is based on IBM Planning Analytics.

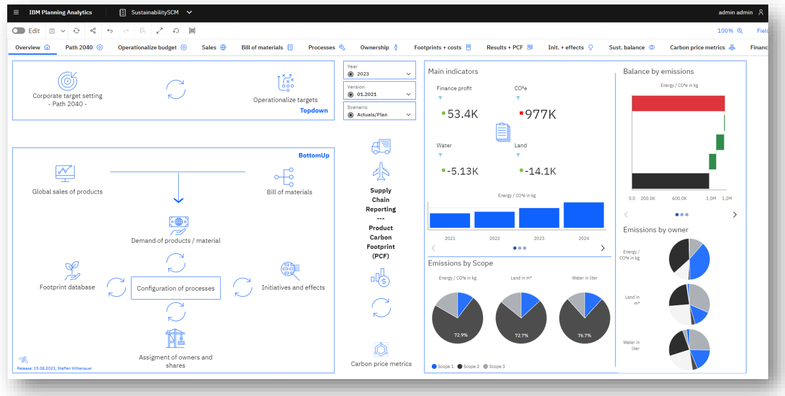
These already mature models – we call them accelerators - can be used to accelerate your projects or being a perfect starting point for even bigger sustainability models. The models are free of costs. **All models were co-created with clients and have an existing use case in their background.**

Fast start?

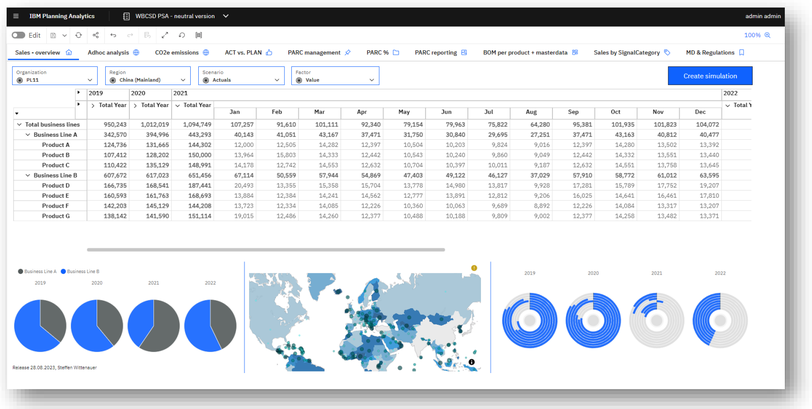
Overview of current sustainability-accelerators for IBM Planning Analytics (1/3):



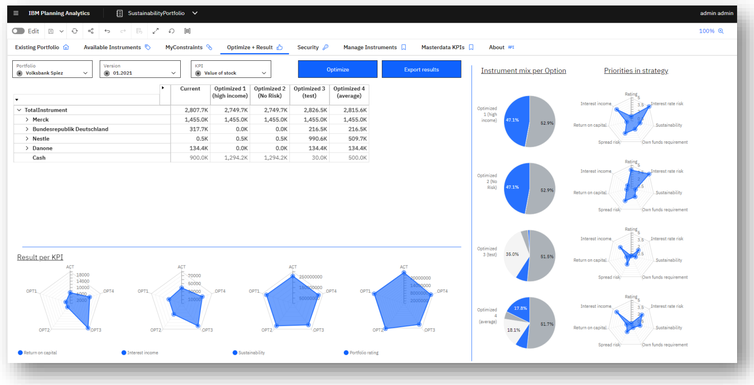
Accelerators: ‘Sustainability vs. Profitability – optimize it’
(Scope 3 in procurement)



Accelerator: ‘Sustainability in the Supply Chain’
(Operationalize targets to all processes incl. PCF)



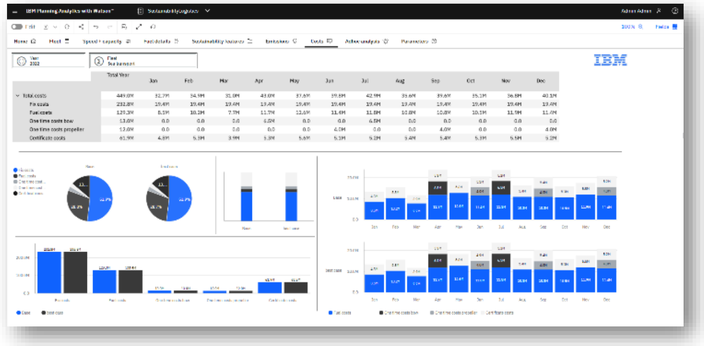
Accelerators: ‘Sustainability in the chemical sector’
(WBCSD PSA*, Mass Balancing)



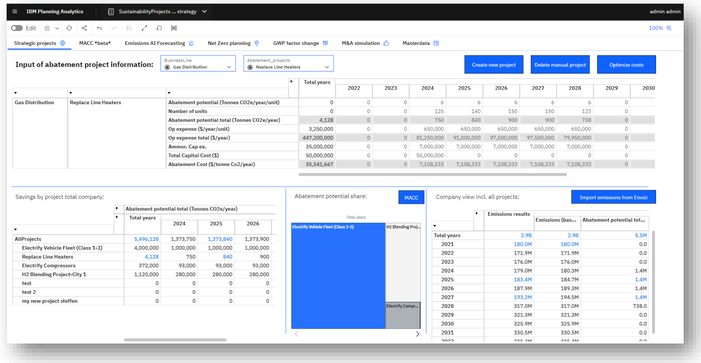
Accelerators: ‘Sustainability vs. Profitability – optimize it’
(green portfolio or internal project-budget-prioritization)

Fast start?

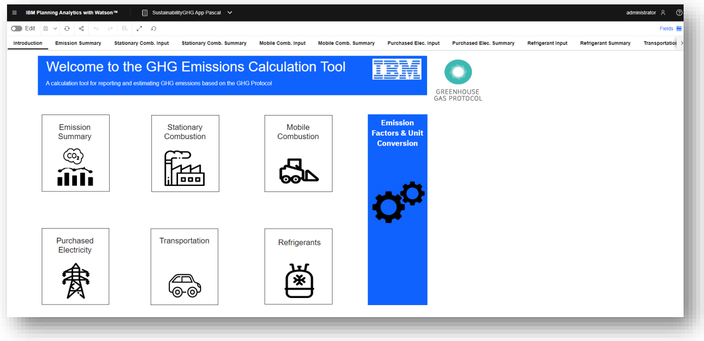
Overview of current sustainability-accelerators for IBM Planning Analytics (2/3):



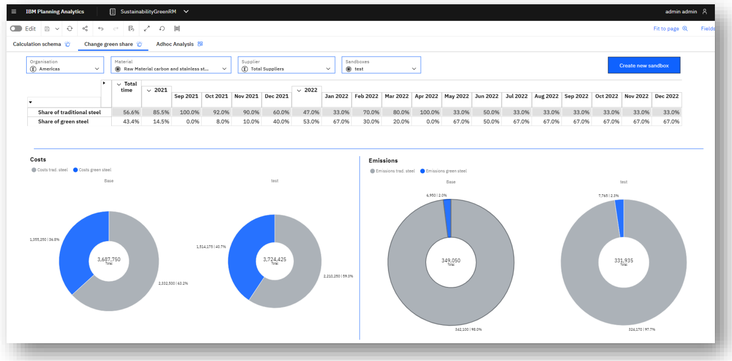
Accelerator: ‘Sustainability asset upgrades’
(example logistics: simulate asset-upgrades on energy consumption, costs and emissions)



Accelerator: ‘Sustainability Decarbonization Strategy’
(Strategic projects / MACC, merger & acquisition, global GWP-factors-change, AI forecasting)



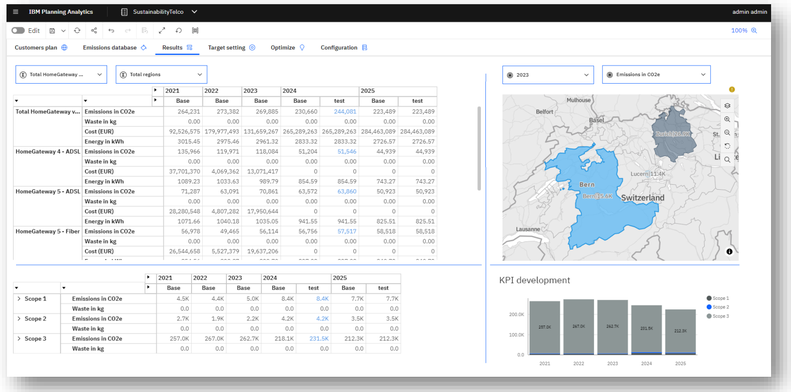
Accelerator: ‘Operational Emissions Management Tool: breakdown and operationalize CO2e budgets’



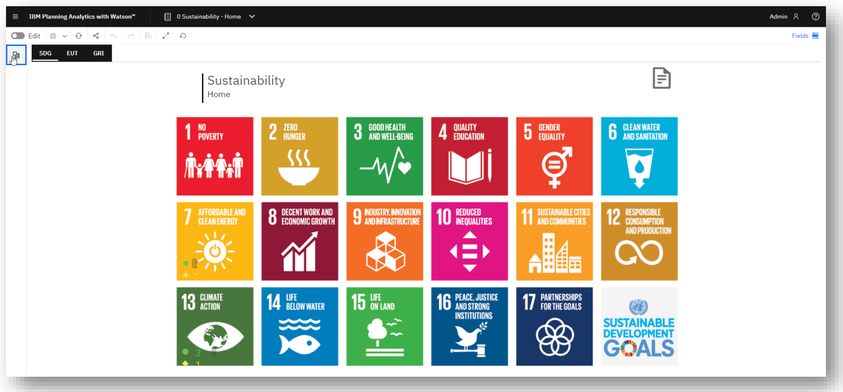
Accelerator: ‘Green raw material’
(example steel procurement: simulate share of green steel)

Fast start?

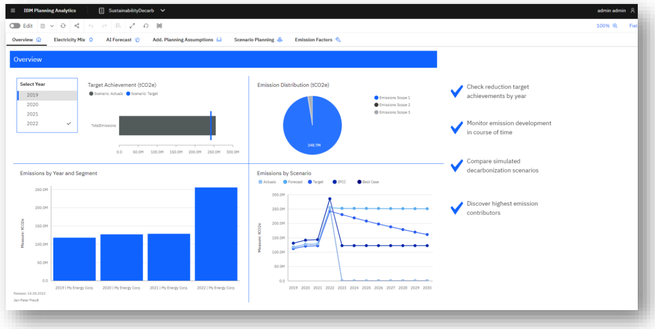
Overview of current sustainability-accelerators for IBM Planning Analytics (3/3):



Accelerator: ‘Sustainable Telco’
(simulate change of products/clients, processes, lifecycle etc.)



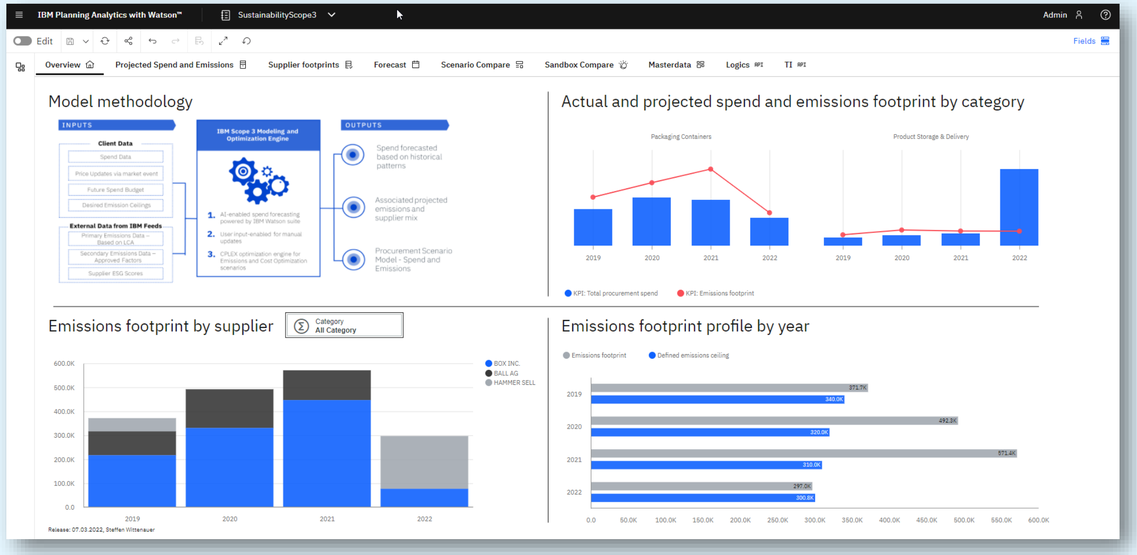
Accelerator: ‘Sustainability analytics entry point’
(17 United Nations goals / SDGs)



Accelerator: ‘Sustainable Energy Decarbonization’
(simulate energy mix of energy production or grid losses)

Accelerator: **Sustainability vs. Profitability – optimize it**

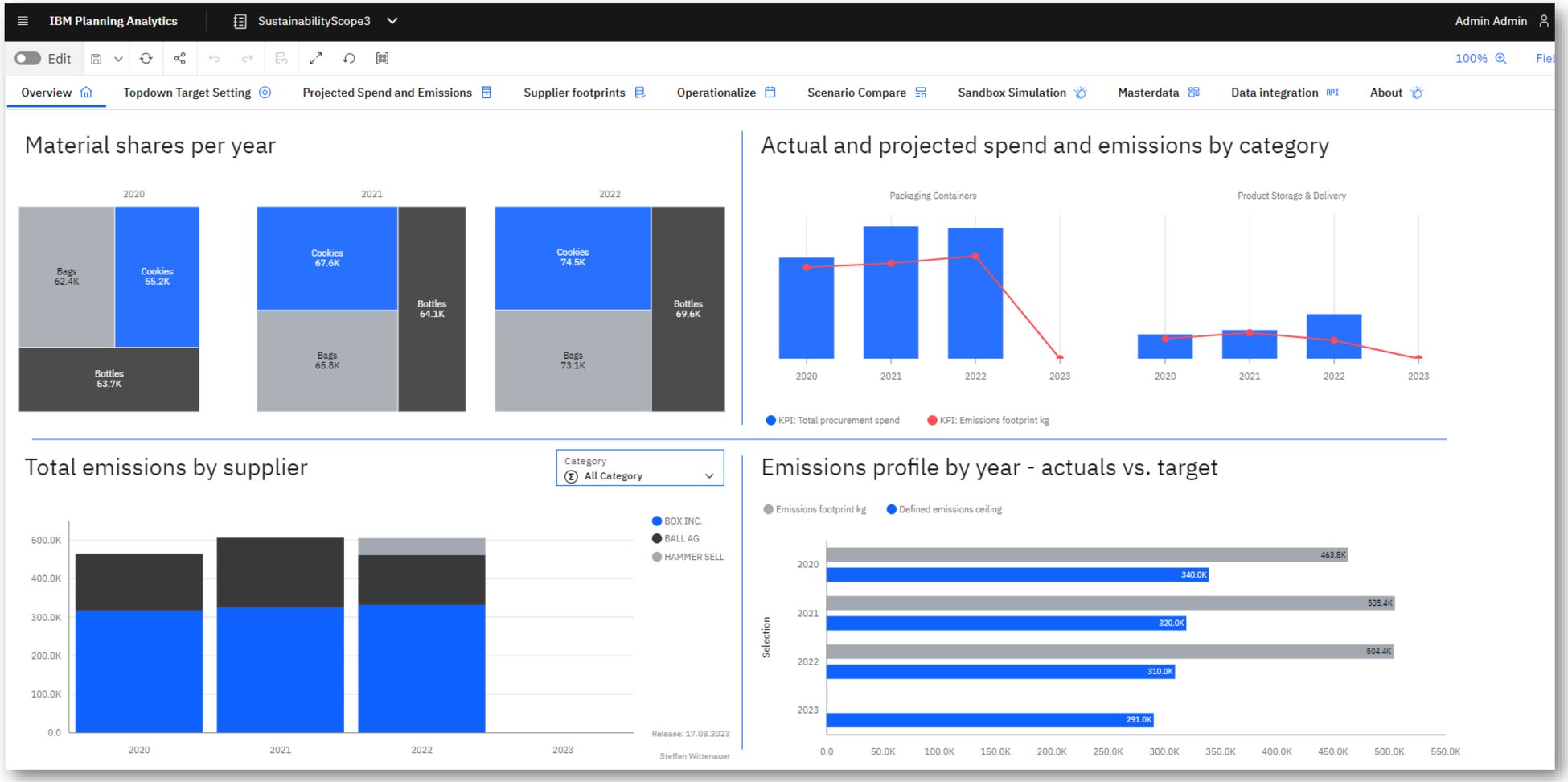
Scope 3 in procurement



- Purpose: possible starting point for each client having not yet any reporting or target-setting for sustainability scope 3 – especially in the procurement-department
- Content: based on footprints (CO2e, costs etc.) and material-demand & spend, a client can simulate the scope 3-effect vs. occurring costs
- The model can be extended with other business-constraints like minimum order quantity, general supplier-ESG-ratings or stock-parameters
- Data sources: master data can be manually adapted – actuals can be loaded (files, data warehouse etc.) or manually inputted
- Technology: IBM Planning Analytics, ILOG CPLEX (as addit. optimization-component for sustainability vs. costs)

Sustainability vs. Profitability – optimize it

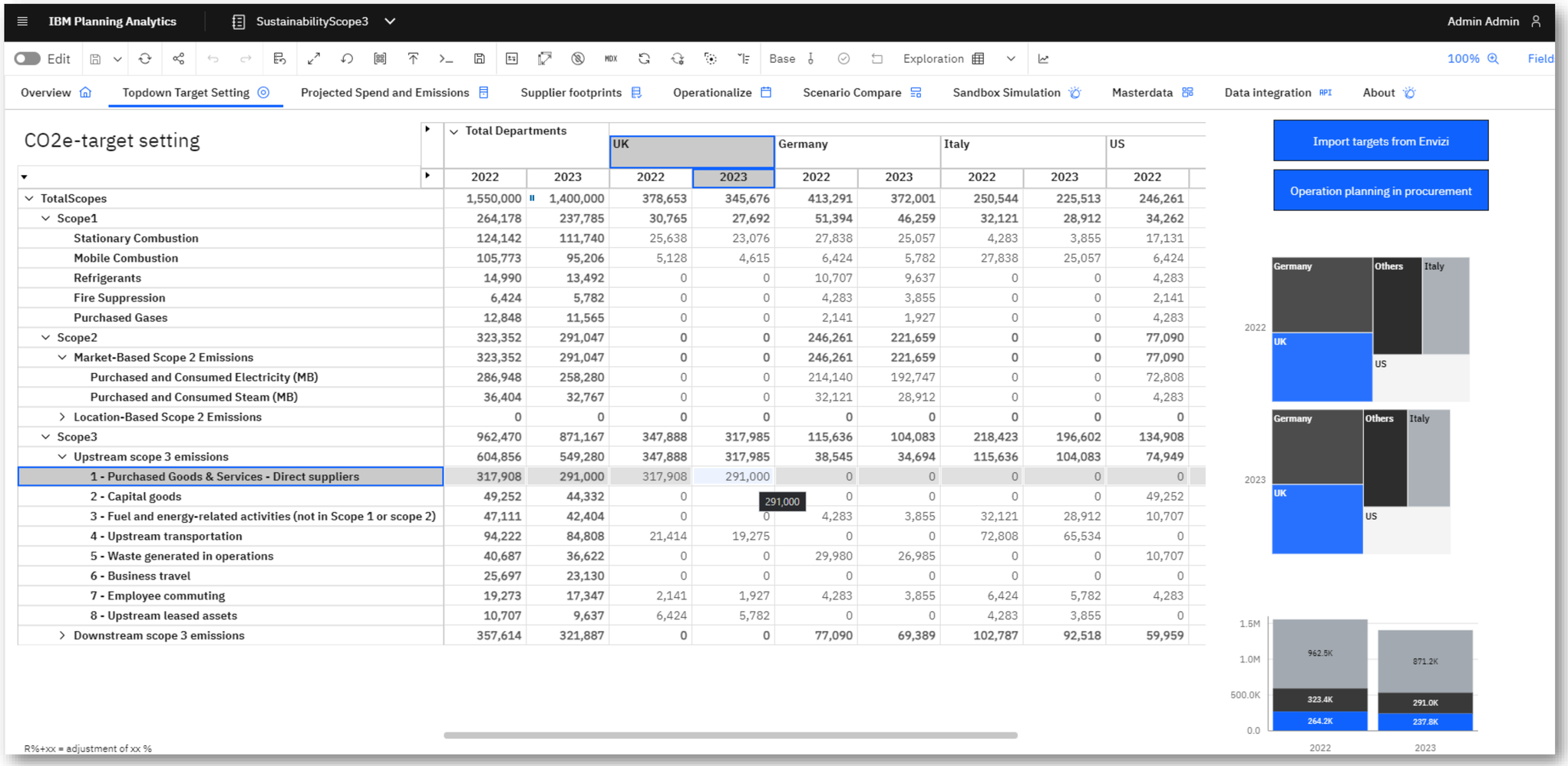
Landing page with KPI-overview - example in procurement



The defined main-KPIs and display of the process

Sustainability vs. Profitability – optimize it

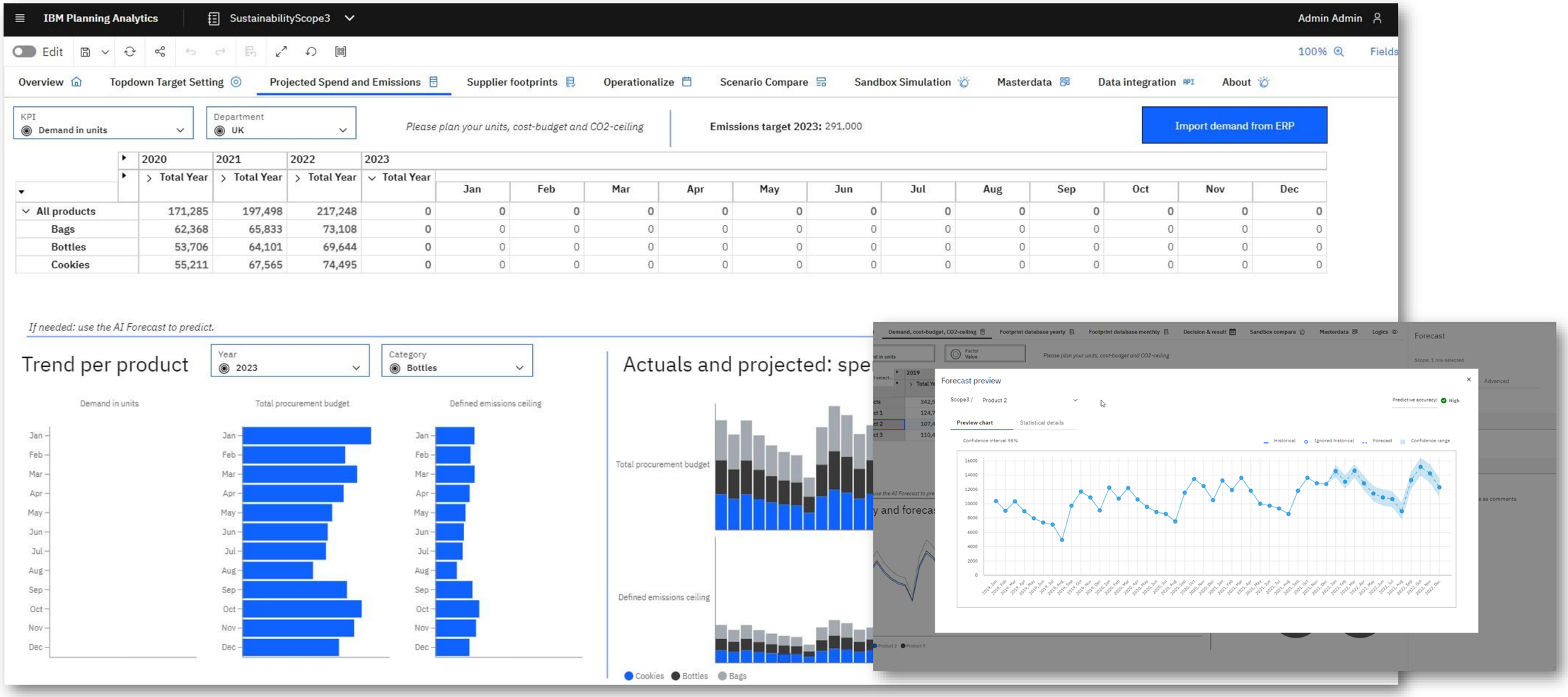
Start breaking down sustainability targets to departments and accounts (top down)



Use last years actuals or any other mechanisms to set targets for the future and break them top down to individual levels down, e.g. for procurement

Sustainability vs. Profitability – optimize it

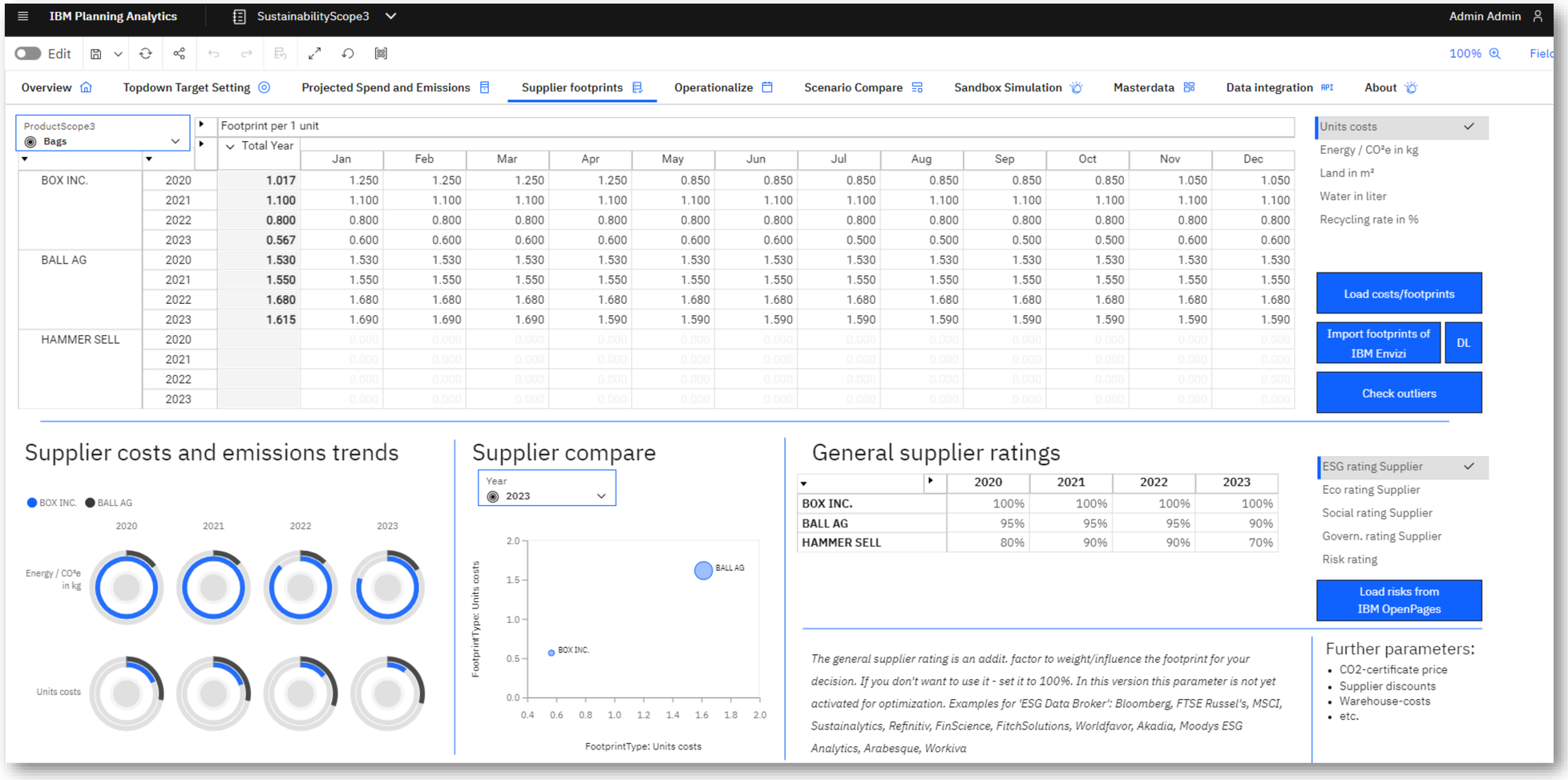
Plan your future (unit-demand, spend-budget, CO2e-budget)



Plan everything initially bottom-up incl. targets - if data is not available in source-systems like ERP etc. , units and budgets can be inputted or forecasted

Sustainability vs. Profitability – optimize it

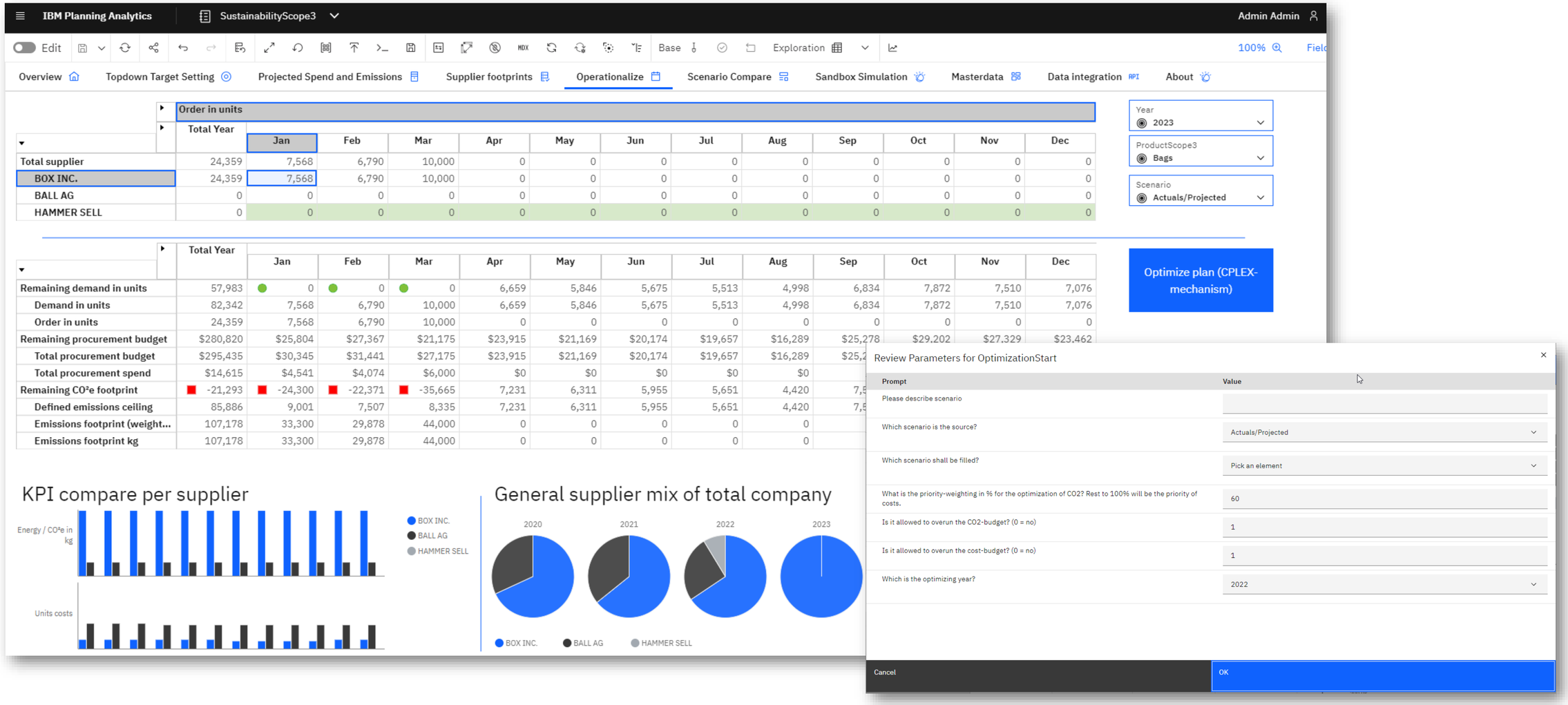
Load/input ESG-footprints incl. costs and ESG-ratings for possible suppliers



Load or input the different footprints like CO2 or costs on a yearly or monthly basis per product, supplier etc.

Sustainability vs. Profitability – optimize it

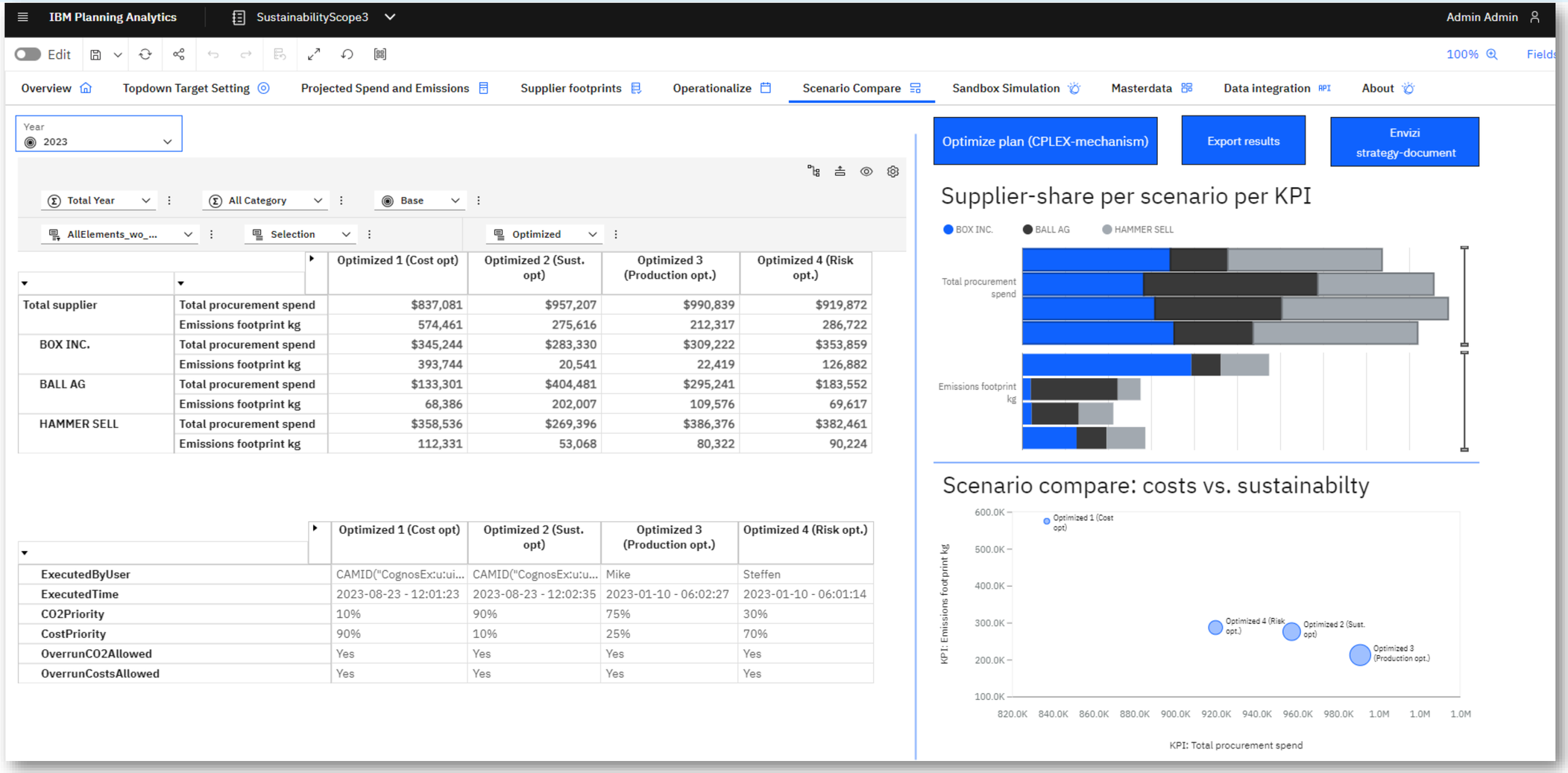
Plan, simulate or optimize corporate plan with units, suppliers, scope 3-footprint, costs etc.



Find a decision to find the perfect product-supplier-mix concerning your targets incl. optimization in real-time to find your strategy

Sustainability vs. Profitability – optimize it

Compare the automated calculated scenarios



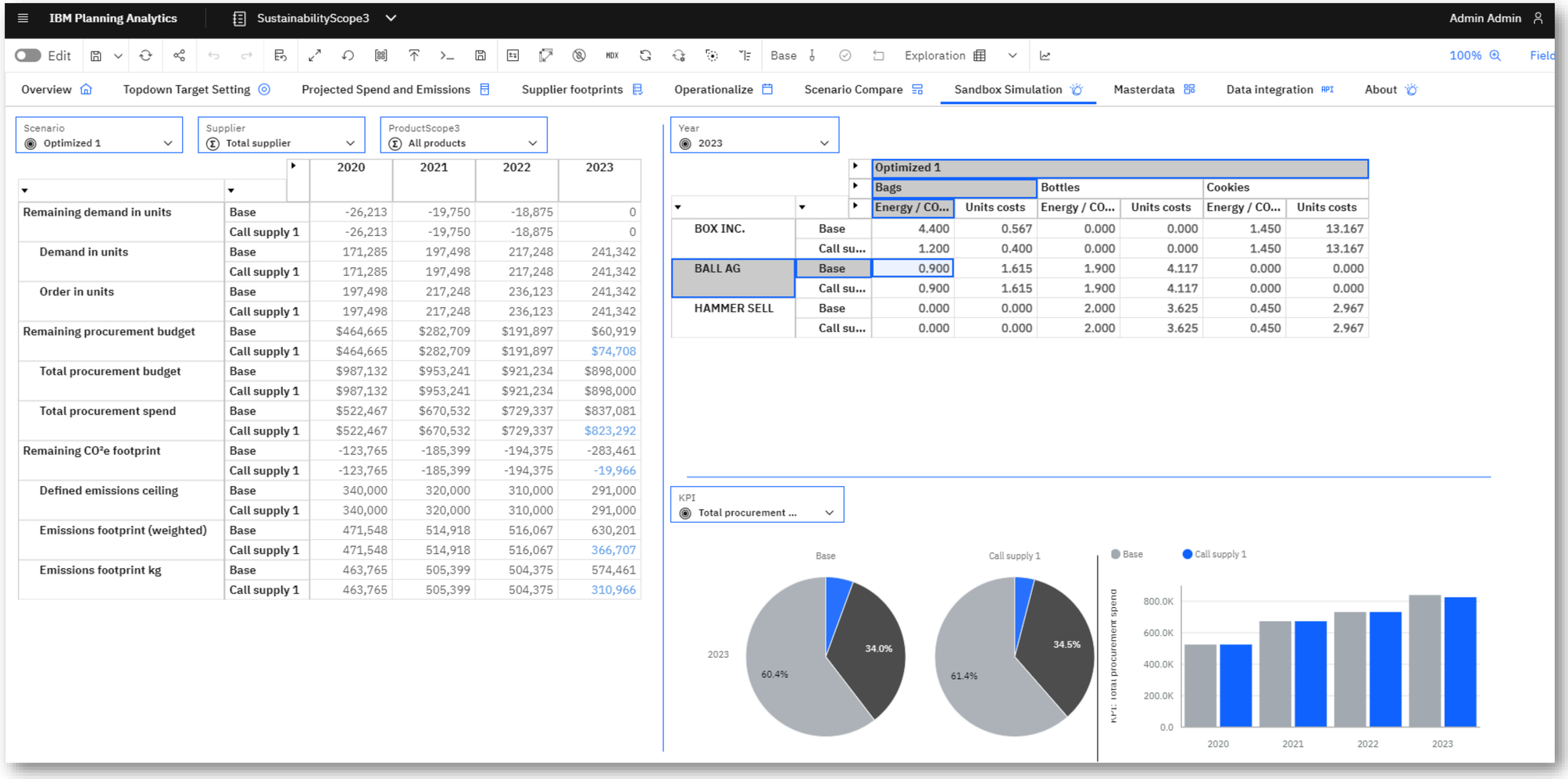
		Optimized 1 (Cost opt)	Optimized 2 (Sust. opt)	Optimized 3 (Production opt.)	Optimized 4 (Risk opt.)
Total supplier	Total procurement spend	$837,081	$957,207	$990,839	$919,872
	Emissions footprint kg	574,461	275,616	212,317	286,722
BOX INC.	Total procurement spend	$345,244	$283,330	$309,222	$353,859
	Emissions footprint kg	393,744	20,541	22,419	126,882
BALL AG	Total procurement spend	$133,301	$404,481	$295,241	$183,552
	Emissions footprint kg	68,386	202,007	109,576	69,617
HAMMER SELL	Total procurement spend	$358,536	$269,396	$386,376	$382,461
	Emissions footprint kg	112,331	53,068	80,322	90,224

	Optimized 1 (Cost opt)	Optimized 2 (Sust. opt)	Optimized 3 (Production opt.)	Optimized 4 (Risk opt.)
ExecutedByUser	CAMID("CognosEx:u:ui...	CAMID("CognosEx:u:u...	Mike	Steffen
ExecutedTime	2023-08-23 - 12:01:23	2023-08-23 - 12:02:35	2023-01-10 - 06:02:27	2023-01-10 - 06:01:14
CO2Priority	10%	90%	75%	30%
CostPriority	90%	10%	25%	70%
OverrunCO2Allowed	Yes	Yes	Yes	Yes
OverrunCostsAllowed	Yes	Yes	Yes	Yes

Compare the calculated options incl. the parameters and analyze all forecasted details on all levels of the model in real-time-speed for an optimized decision

Sustainability vs. Profitability – optimize it

Compare your real-time simulation/sandboxes and decide for your future



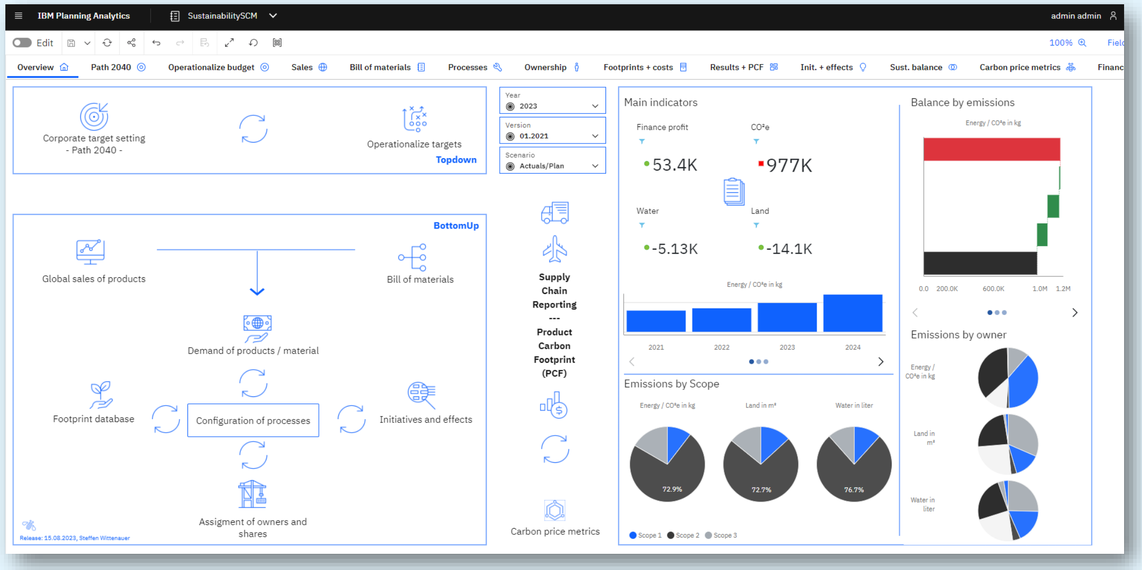
		2020	2021	2022	2023
Remaining demand in units	Base	-26,213	-19,750	-18,875	0
	Call supply 1	-26,213	-19,750	-18,875	0
Demand in units	Base	171,285	197,498	217,248	241,342
	Call supply 1	171,285	197,498	217,248	241,342
Order in units	Base	197,498	217,248	236,123	241,342
	Call supply 1	197,498	217,248	236,123	241,342
Remaining procurement budget	Base	$464,665	$282,709	$191,897	$60,919
	Call supply 1	$464,665	$282,709	$191,897	$74,708
Total procurement budget	Base	$987,132	$953,241	$921,234	$898,000
	Call supply 1	$987,132	$953,241	$921,234	$898,000
Total procurement spend	Base	$522,467	$670,532	$729,337	$837,081
	Call supply 1	$522,467	$670,532	$729,337	$823,292
Remaining CO^2e footprint	Base	-123,765	-185,399	-194,375	-283,461
	Call supply 1	-123,765	-185,399	-194,375	-19,966
Defined emissions ceiling	Base	340,000	320,000	310,000	291,000
	Call supply 1	340,000	320,000	310,000	291,000
Emissions footprint (weighted)	Base	471,548	514,918	516,067	630,201
	Call supply 1	471,548	514,918	516,067	366,707
Emissions footprint kg	Base	463,765	505,399	504,375	574,461
	Call supply 1	463,765	505,399	504,375	310,966

		Optimized 1					
		Bags		Bottles		Cookies	
		Energy / CO...	Units costs	Energy / CO...	Units costs	Energy / CO...	Units costs
BOX INC.	Base	4.400	0.567	0.000	0.000	1.450	13.167
	Call su...	1.200	0.400	0.000	0.000	1.450	13.167
BALL AG	Base	0.900	1.615	1.900	4.117	0.000	0.000
	Call su...	0.900	1.615	1.900	4.117	0.000	0.000
HAMMER SELL	Base	0.000	0.000	2.000	3.625	0.450	2.967
	Call su...	0.000	0.000	2.000	3.625	0.450	2.967

Compare your real-time simulation/sandboxes and decide for your future

Accelerator: **Sustainability in the Supply Chain**

Plan & simulate almost unlimited parameters & impacts



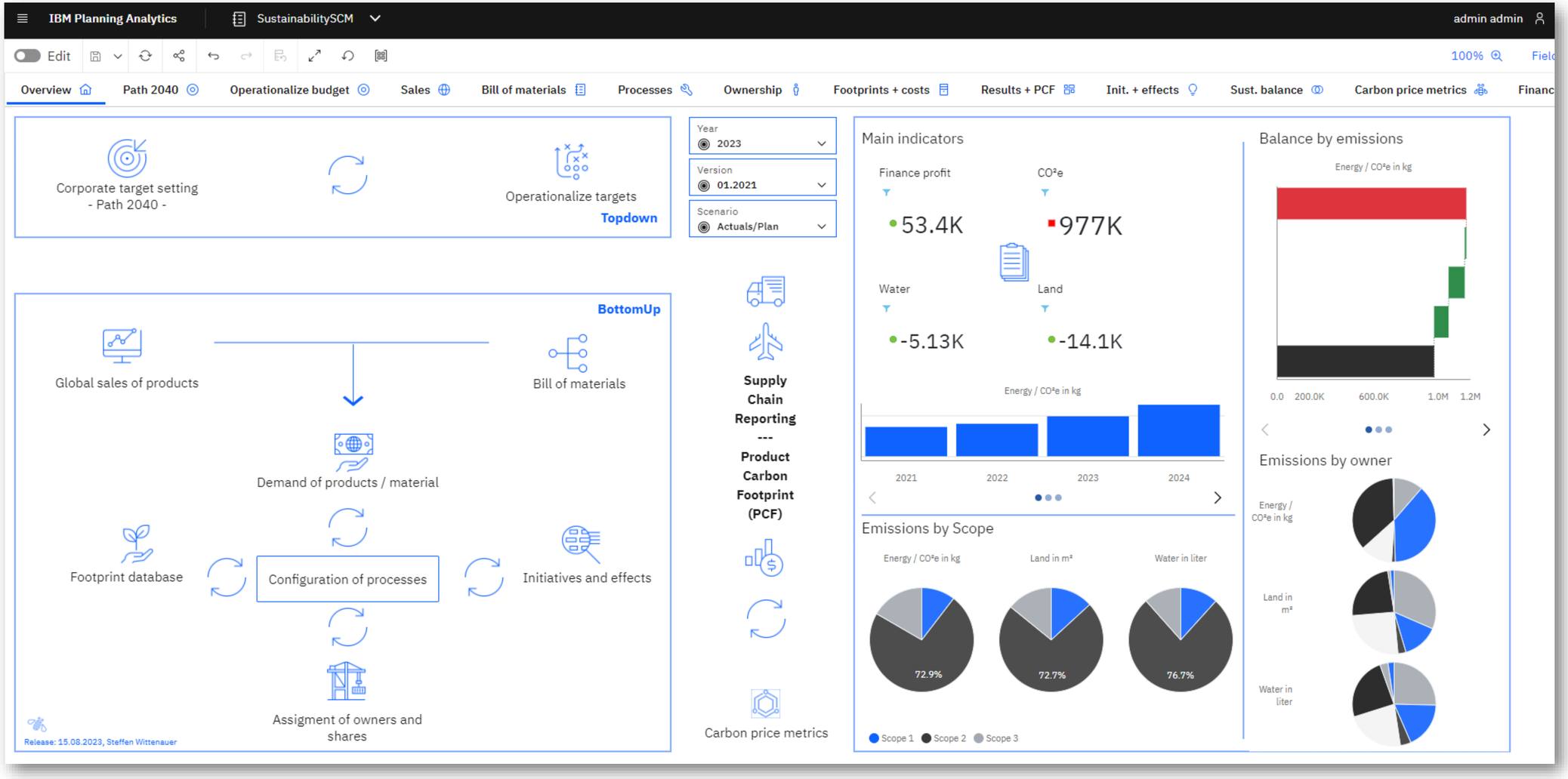
- Purpose: following the companies supply chain-processes for reporting-, planning- or simulation-purposes

- Content: focusing on sales-/production-units with conversion into sustainability-footprints for products or materials incl. ‚bill of materials‘; assignment of internal and external ownerships and unlimited steps in the processes; reporting / planning / simulation in real-time possible

- Overview of the model: set targets, plan sales/production – calculate needed resources by BOM / processes / assignments / footprints – analyze results in different scenarios incl. PCF and C02e-compensation

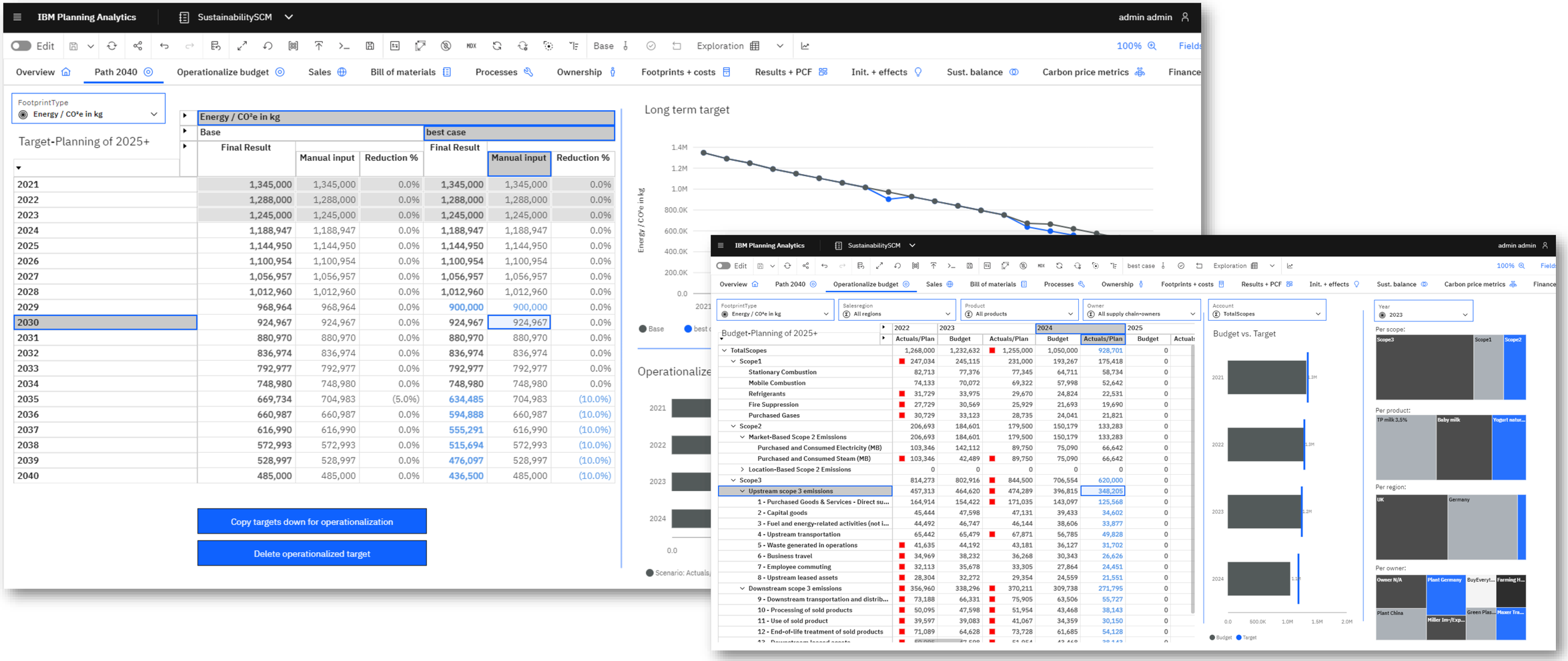
- Technology: IBM Planning Analytics (core module), IBM Cloud Pak for data optional (Data Fabric / IBM Cognos Analytics / Watson Studio)

Manage all kind of KPIs or processes and simulate all kind of changes



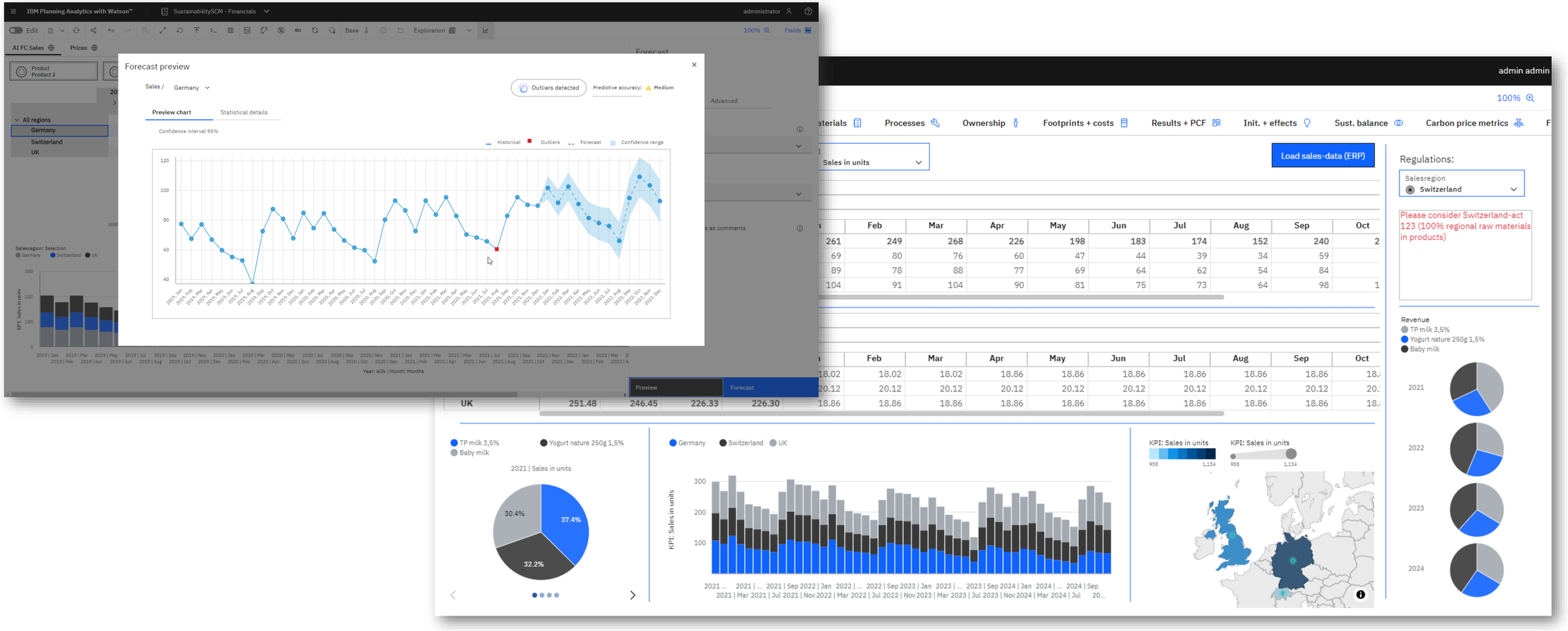
Entry screen managing all scenarios, KPIs and analytics results.

Set strategic targets and break them down for operational units in all granularity



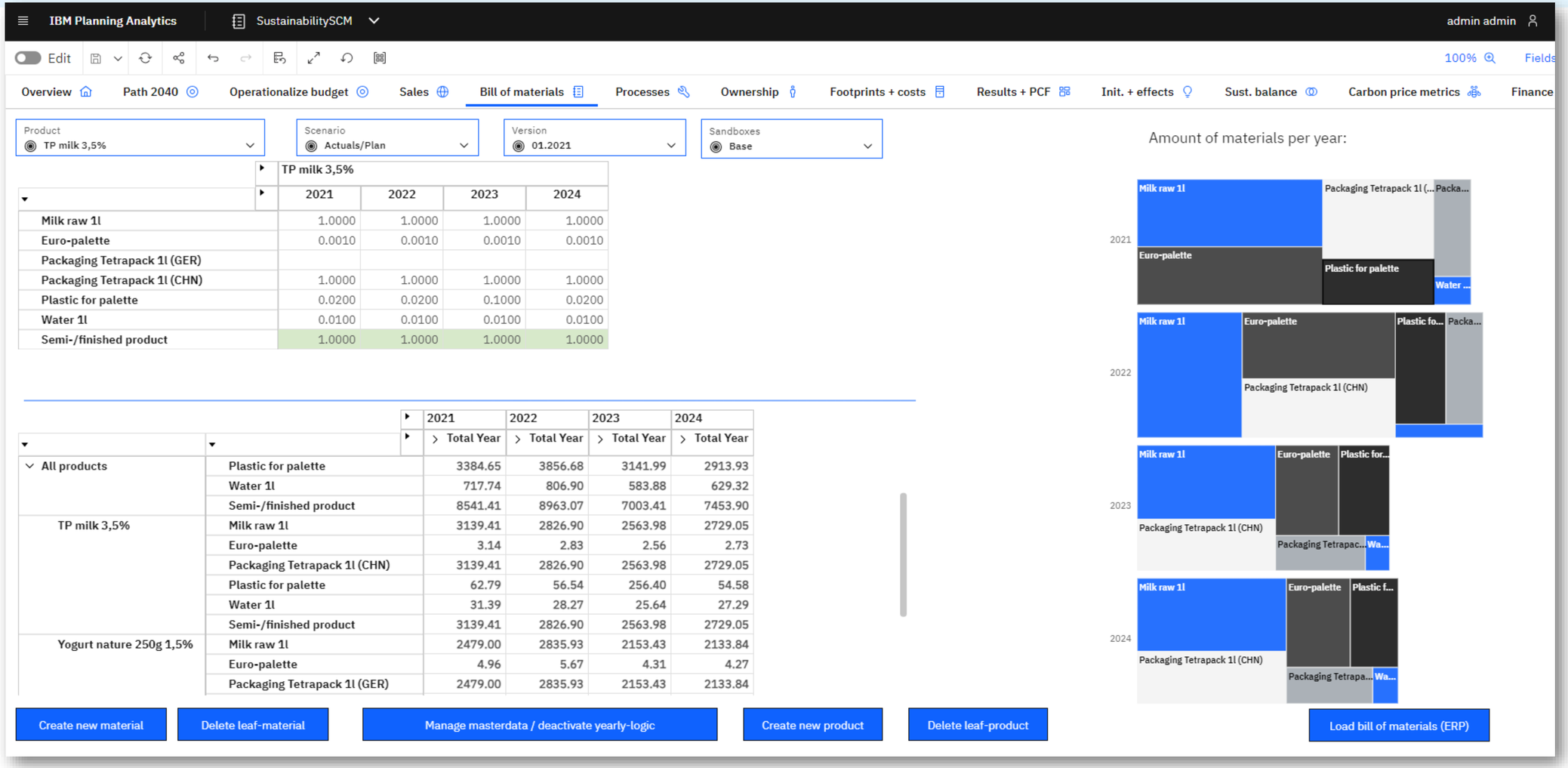
Plan absolute and/or in % the yearly overall reduction per emission-type. Then breakdown these targets to any kind of data granularity like organizations, products, supply chain owners (internal + external/suppliers)

Plan or adjust sales-data like amount of units and price if needed



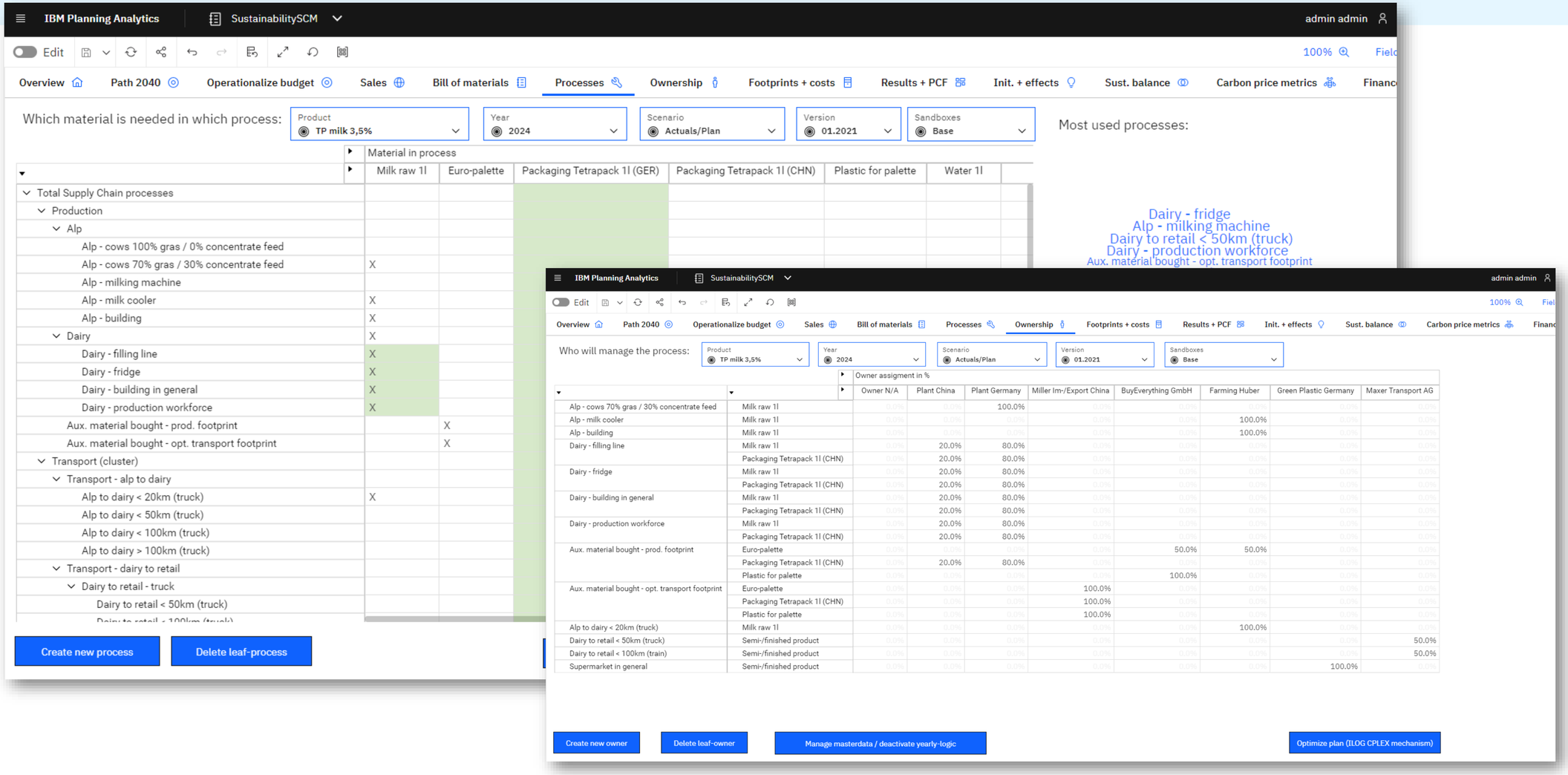
End-user friendly: the included out-of-the-box AI forecast running different models in the background

Include changes in the ‚Bill of materials' to see possible impacts in next supply chain steps



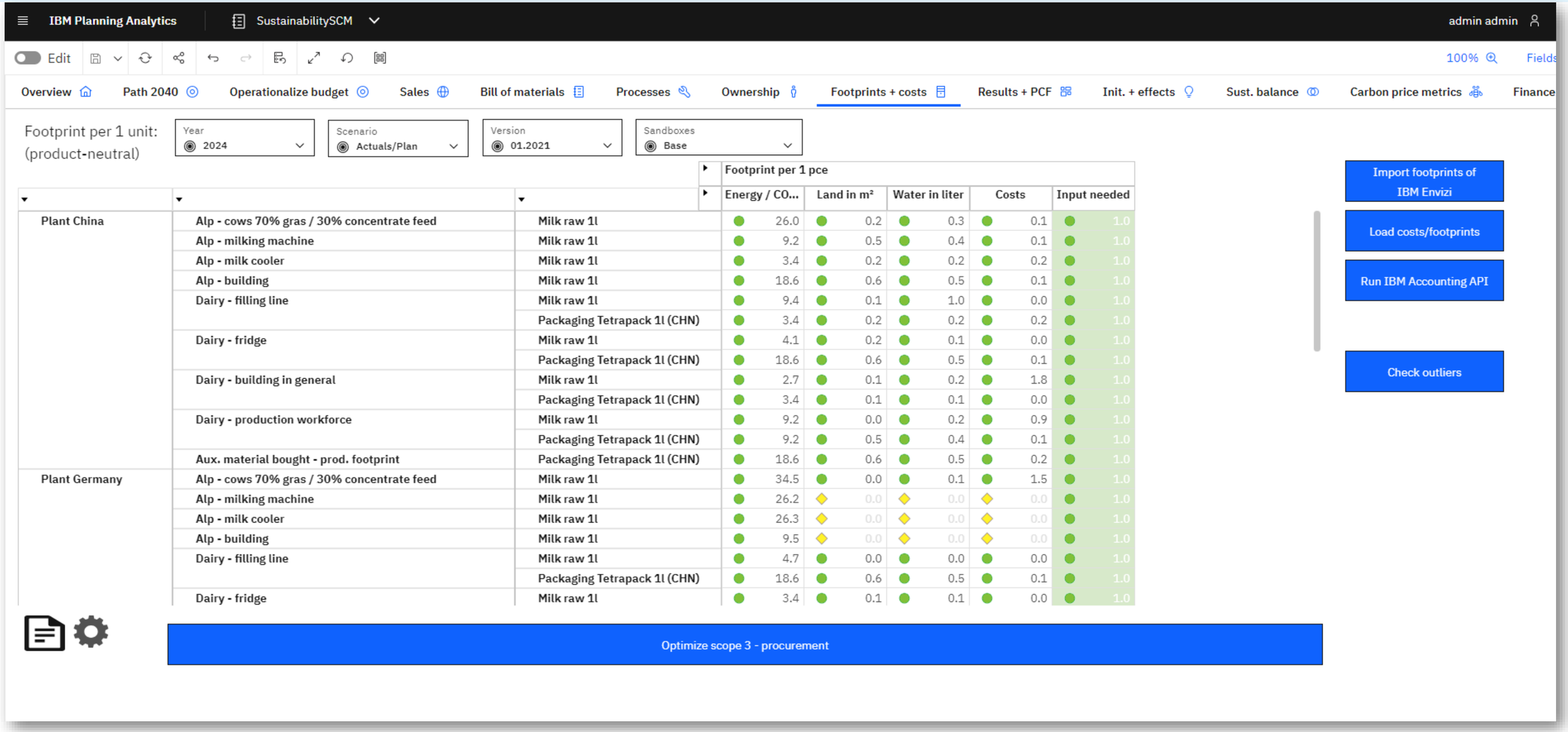
Configure / load / simulate the ‚Bill of materials' and see in real-time the results of needed materials

Configure or load or assign supply chain processes and owners



Assignments of internal or external ownerships per process and different assignments of internal / external ownership for processes

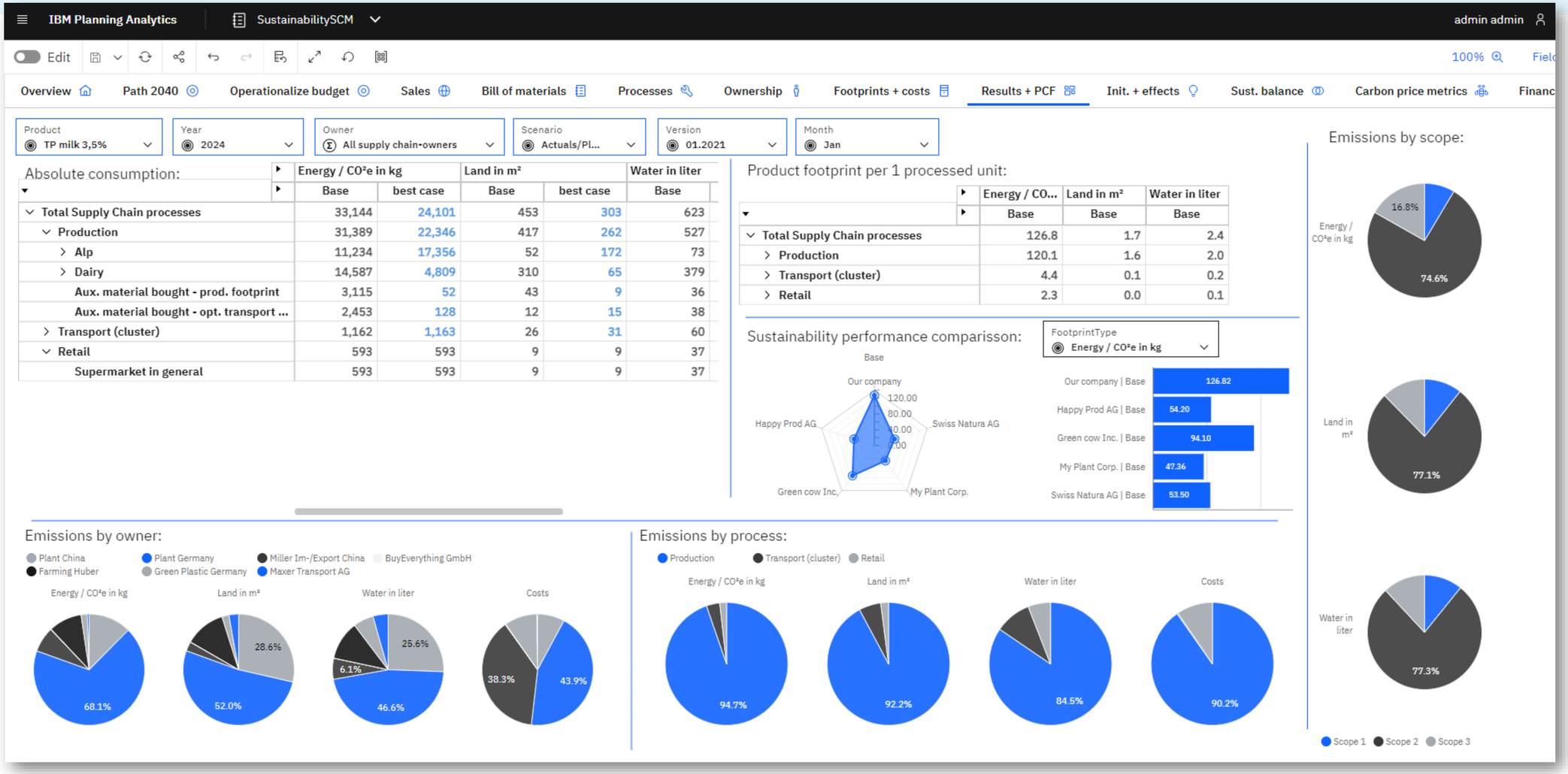
Connect / load automatically or change manually different footprints and costs



			Footprint per 1 pce				
			Energy / CO...	Land in m²	Water in liter	Costs	Input needed
Plant China	Alp - cows 70% gras / 30% concentrate feed	Milk raw 1l	26.0	0.2	0.3	0.1	1.0
	Alp - milking machine	Milk raw 1l	9.2	0.5	0.4	0.1	1.0
	Alp - milk cooler	Milk raw 1l	3.4	0.2	0.2	0.2	1.0
	Alp - building	Milk raw 1l	18.6	0.6	0.5	0.1	1.0
	Dairy - filling line	Milk raw 1l	9.4	0.1	1.0	0.0	1.0
		Packaging Tetrapack 1l (CHN)	3.4	0.2	0.2	0.2	1.0
	Dairy - fridge	Milk raw 1l	4.1	0.2	0.1	0.0	1.0
		Packaging Tetrapack 1l (CHN)	18.6	0.6	0.5	0.1	1.0
	Dairy - building in general	Milk raw 1l	2.7	0.1	0.2	1.8	1.0
		Packaging Tetrapack 1l (CHN)	3.4	0.1	0.1	0.0	1.0
	Dairy - production workforce	Milk raw 1l	9.2	0.0	0.2	0.9	1.0
		Packaging Tetrapack 1l (CHN)	9.2	0.5	0.4	0.1	1.0
	Aux. material bought - prod. footprint	Packaging Tetrapack 1l (CHN)	18.6	0.6	0.5	0.2	1.0
Plant Germany	Alp - cows 70% gras / 30% concentrate feed	Milk raw 1l	34.5	0.0	0.1	1.5	1.0
	Alp - milking machine	Milk raw 1l	26.2	0.0	0.0	0.0	1.0
	Alp - milk cooler	Milk raw 1l	26.3	0.0	0.0	0.0	1.0
	Alp - building	Milk raw 1l	9.5	0.0	0.0	0.0	1.0
	Dairy - filling line	Milk raw 1l	4.7	0.0	0.0	0.0	1.0
		Packaging Tetrapack 1l (CHN)	18.6	0.6	0.5	0.1	1.0
	Dairy - fridge	Milk raw 1l	3.4	0.1	0.1	0.0	1.0

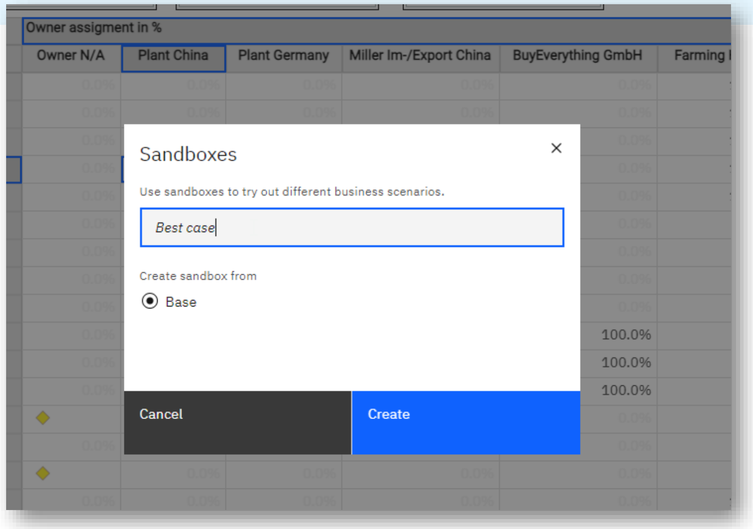
View into the footprint-database which can have a mix of loaded of manual inputted parameters

Results on all granularity through the whole supply chain incl. product carbon footprint



No limitation for reporting and analysis-purposes – power users can create their own views on all data-levels with nearly unlimited types of visualizations: PCF / absolute emissions / performance comparison

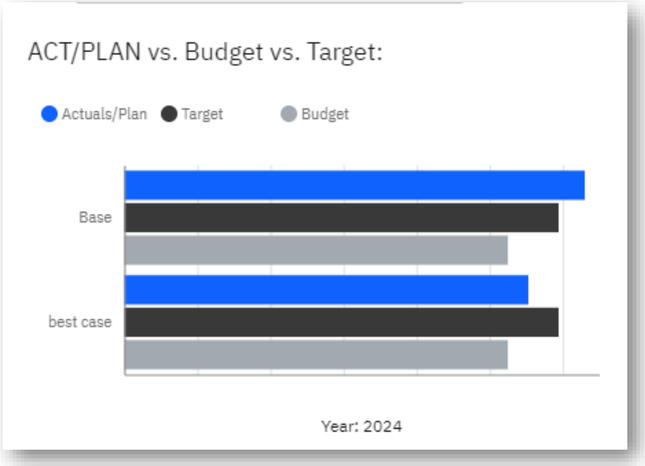
Create real-time-scenarios to simulate and compare special effects and assumptions



Balance:

Year	Version	FootprintType
2024	01.2021	Energy / CO²e in kg

		Actuals/Plan		Target	
		Base	best case	Base	best case
Total emissions balance	Total Effects	1,260,553	1,106,122	1,188,947	1,188,947
Emission	Total Effects	1,295,553	1,201,122	1,188,947	1,188,947
BaseEmission	Base effect supply chain	1,295,553	1,201,122	1,188,947	1,188,947
Reductions	Total Effects	-35,000	-95,000	0	0
Special projects	Total Effects	-35,000	-95,000	0	0
	Special effects	-35,000	-95,000	0	0
	Special training 2023ff	-5,000	-5,000	0	0
	Optimize supplier 2025x	-20,000	-80,000	0	0
	Investment new fabric Chi...	-10,000	-10,000	0	0

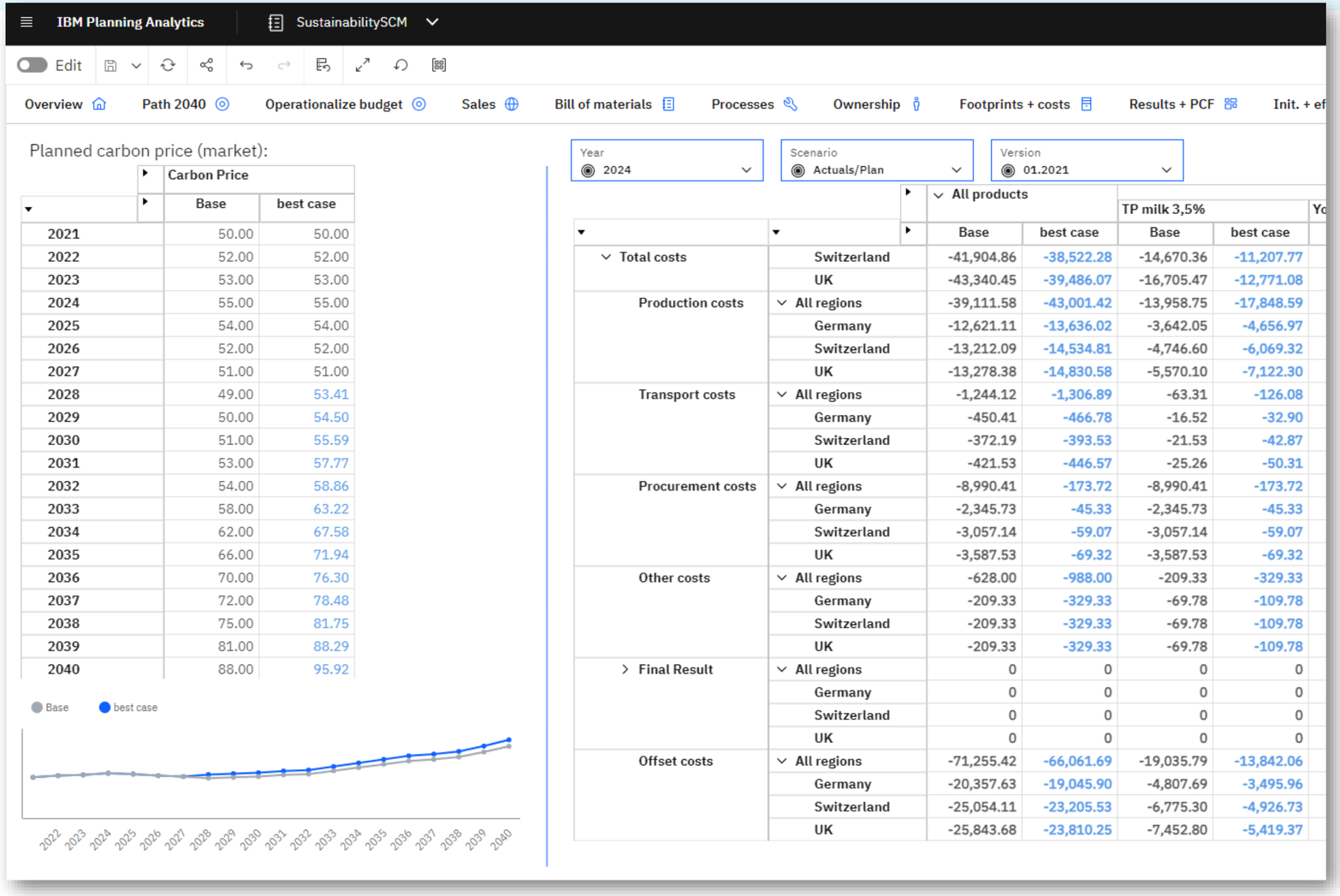


Year	Scenario	Version	Owner	Process
2024	Actuals/Plan	01.2021	Owner N/A	Process neutral

				Total Year		Jan	Feb	Mar	Apr	May
				Value	Comment	Value	Value	Value	Value	Value
Base	Special training 2023ff	Emission	Energy / CO²e in kg	50,000	Start in GER	50,000	0	0	0	0
			Land in m²	30,000		30,000	0	0	0	0
			Water in liter	9,000		9,000	0	0	0	0
		Other costs	Costs	4,800.00		3,900.00	0.00	900.00	0.00	0.00
	Optimize supplier 2025x	Emission	Energy / CO²e in kg	200,000		200,000	0	0	0	0
			Land in m²	27,000		27,000	0	0	0	0
			Water in liter	21,000		21,000	0	0	0	0
		Other costs	Costs	1,200.00		1,200.00	0.00	0.00	0.00	0.00
	Investment new fabric China 2028	Emission	Energy / CO²e in kg	100,000		100,000	0	0	0	0
			Land in m²	100		100	0	0	0	0
			Water in liter	0		0	0	0	0	0
		Other costs	Costs	280.00	opening in 2026	280.00	0.00	0.00	0.00	0.00

Create your own scenarios (sandboxes), special effects / initiatives, assumptions and compare their outcomes

Include a carbon pricing for remaining emissions to see impact on profit & loss

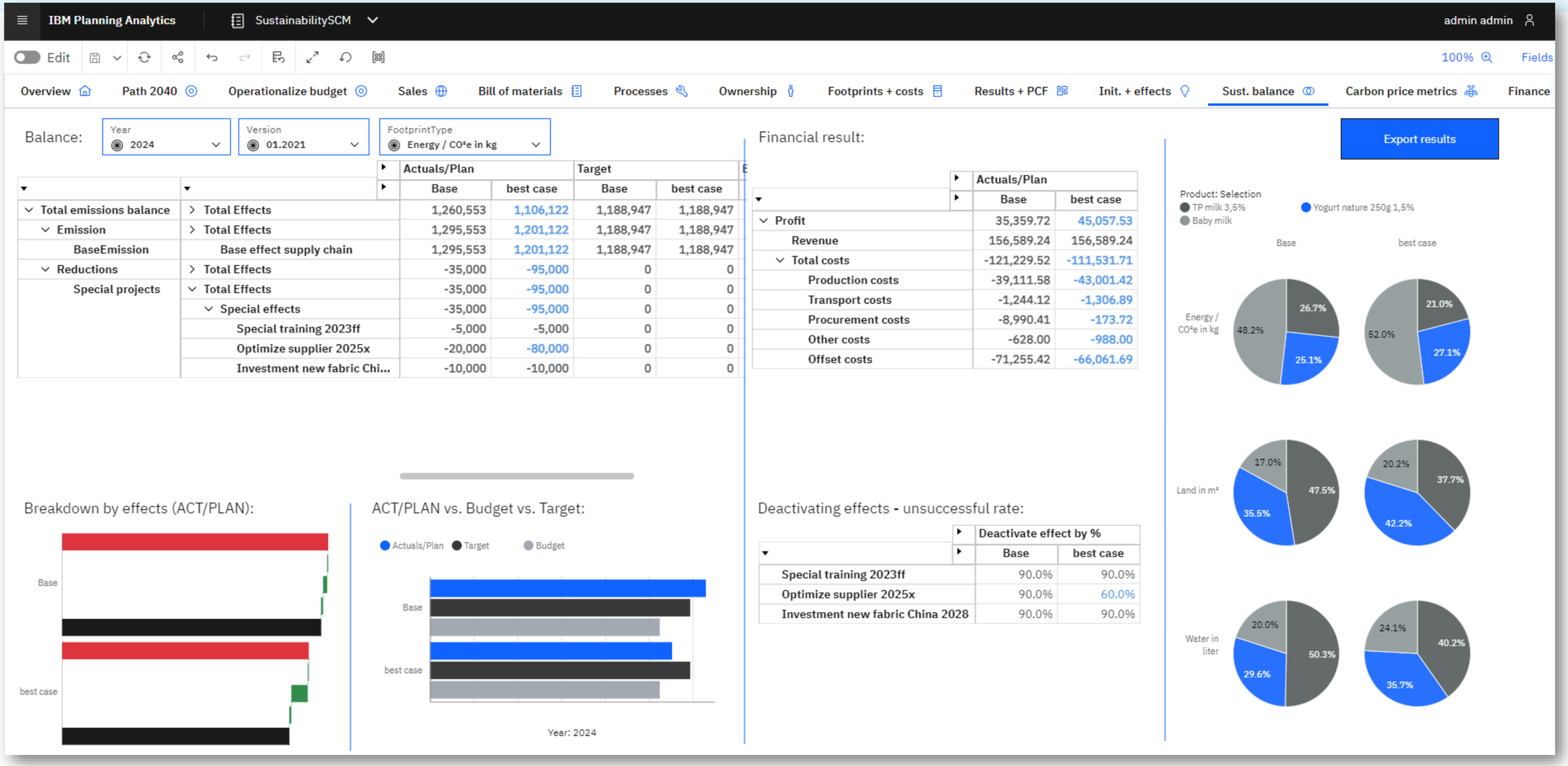


Carbon Price	Base	best case
2021	50.00	50.00
2022	52.00	52.00
2023	53.00	53.00
2024	55.00	55.00
2025	54.00	54.00
2026	52.00	52.00
2027	51.00	51.00
2028	49.00	53.41
2029	50.00	54.50
2030	51.00	55.59
2031	53.00	57.77
2032	54.00	58.86
2033	58.00	63.22
2034	62.00	67.58
2035	66.00	71.94
2036	70.00	76.30
2037	72.00	78.48
2038	75.00	81.75
2039	81.00	88.29
2040	88.00	95.92

		All products		TP milk 3,5%	
		Base	best case	Base	best case
Total costs	Switzerland	-41,904.86	-38,522.28	-14,670.36	-11,207.77
	UK	-43,340.45	-39,486.07	-16,705.47	-12,771.08
Production costs	All regions	-39,111.58	-43,001.42	-13,958.75	-17,848.59
	Germany	-12,621.11	-13,636.02	-3,642.05	-4,656.97
	Switzerland	-13,212.09	-14,534.81	-4,746.60	-6,069.32
	UK	-13,278.38	-14,830.58	-5,570.10	-7,122.30
Transport costs	All regions	-1,244.12	-1,306.89	-63.31	-126.08
	Germany	-450.41	-466.78	-16.52	-32.90
	Switzerland	-372.19	-393.53	-21.53	-42.87
	UK	-421.53	-446.57	-25.26	-50.31
Procurement costs	All regions	-8,990.41	-173.72	-8,990.41	-173.72
	Germany	-2,345.73	-45.33	-2,345.73	-45.33
	Switzerland	-3,057.14	-59.07	-3,057.14	-59.07
	UK	-3,587.53	-69.32	-3,587.53	-69.32
Other costs	All regions	-628.00	-988.00	-209.33	-329.33
	Germany	-209.33	-329.33	-69.78	-109.78
	Switzerland	-209.33	-329.33	-69.78	-109.78
	UK	-209.33	-329.33	-69.78	-109.78
Final Result	All regions	0	0	0	0
	Germany	0	0	0	0
	Switzerland	0	0	0	0
	UK	0	0	0	0
Offset costs	All regions	-71,255.42	-66,061.69	-19,035.79	-13,842.06
	Germany	-20,357.63	-19,045.90	-4,807.69	-3,495.96
	Switzerland	-25,054.11	-23,205.53	-6,775.30	-4,926.73
	UK	-25,843.68	-23,810.25	-7,452.80	-5,419.37

Simulate the price curve and see impact down to a product level for offset costs and changing margins

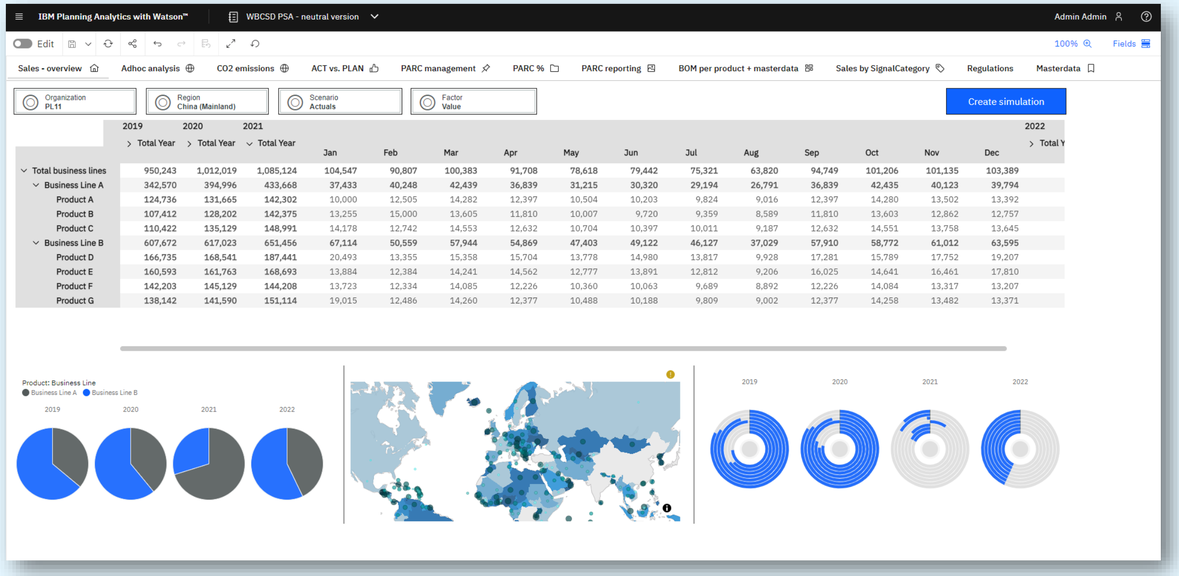
Link sustainability-results or changes to the financial perspective (P&L)



Analyze all sustainability KPIs or –scenarios and check how the financial results change if one parameter is changed

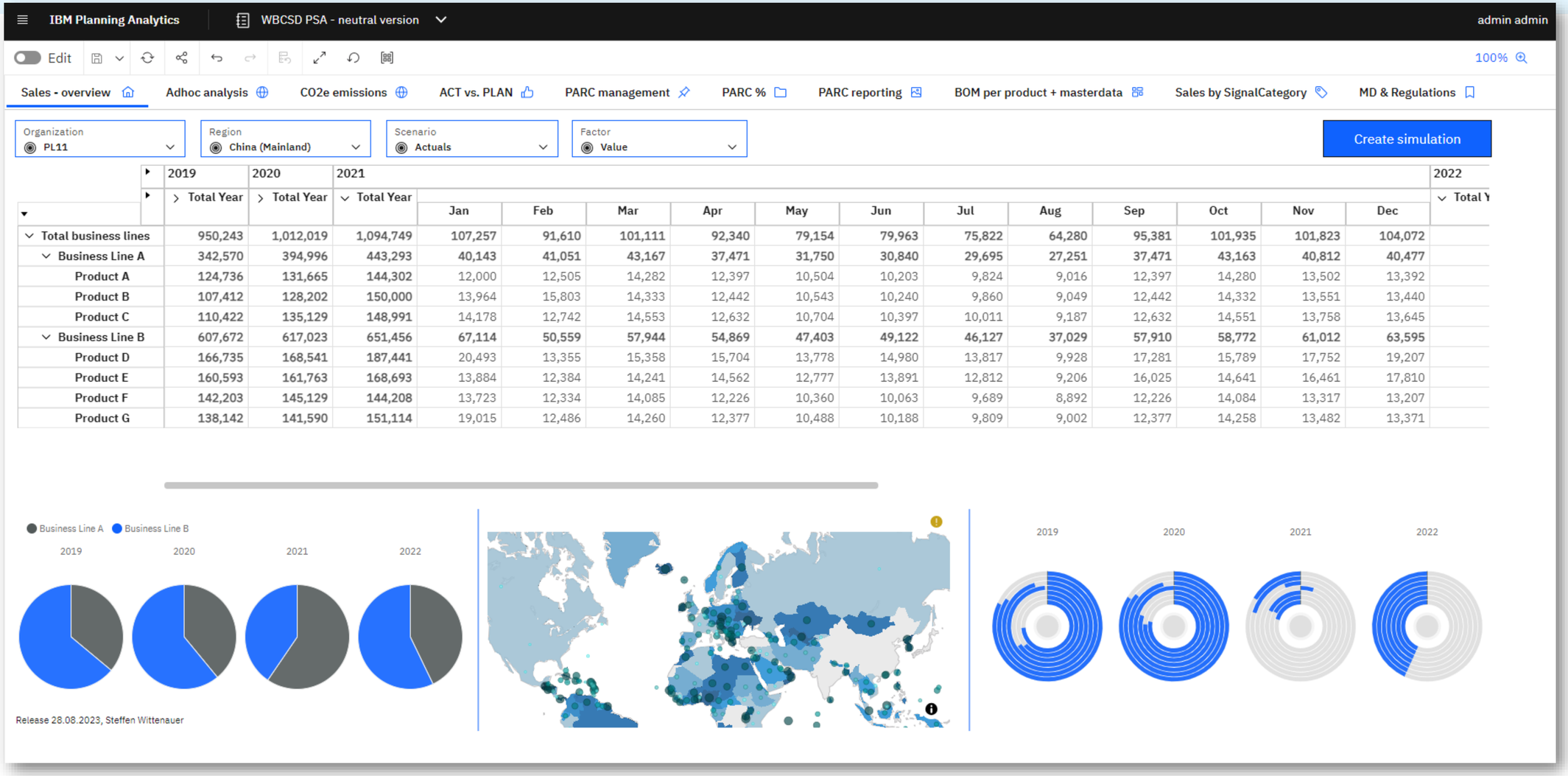
Accelerator: **Sustainability in the chemical sector (PSA)**

Portfolio Sustainability Assessments (PSA)



- Purpose: following WBCSD-standard for Portfolio Sustainability Assessments (PSA)
- Content: focusing on sales-/production-units with conversion into sustainability-footprints for products or materials incl. ‚bill of materials‘ (PARC- and signal-category-logic); reporting / planning / simulation in real-time possible
- Data sources: master data can be manually adapted – actuals can be loaded (files, data warehouse etc.) or entered manually, footprints can be imported by other source-systems or using ‚Carbon Performance Engine carbon accounting APIs’
- Technology: IBM Planning Analytics (core module), IBM Cloud Pak for data optional (Data Fabric / IBM Cognos Analytics / Watson Studio)

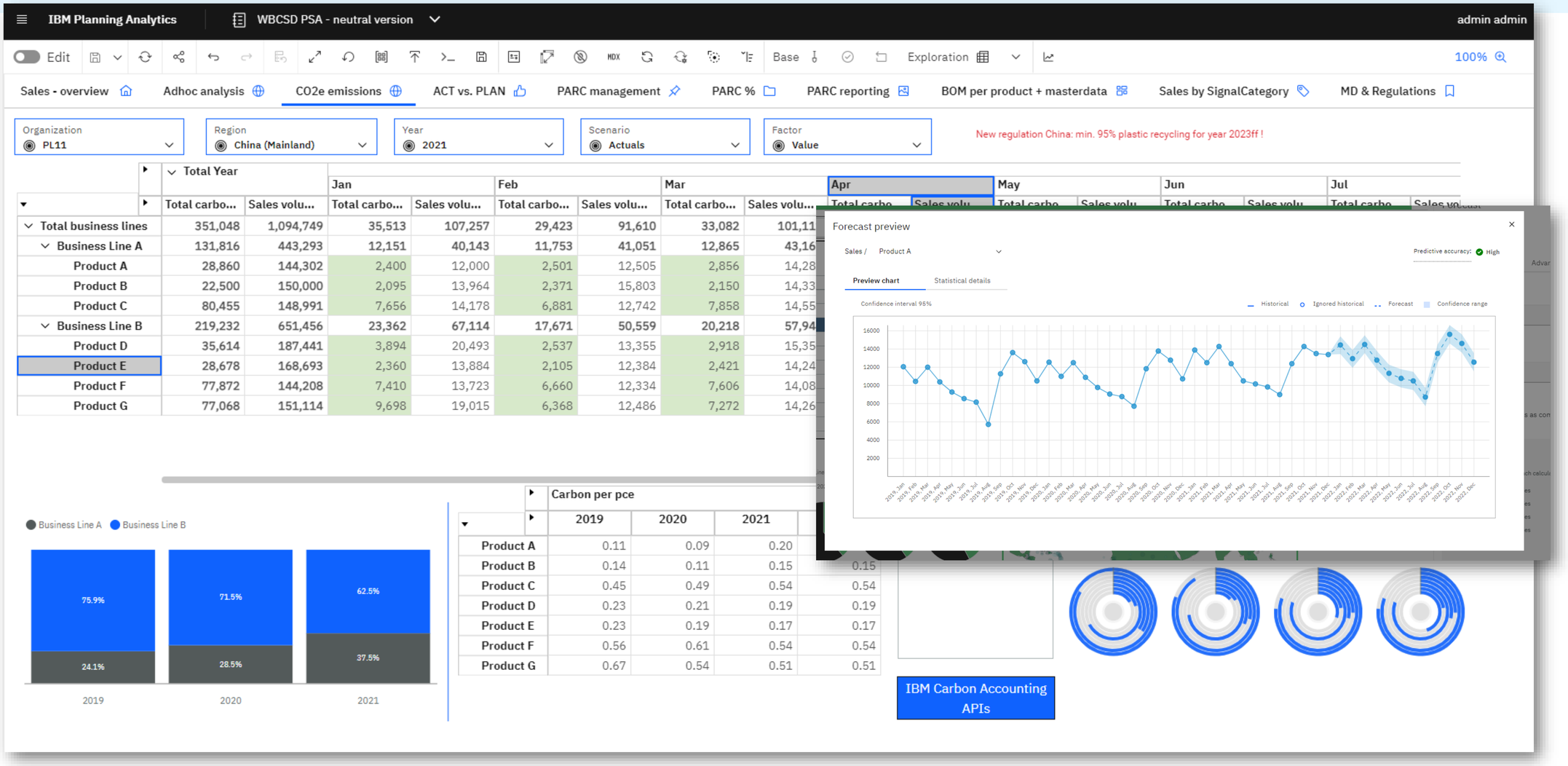
Actuals analysis for KPIs, e.g. sales or emissions



	2019	2020	2021											2022
	Total Year	Total Year	Total Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Y
Total business lines	950,243	1,012,019	1,094,749	107,257	91,610	101,111	92,340	79,154	79,963	75,822	64,280	95,381	101,935	101,823	104,072	
Business Line A	342,570	394,996	443,293	40,143	41,051	43,167	37,471	31,750	30,840	29,695	27,251	37,471	43,163	40,812	40,477	
Product A	124,736	131,665	144,302	12,000	12,505	14,282	12,397	10,504	10,203	9,824	9,016	12,397	14,280	13,502	13,392	
Product B	107,412	128,202	150,000	13,964	15,803	14,333	12,442	10,543	10,240	9,860	9,049	12,442	14,332	13,551	13,440	
Product C	110,422	135,129	148,991	14,178	12,742	14,553	12,632	10,704	10,397	10,011	9,187	12,632	14,551	13,758	13,645	
Business Line B	607,672	617,023	651,456	67,114	50,559	57,944	54,869	47,403	49,122	46,127	37,029	57,910	58,772	61,012	63,595	
Product D	166,735	168,541	187,441	20,493	13,355	15,358	15,704	13,778	14,980	13,817	9,928	17,281	15,789	17,752	19,207	
Product E	160,593	161,763	168,693	13,884	12,384	14,241	14,562	12,777	13,891	12,812	9,206	16,025	14,641	16,461	17,810	
Product F	142,203	145,129	144,208	13,723	12,334	14,085	12,226	10,360	10,063	9,689	8,892	12,226	14,084	13,317	13,207	
Product G	138,142	141,590	151,114	19,015	12,486	14,260	12,377	10,488	10,188	9,809	9,002	12,377	14,258	13,482	13,371	

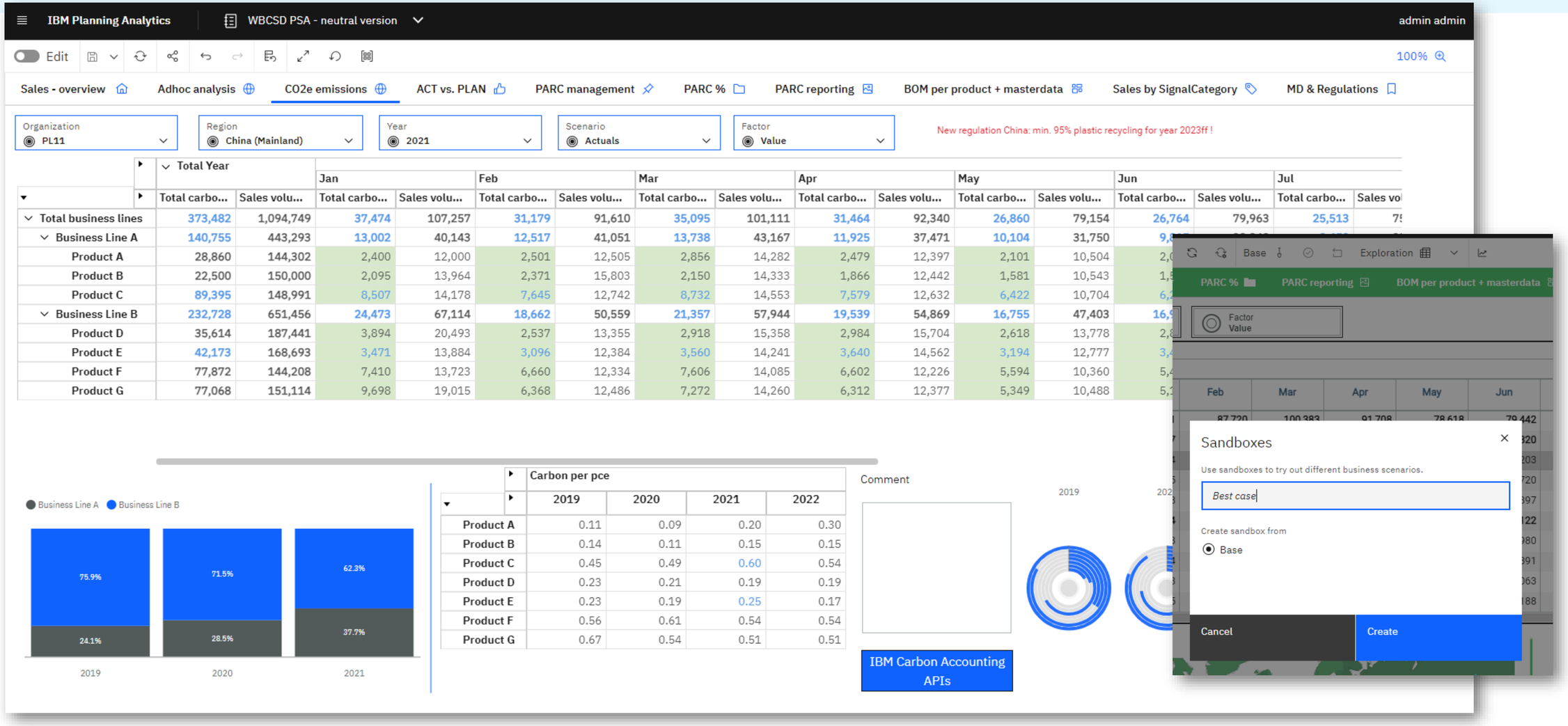
Possible landing-page for a high level-overview of KPIs

Planning / simulation incl. AI-forecast and emissions on products, sites etc.



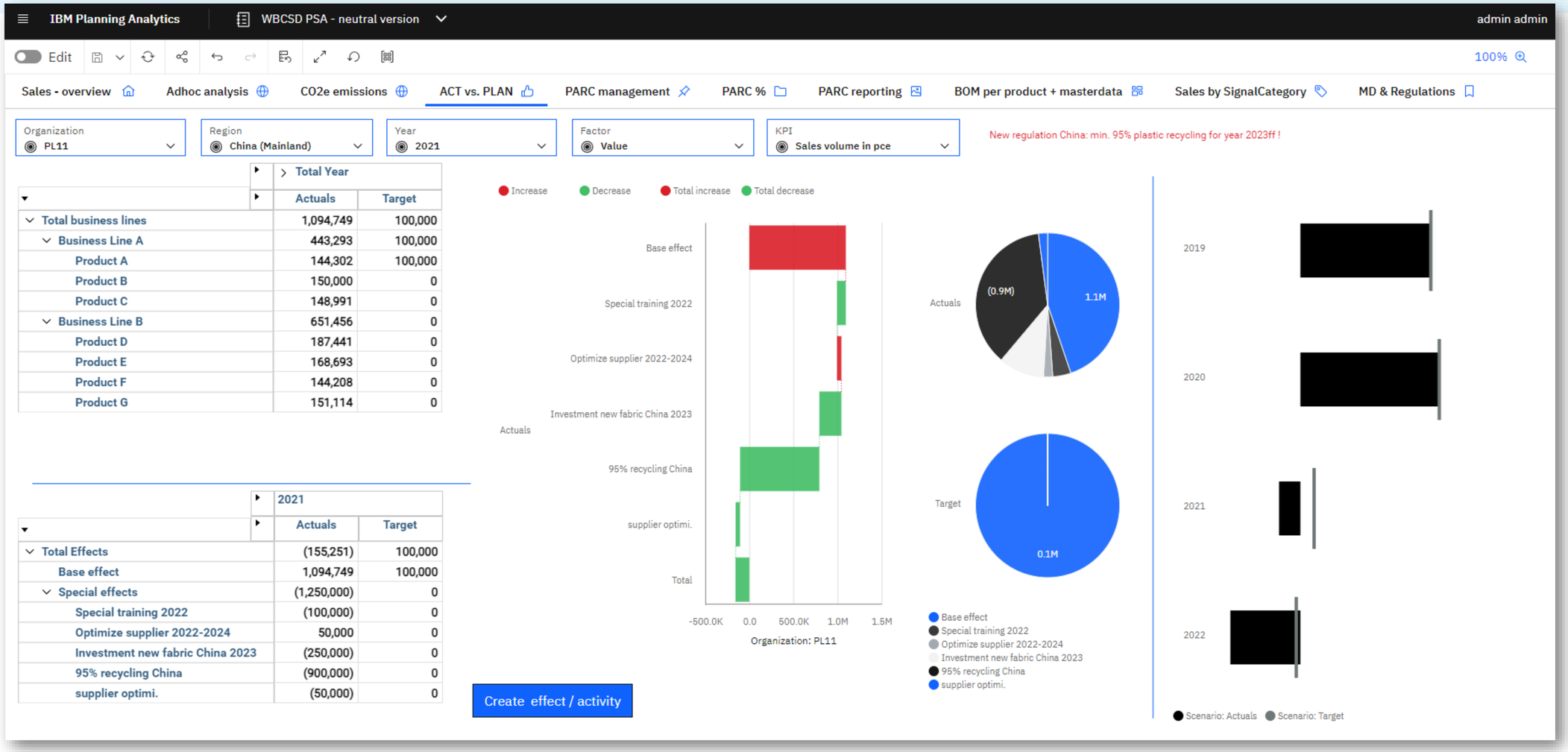
End-user friendly: the included out-of-the-box AI Forecast running different models in the background

Creation of simulation-sandboxes and driver-based results in real-time



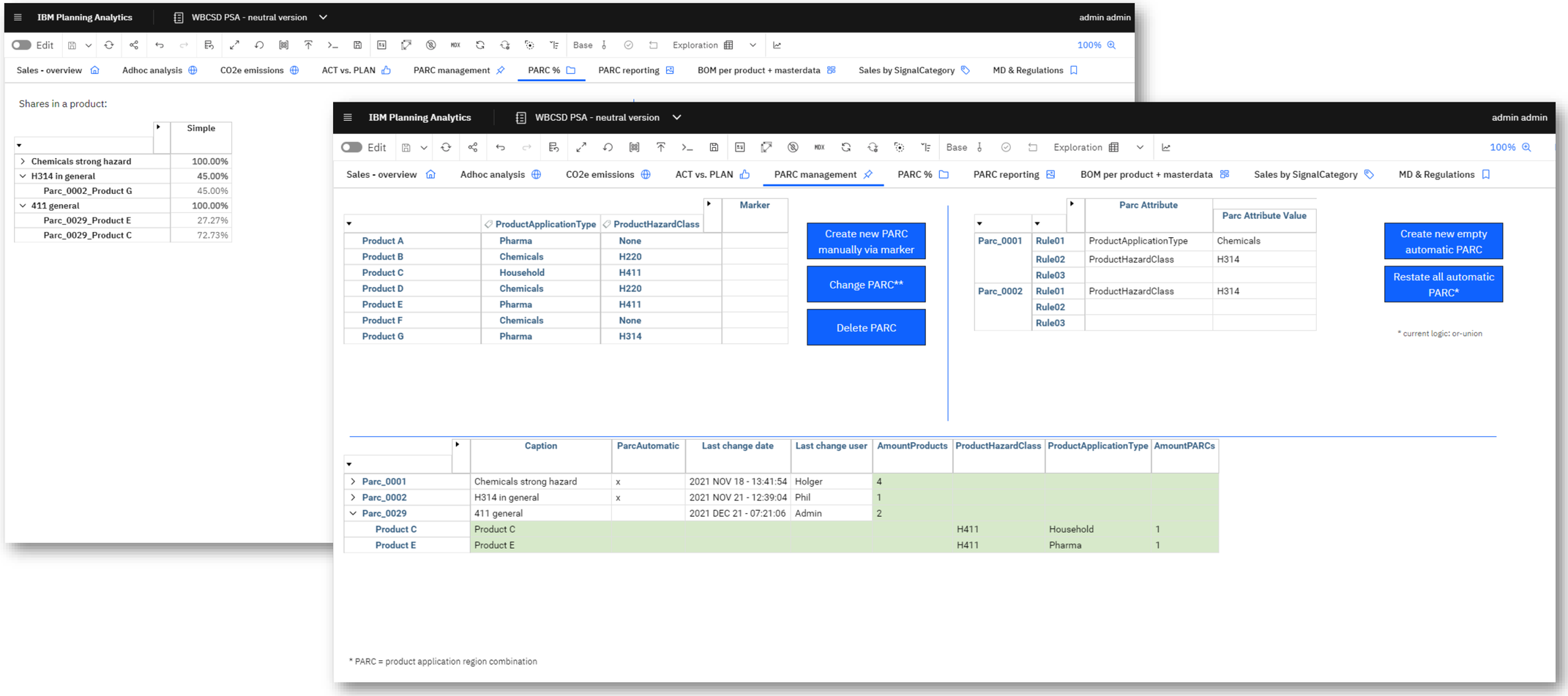
Initial real-time result of a simulation of CO2-emission (scenario-change is blue coloured)

Actuals vs. targets and regulatory information



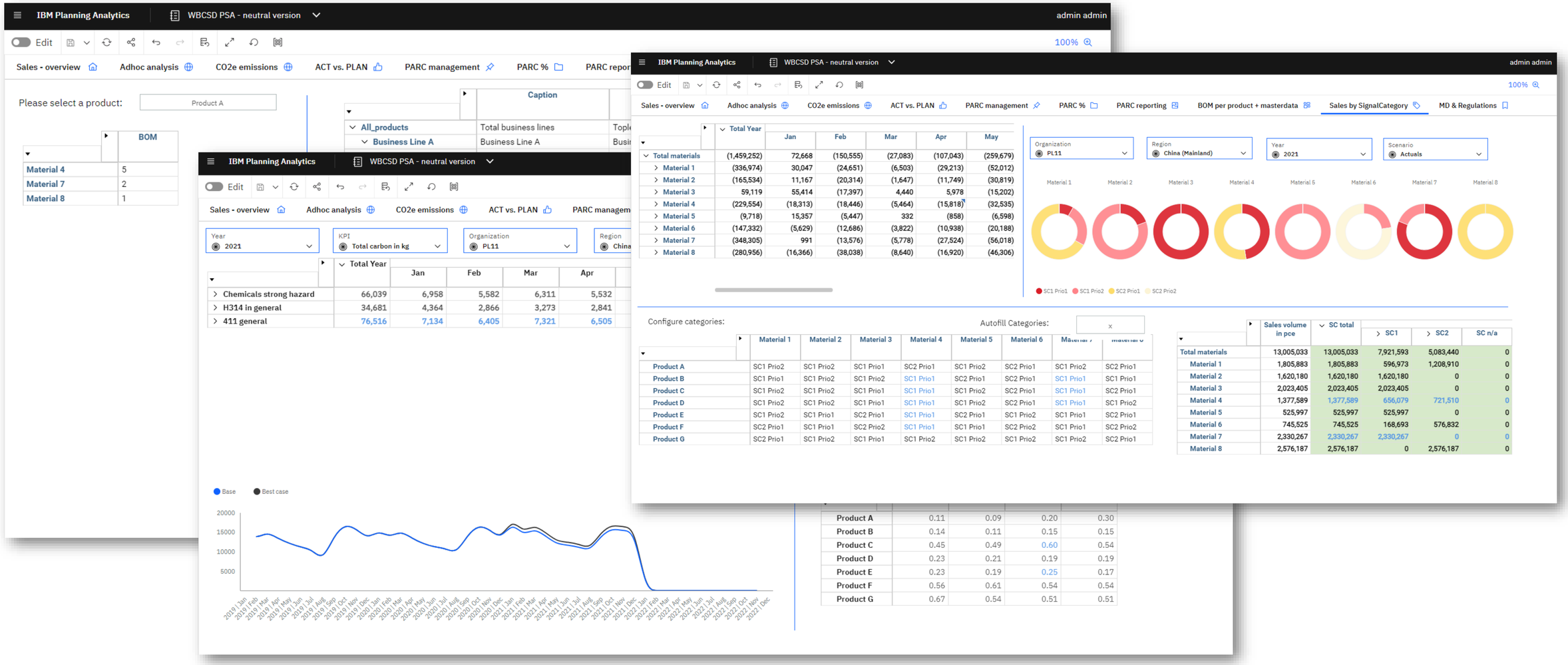
Planning of targets and special effects / initiatives. Display of regulatory information possible

Different options to manage the PARC-aggregation-categories



Automated management of sustainable categories and splitting units between different categories

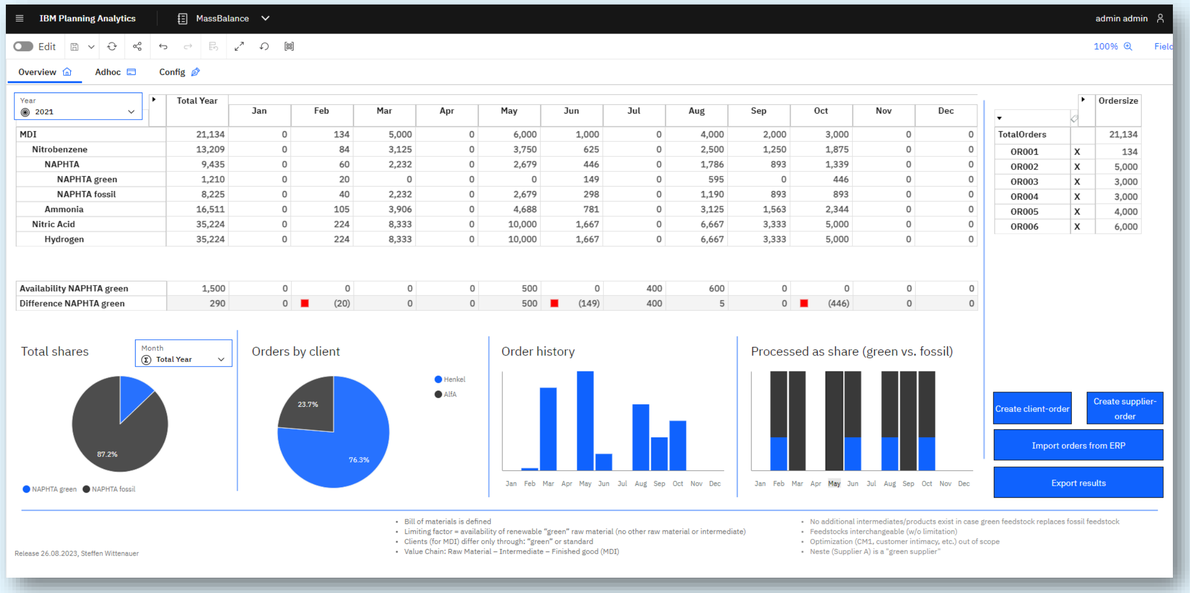
Analysis, reporting and simulation of material-categories and PARCs



Possible reports showing all KPIs in PARC-categories – having in parallel still the option to simulate parameters, bill of materials and rules for material-impacts

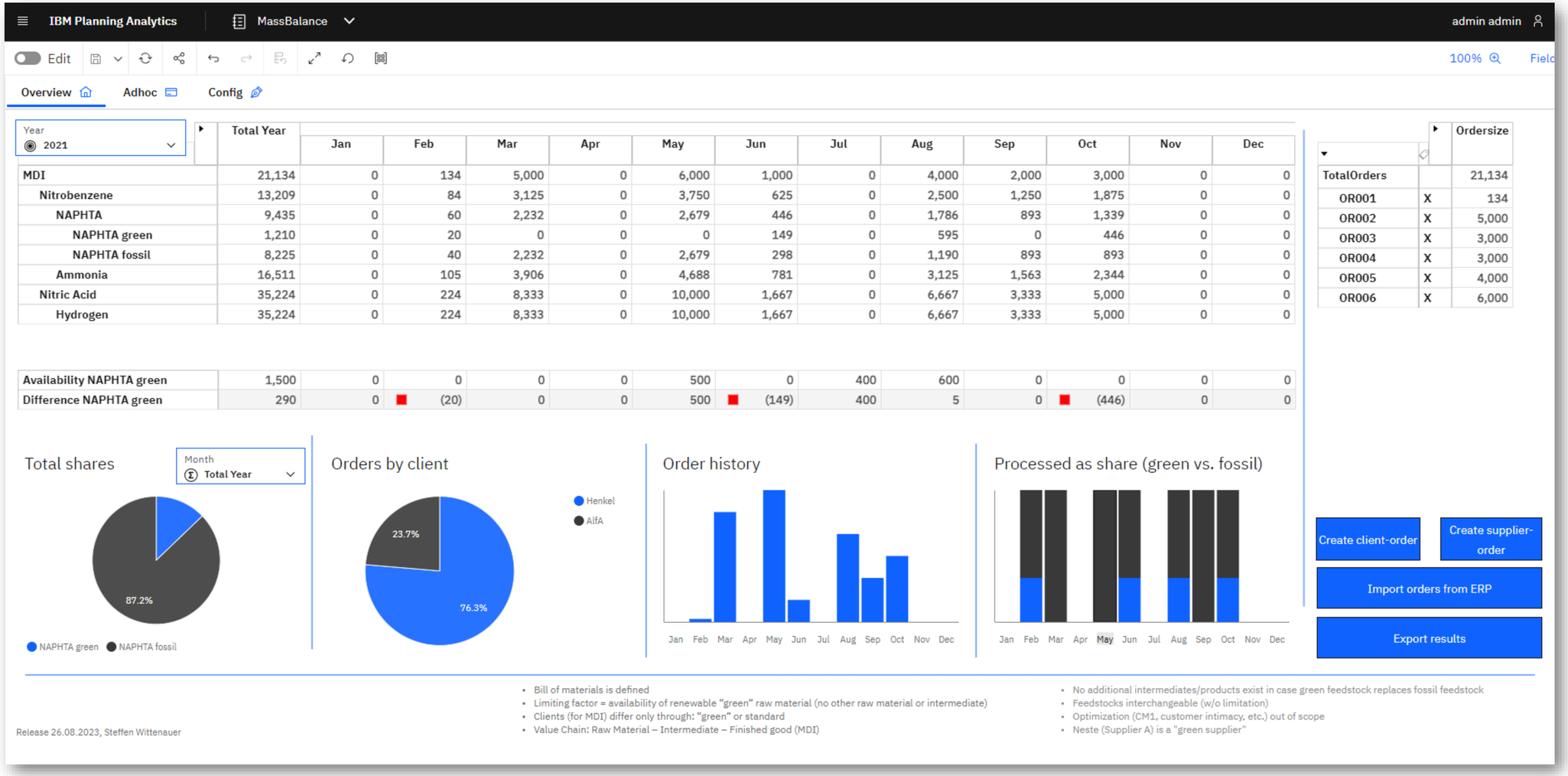
Accelerator: **Sustainability in the chemical sector**

Mass Balancing



- Purpose: report, forecast or simulate a chemical production process
- Content: it is about mixing fossil and recycled or renewable materials in existing systems and processes while keeping track of their quantities and allocating them to specific products, orders or time-frames.
- Data sources: master data can be manually adapted – actuals can be loaded (files, data warehouse etc.) or entered manually, footprints can be imported by other source-systems
- Technology: IBM Planning Analytics

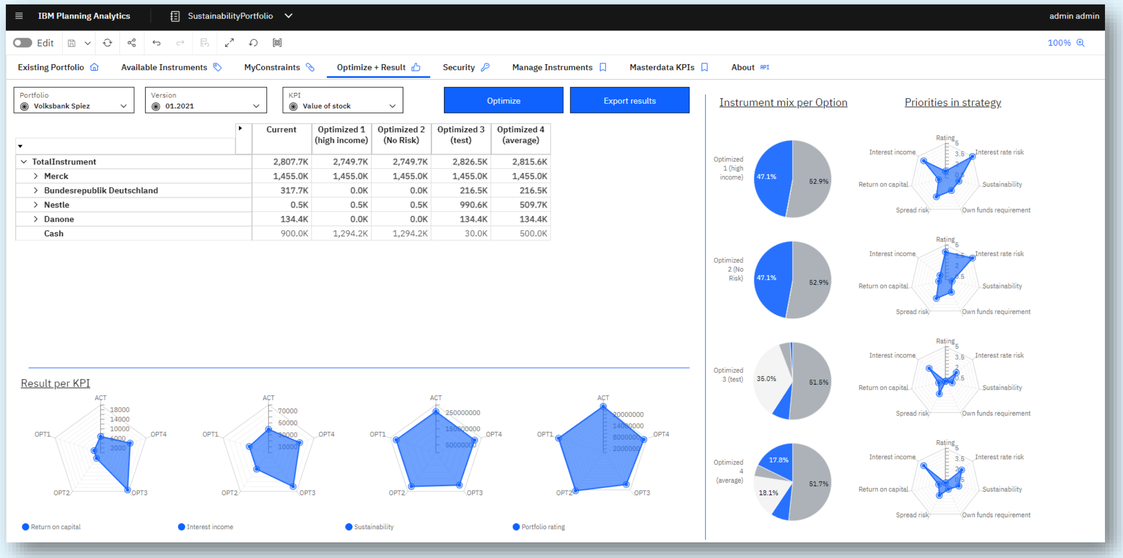
Manage your green-products-share based on client-orders



Report, track or simulate on a granular or aggregated view your production incl. BOM, orders (client / suppliers) and raw-material-stock

Accelerator: **Sustainability vs. Profitability – optimize it**

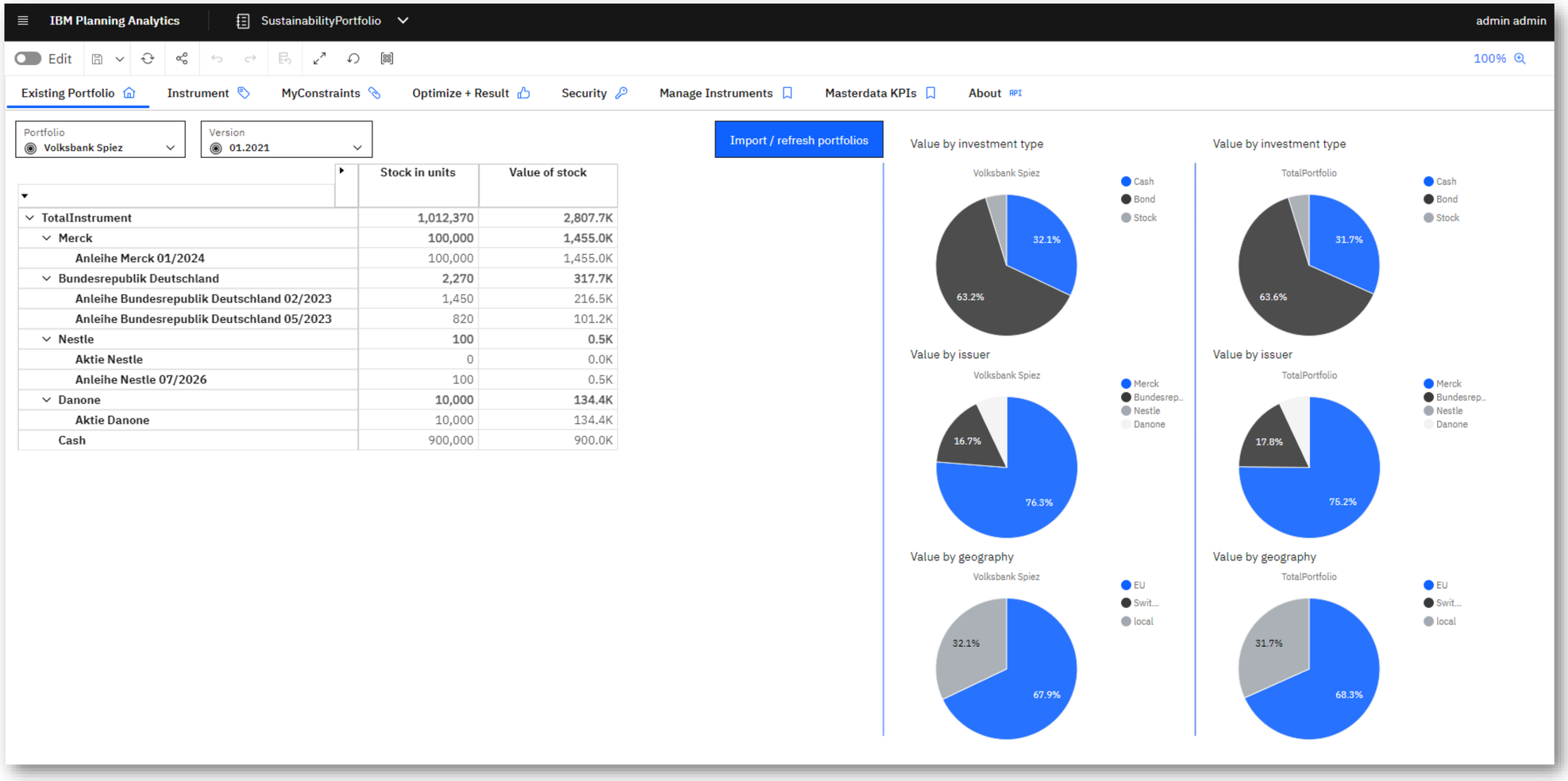
Green portfolio



- Purpose: optimize an existing asset-portfolio for a mix of different strategies. Model can also be used for budgeting investments for internal projects etc.
- Content: based on classical KPIs like risk, profit or duration, an existing portfolio can be enriched with sustainability KPIs like an ESG-asset-scoring to automatically calculate different comparable investment-strategies incl. sustainability
- The model can be extended with other business-constraints like minimum/maximum investment per asset or issuer or other investment-related asset-parameters
- Technology: IBM Planning Analytics, ILOG CPLEX (as addit. optimization-component for sustainability vs. profitability)

Sustainability vs. Profitability – optimize it (Green portfolio)

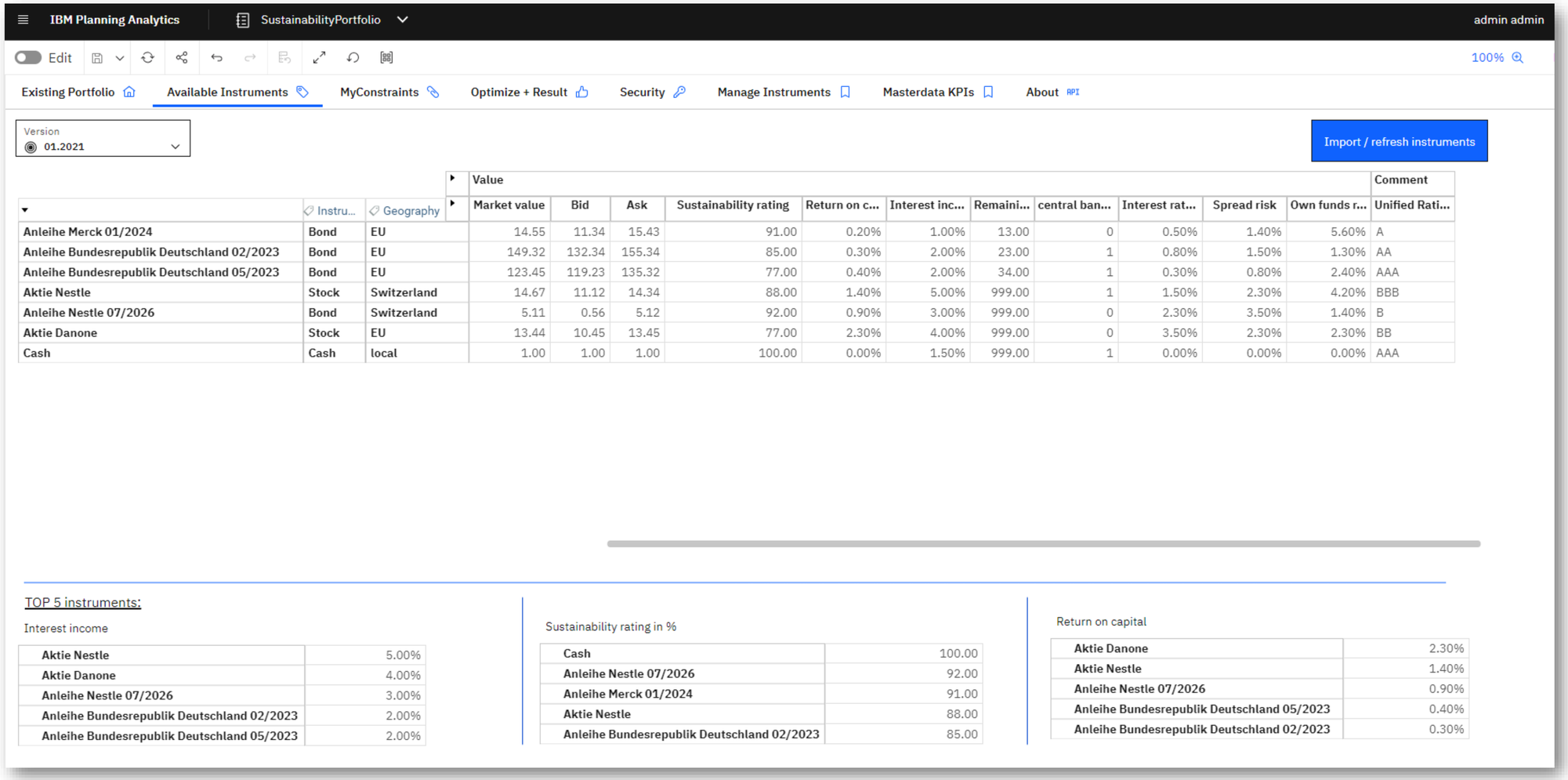
Overview of the current portfolio



Analysis per different KPIs or attributes of the current portfolio

Sustainability vs. Profitability – optimize it (Green portfolio)

Overview of possible instruments and their KPIs

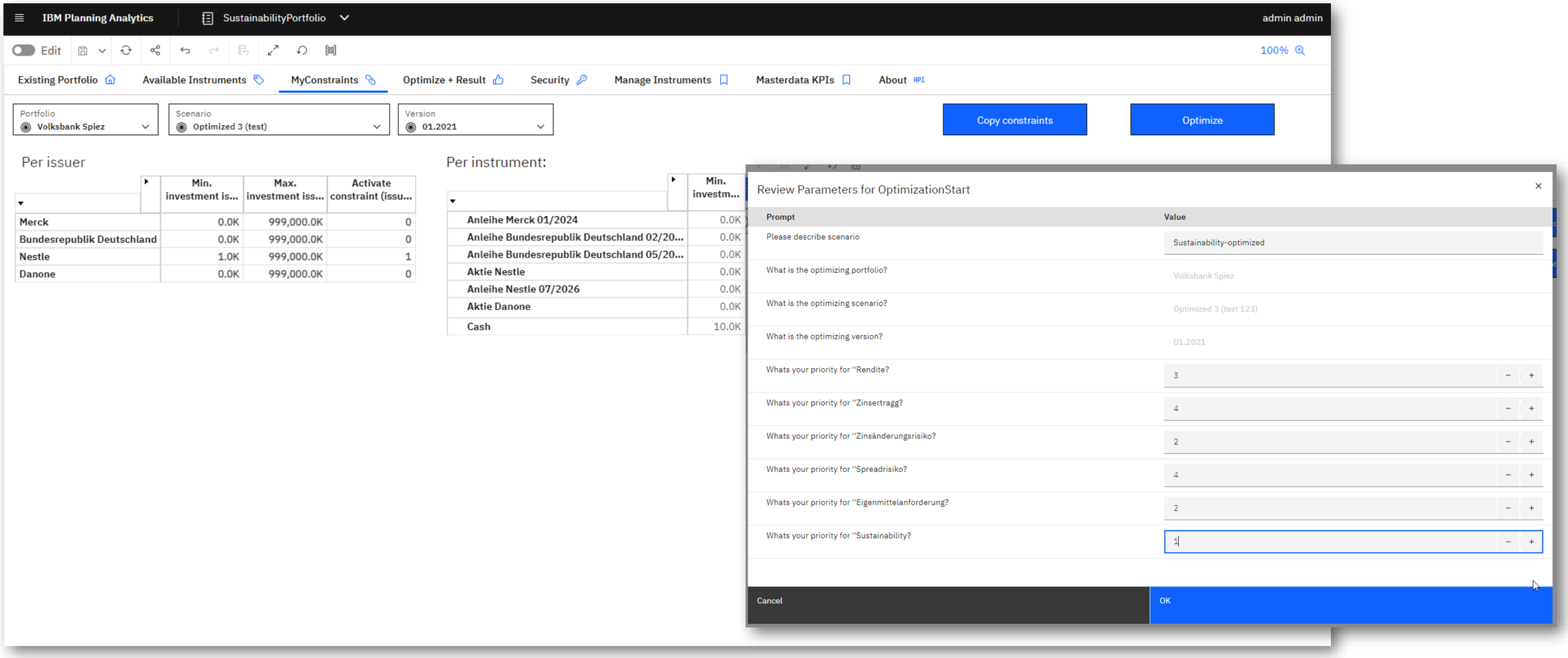


	Instru...	Geography	Value										Comment
			Market value	Bid	Ask	Sustainability rating	Return on c...	Interest inc...	Remaini...	central ban...	Interest rat...	Spread risk	Own funds r...	Unified Rati...
Anleihe Merck 01/2024	Bond	EU	14.55	11.34	15.43	91.00	0.20%	1.00%	13.00	0	0.50%	1.40%	5.60%	A
Anleihe Bundesrepublik Deutschland 02/2023	Bond	EU	149.32	132.34	155.34	85.00	0.30%	2.00%	23.00	1	0.80%	1.50%	1.30%	AA
Anleihe Bundesrepublik Deutschland 05/2023	Bond	EU	123.45	119.23	135.32	77.00	0.40%	2.00%	34.00	1	0.30%	0.80%	2.40%	AAA
Aktie Nestle	Stock	Switzerland	14.67	11.12	14.34	88.00	1.40%	5.00%	999.00	1	1.50%	2.30%	4.20%	BBB
Anleihe Nestle 07/2026	Bond	Switzerland	5.11	0.56	5.12	92.00	0.90%	3.00%	999.00	0	2.30%	3.50%	1.40%	B
Aktie Danone	Stock	EU	13.44	10.45	13.45	77.00	2.30%	4.00%	999.00	0	3.50%	2.30%	2.30%	BB
Cash	Cash	local	1.00	1.00	1.00	100.00	0.00%	1.50%	999.00	1	0.00%	0.00%	0.00%	AAA

List-overview with all other possible instruments and their KPIs

Sustainability vs. Profitability – optimize it (Green portfolio)

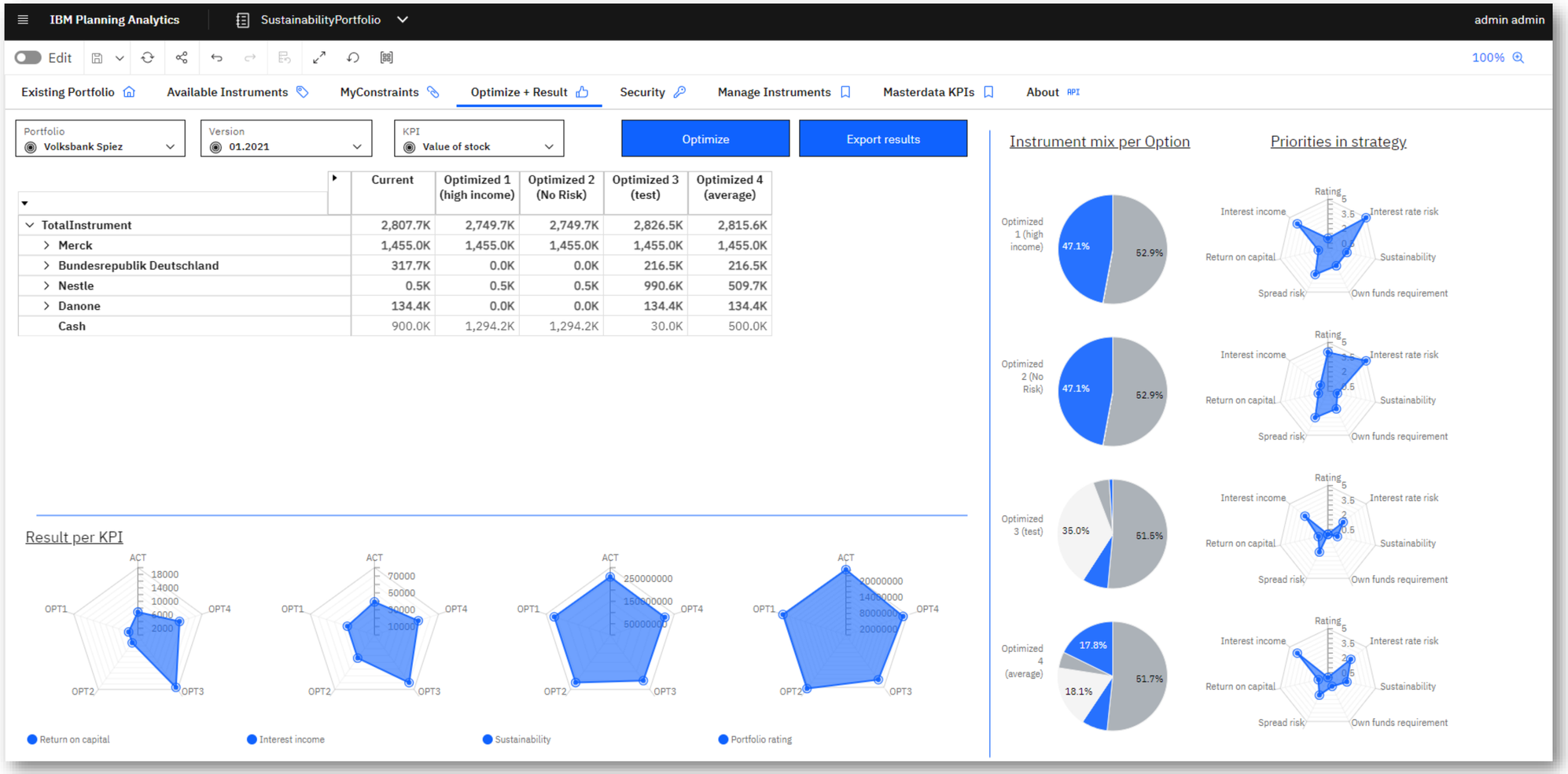
Define constraints of possible scenarios



Input constraints like minimum or maximum values for issuers, geography or instrument-types and start prioritized optimization

Sustainability vs. Profitability – optimize it (Green portfolio)

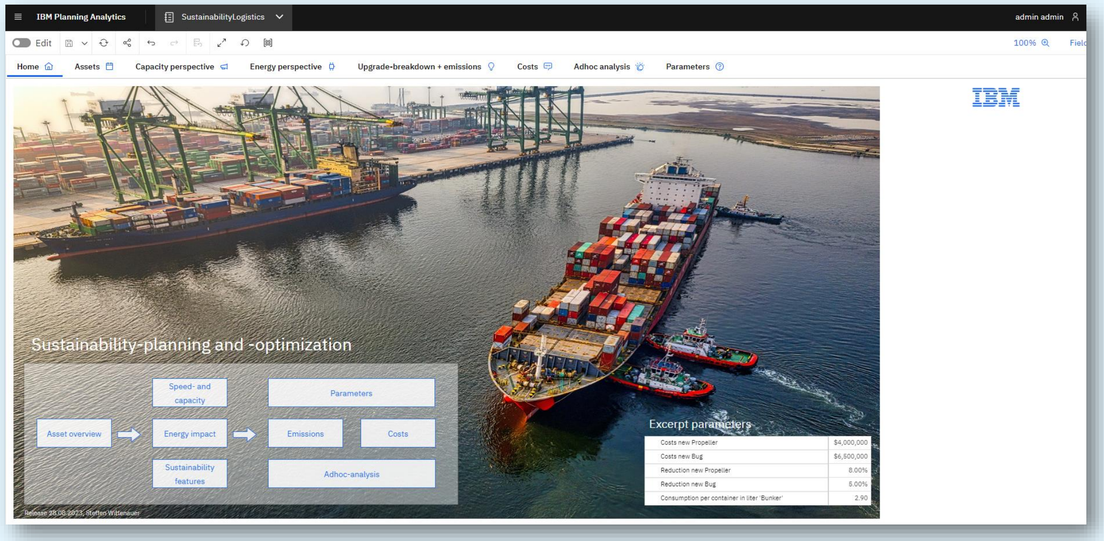
Compare scenarios in their results of profitability and sustainability



Overview and analysis of the scenarios to decide for the future strategy

Accelerator: **Sustainability asset upgrades**

Strategic investments in your assets



- Purpose: simulate and compare from a strategic perspective different sustainability options for your assets. Example logistics: like biofuel, speed-reduction or vehicle-upgrades/addons. Can in general be used for all assets like logistics (ships, planes, fleet), production (production lines) or buildings.

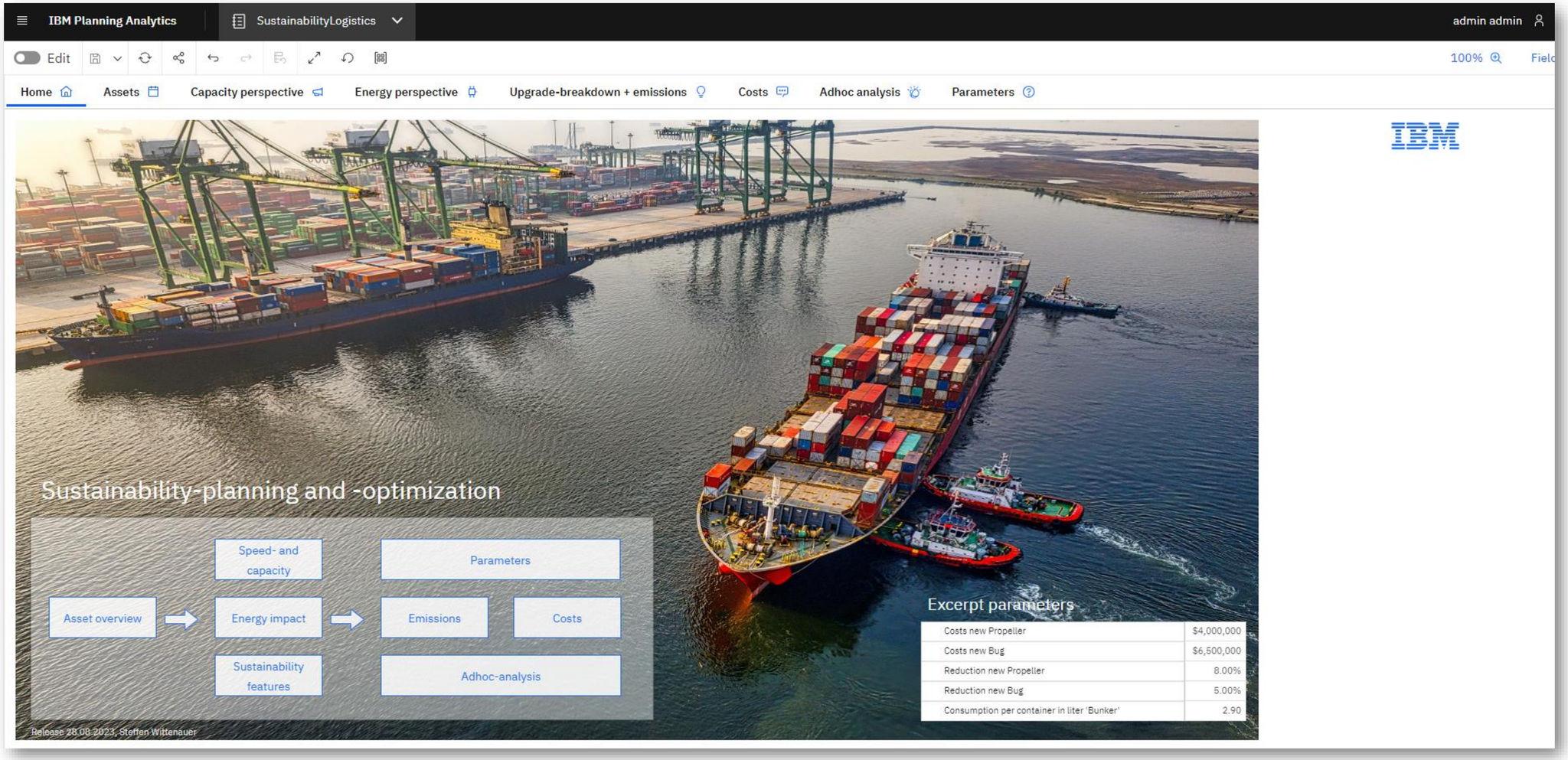
- Content: based on inputs per asset or asset-class, the model calculates you in different scenarios the emissions- and cost-outcome based on different assumptions incl. compensation-costs CO2e.

- Data sources: all data can be manually adapted or automatically loaded. Adjusted data and other data sources are auditable.

- Technology: IBM Planning Analytics

Sustainability asset upgrades

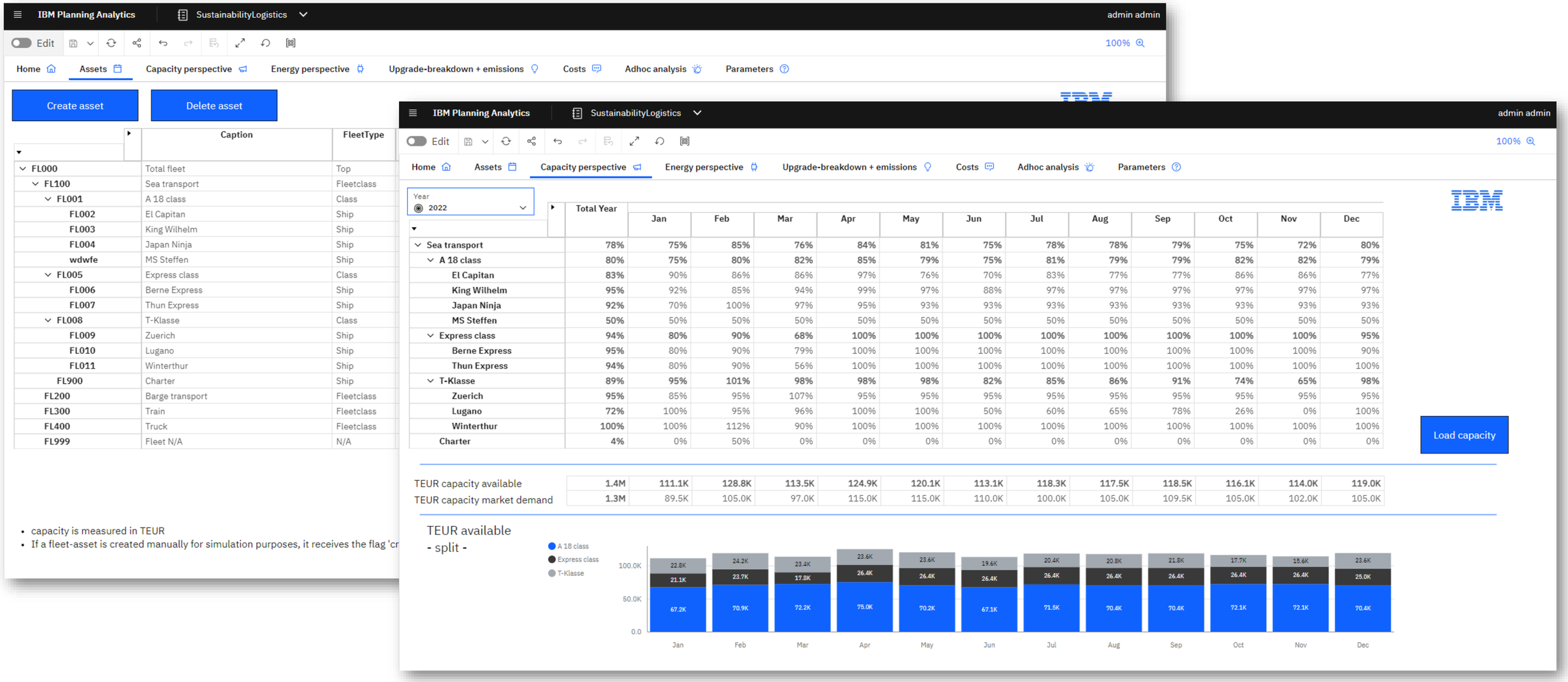
Landing page logistics model



Entry-page with navigation and some high-level-parameters like onetime-cost for upgrades and effects

Sustainability asset upgrades

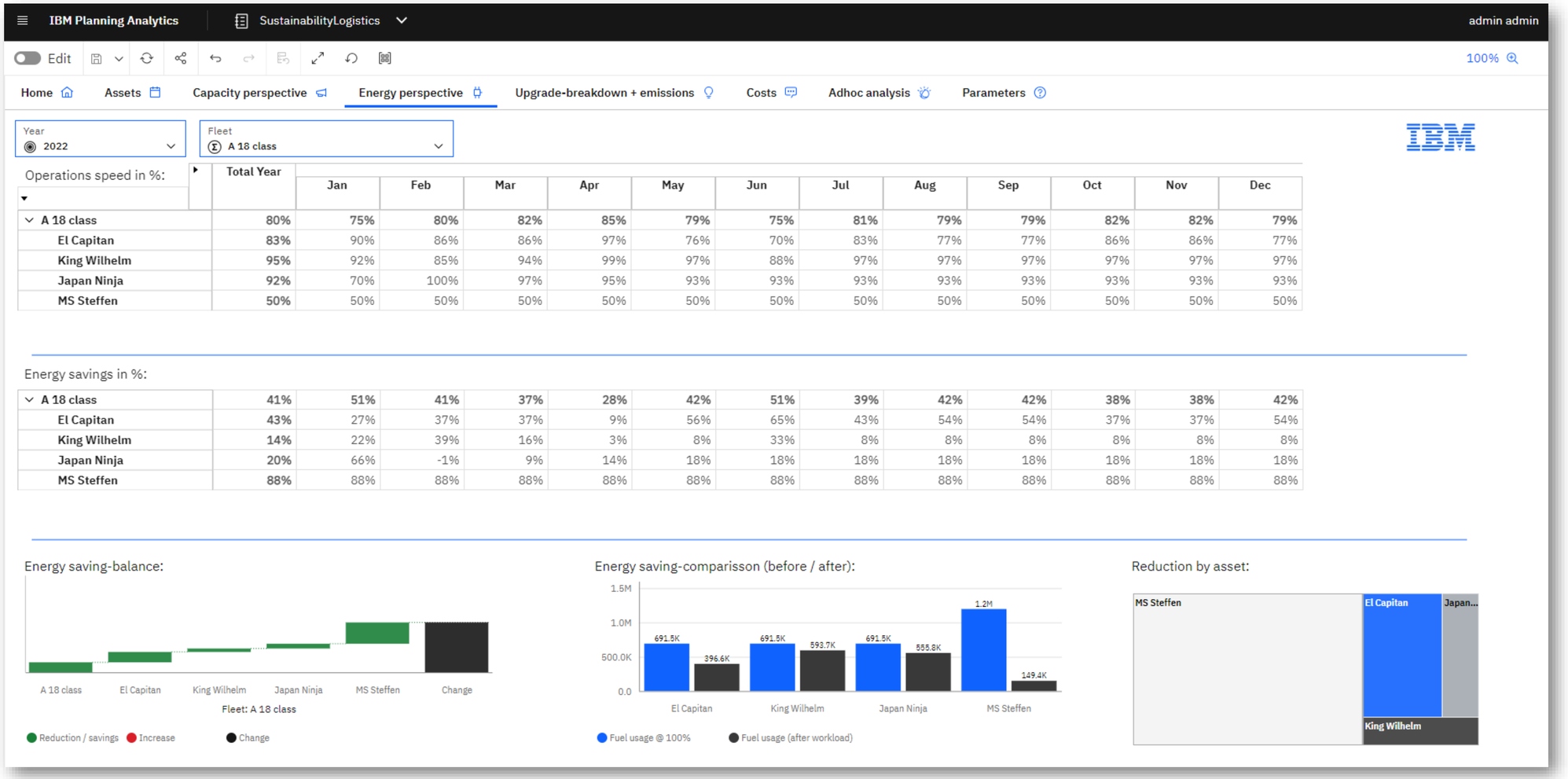
Speed-reduction simulation incl. capacity



Overview/management of asset-master data (fleet, sites etc.) and simulation of speed-impact on energy-savings and capacity-change

Sustainability asset upgrades

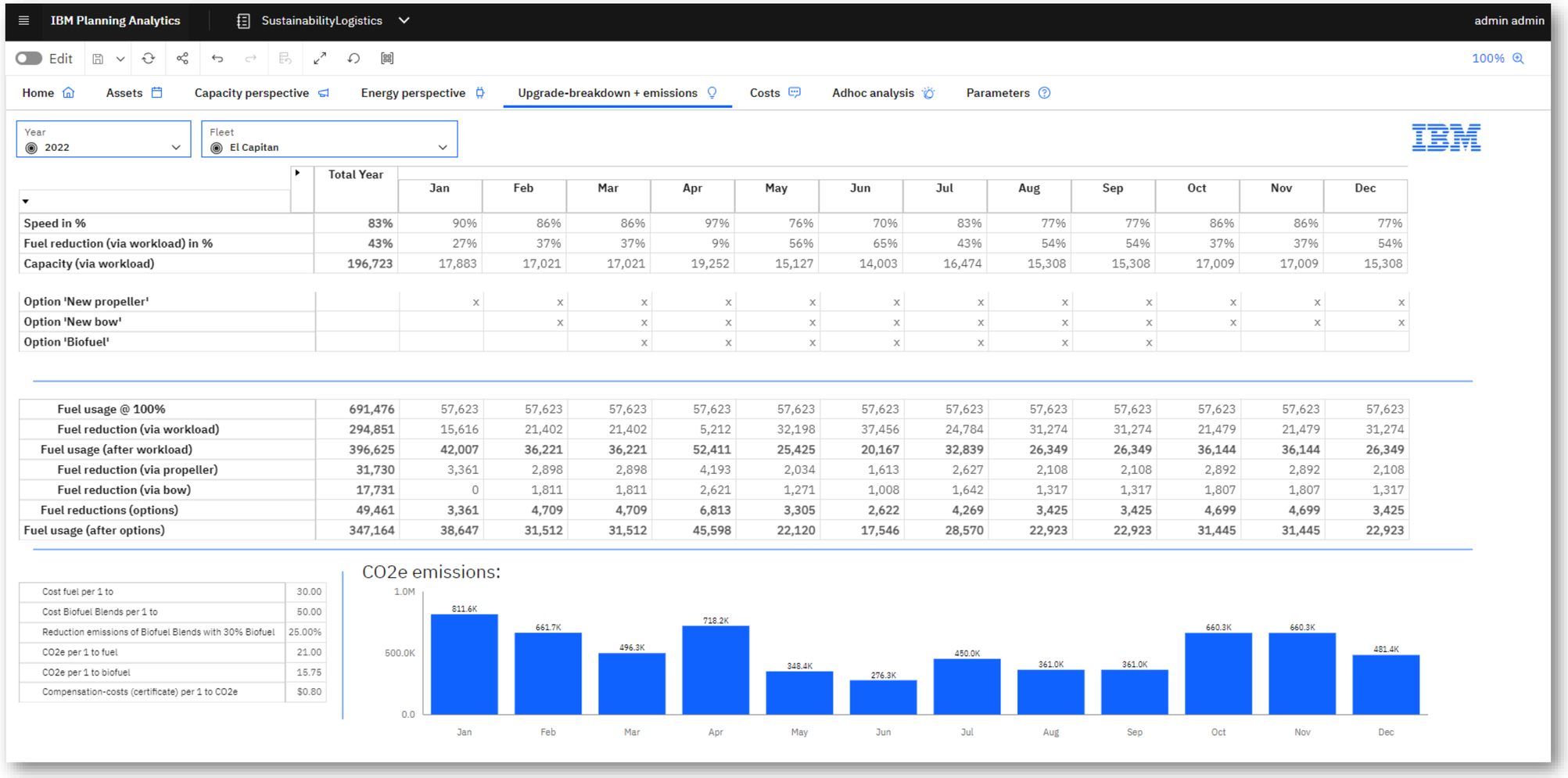
Check direct energy-savings



Simulate by activation of ‚asset-upgrades' the energy-savings

Sustainability asset upgrades

Upgrade-simulation and impact on energy-reduction and CO2e



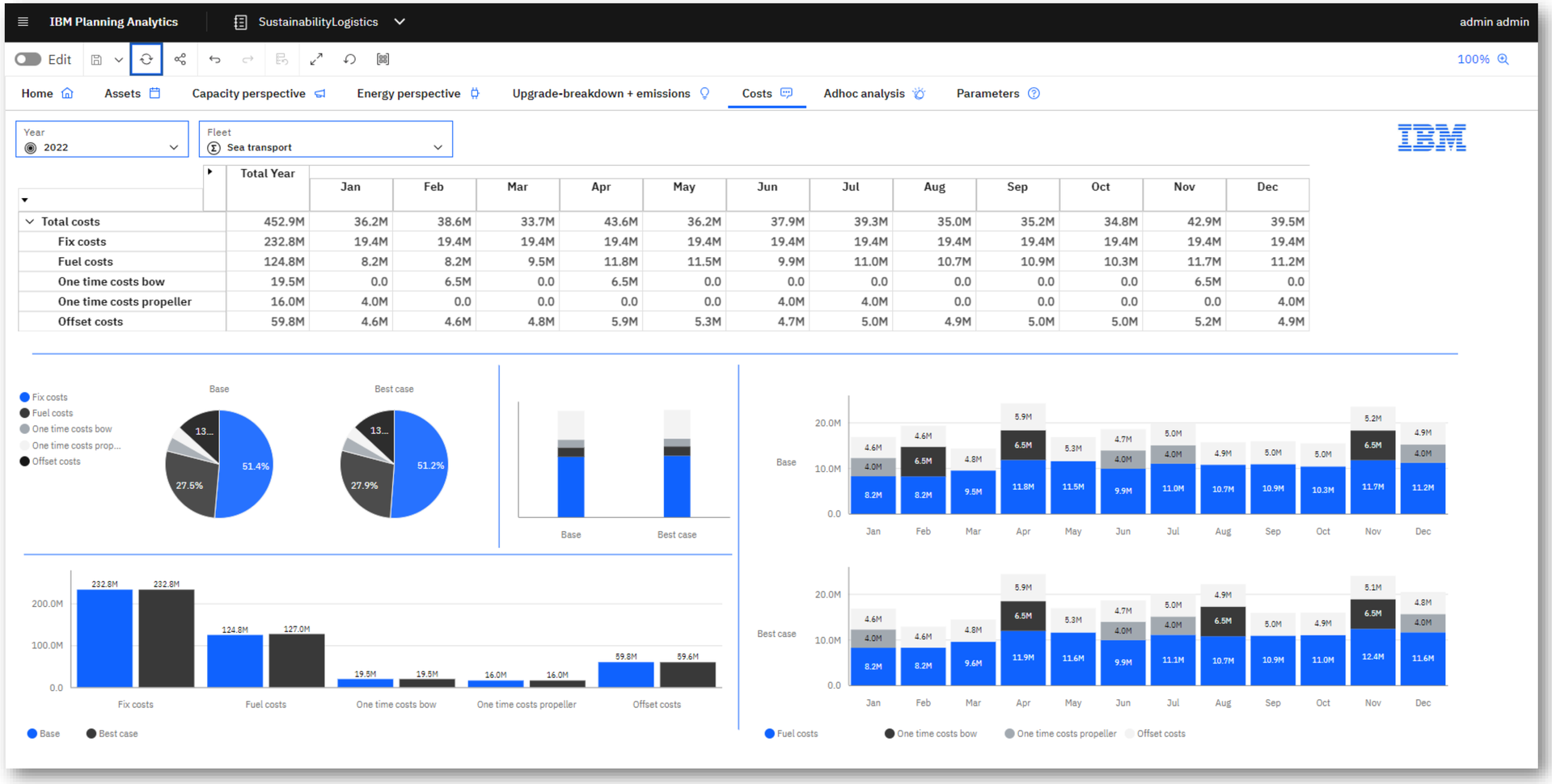
	Total Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Speed in %	83%	90%	86%	86%	97%	76%	70%	83%	77%	77%	86%	86%	77%
Fuel reduction (via workload) in %	43%	27%	37%	37%	9%	56%	65%	43%	54%	54%	37%	37%	54%
Capacity (via workload)	196,723	17,883	17,021	17,021	19,252	15,127	14,003	16,474	15,308	15,308	17,009	17,009	15,308
Option 'New propeller'		x	x	x	x	x	x	x	x	x	x	x	x
Option 'New bow'			x	x	x	x	x	x	x	x	x	x	x
Option 'Biofuel'				x	x	x	x	x	x	x			
Fuel usage @ 100%	691,476	57,623	57,623	57,623	57,623	57,623	57,623	57,623	57,623	57,623	57,623	57,623	57,623
Fuel reduction (via workload)	294,851	15,616	21,402	21,402	5,212	32,198	37,456	24,784	31,274	31,274	21,479	21,479	31,274
Fuel usage (after workload)	396,625	42,007	36,221	36,221	52,411	25,425	20,167	32,839	26,349	26,349	36,144	36,144	26,349
Fuel reduction (via propeller)	31,730	3,361	2,898	2,898	4,193	2,034	1,613	2,627	2,108	2,108	2,892	2,892	2,108
Fuel reduction (via bow)	17,731	0	1,811	1,811	2,621	1,271	1,008	1,642	1,317	1,317	1,807	1,807	1,317
Fuel reductions (options)	49,461	3,361	4,709	4,709	6,813	3,305	2,622	4,269	3,425	3,425	4,699	4,699	3,425
Fuel usage (after options)	347,164	38,647	31,512	31,512	45,598	22,120	17,546	28,570	22,923	22,923	31,445	31,445	22,923

Cost fuel per 1 to	30.00
Cost Biofuel Blends per 1 to	50.00
Reduction emissions of Biofuel Blends with 30% Biofuel	25.00%
CO2e per 1 to fuel	21.00
CO2e per 1 to biofuel	15.75
Compensation-costs (certificate) per 1 to CO2e	$0.80

Simulate by activation of ‚asset-upgrades' the energy-savings and remaining CO2e

Sustainability asset upgrades

Results by emissions and costs

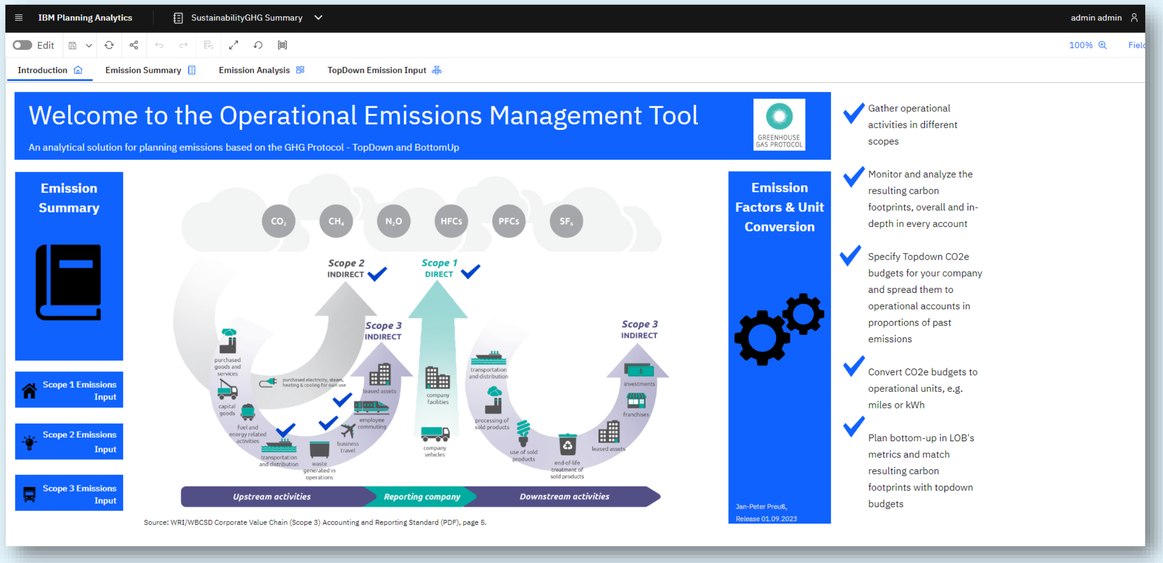


	Total Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total costs	452.9M	36.2M	38.6M	33.7M	43.6M	36.2M	37.9M	39.3M	35.0M	35.2M	34.8M	42.9M	39.5M
Fix costs	232.8M	19.4M	19.4M	19.4M	19.4M	19.4M	19.4M	19.4M	19.4M	19.4M	19.4M	19.4M	19.4M
Fuel costs	124.8M	8.2M	8.2M	9.5M	11.8M	11.5M	9.9M	11.0M	10.7M	10.9M	10.3M	11.7M	11.2M
One time costs bow	19.5M	0.0	6.5M	0.0	6.5M	0.0	0.0	0.0	0.0	0.0	0.0	6.5M	0.0
One time costs propeller	16.0M	4.0M	0.0	0.0	0.0	0.0	4.0M	4.0M	0.0	0.0	0.0	0.0	4.0M
Offset costs	59.8M	4.6M	4.6M	4.8M	5.9M	5.3M	4.7M	5.0M	4.9M	5.0M	5.0M	5.2M	4.9M

Final comparable results of CO2e-emissions incl. compensation- and costs-perspectives (one-time and flexible/fix costs) in different scenarios

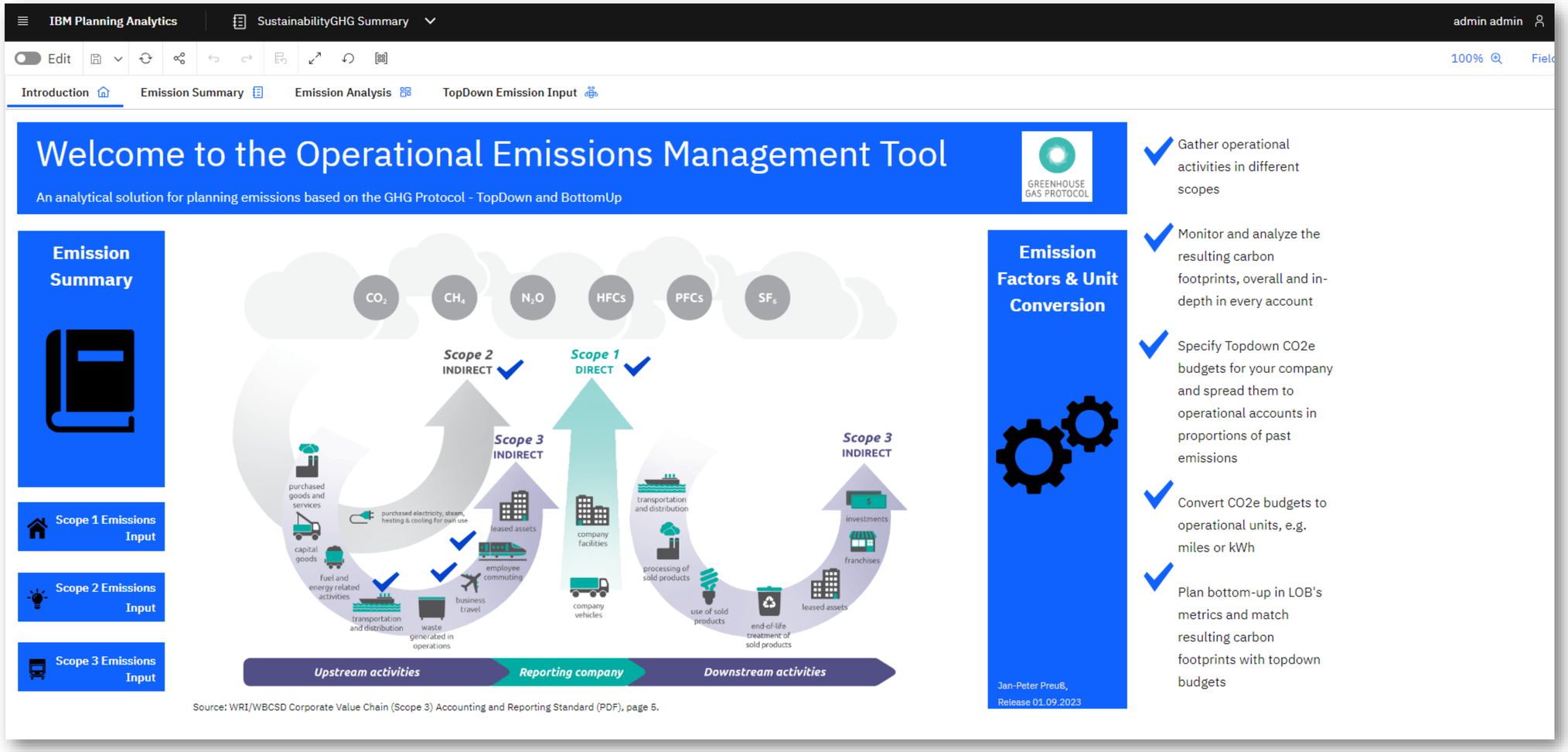
Accelerator: **Operational Emissions Management Tool (GHG)**

Breakdown and operationalize CO2e budgets



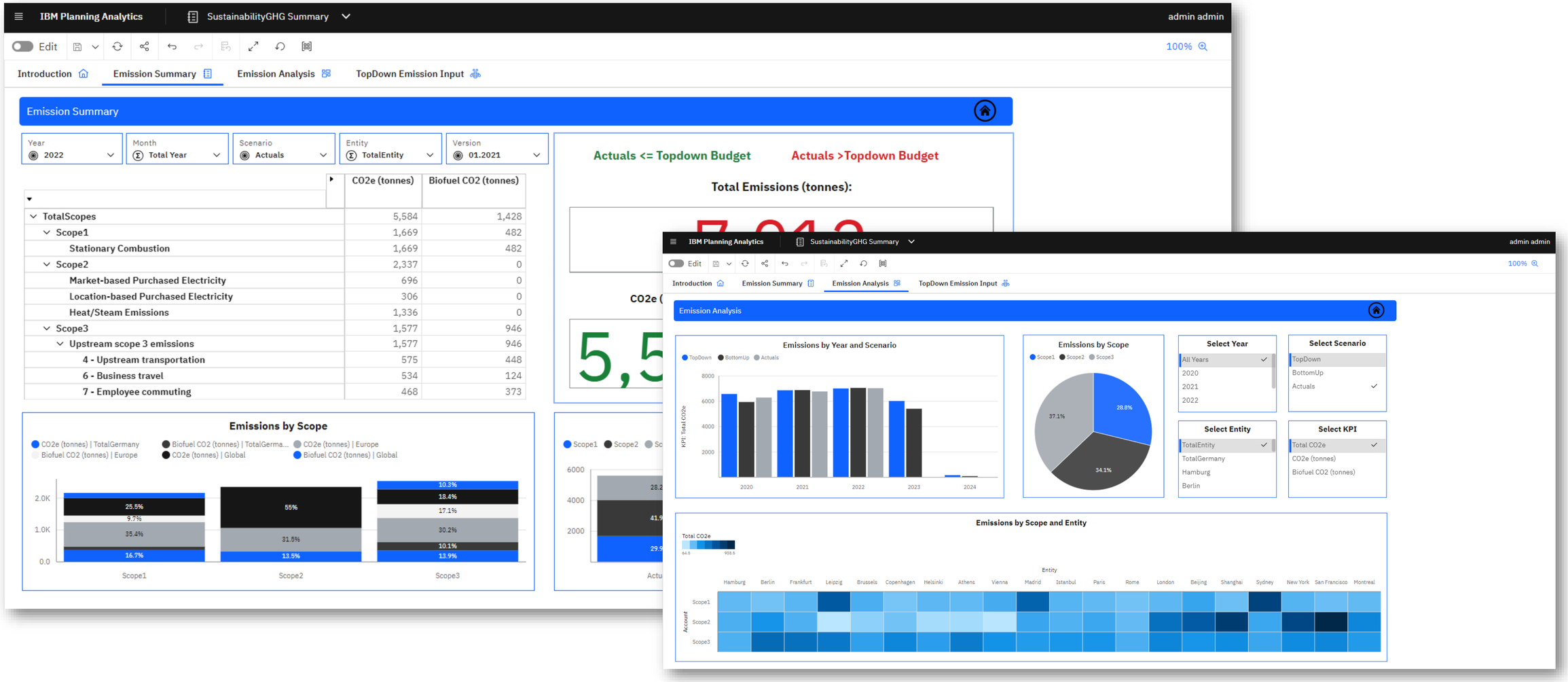
- Purpose: report, plan or breakdown targets in all directions or granularity of your company
- Monitor and analyze carbon footprints, overall and in-depth in every scope account
- Specify top down CO2e budgets for your company and spread them to operational accounts in proportions of past emissions
- Convert CO2e budgets to operational units, e.g. miles or kWh
- Plan bottom-up in LOB's metrics and match resulting carbon footprints with top down budgets
- Technology: IBM Planning Analytics

Central management of sustainability-KPIs



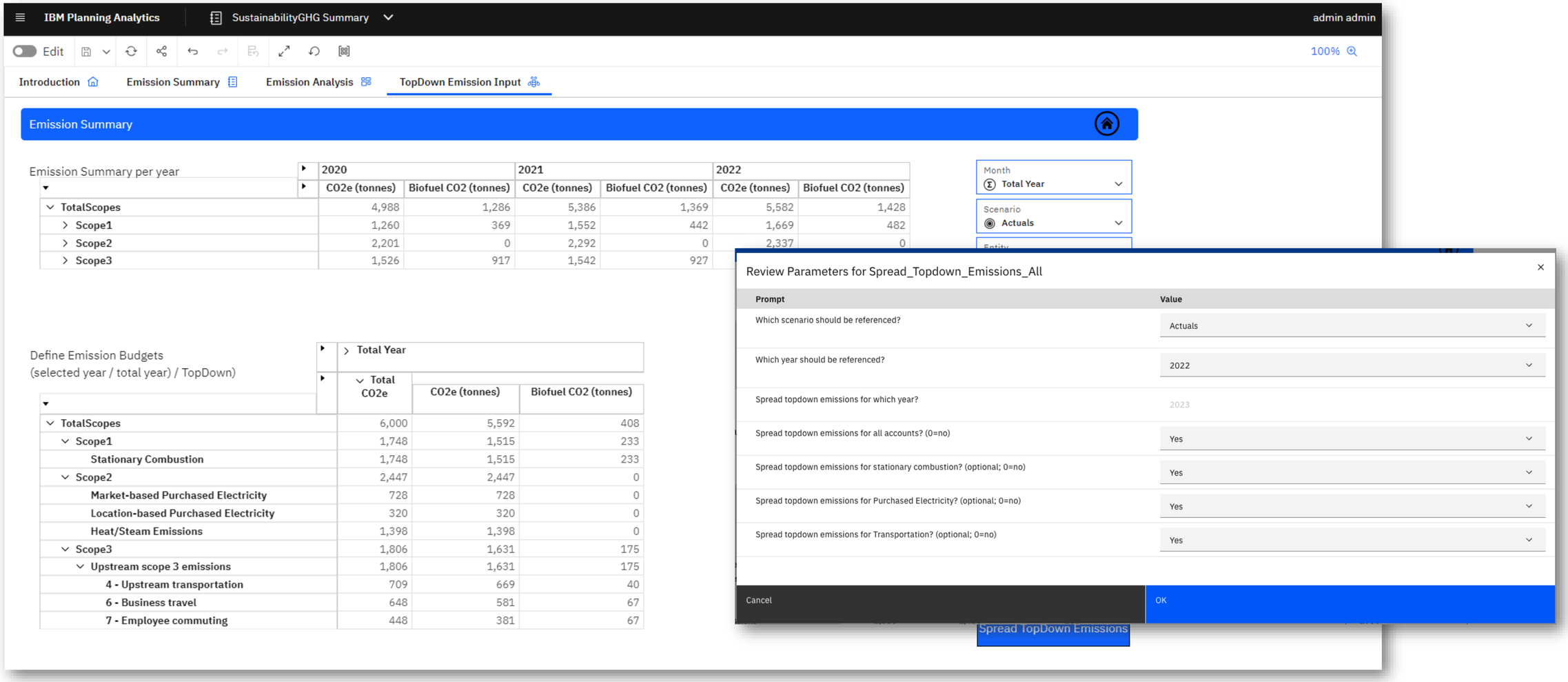
Landing page for all scopes: see which accounts are covered

Analyze emissions, locations etc. in all needed granularity



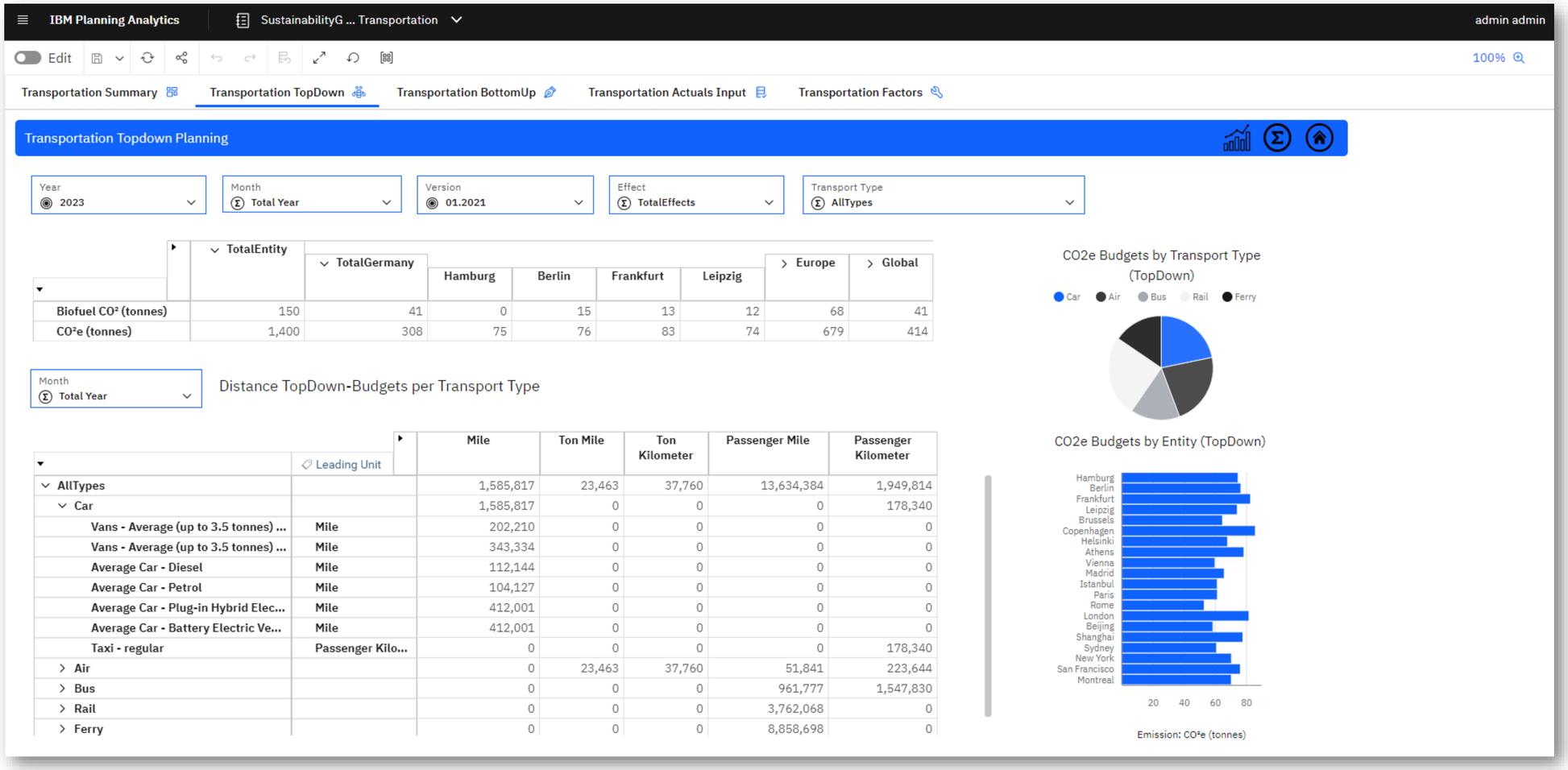
Free configurable dashboards for all KPIs

Define emission targets based on past or future scenarios



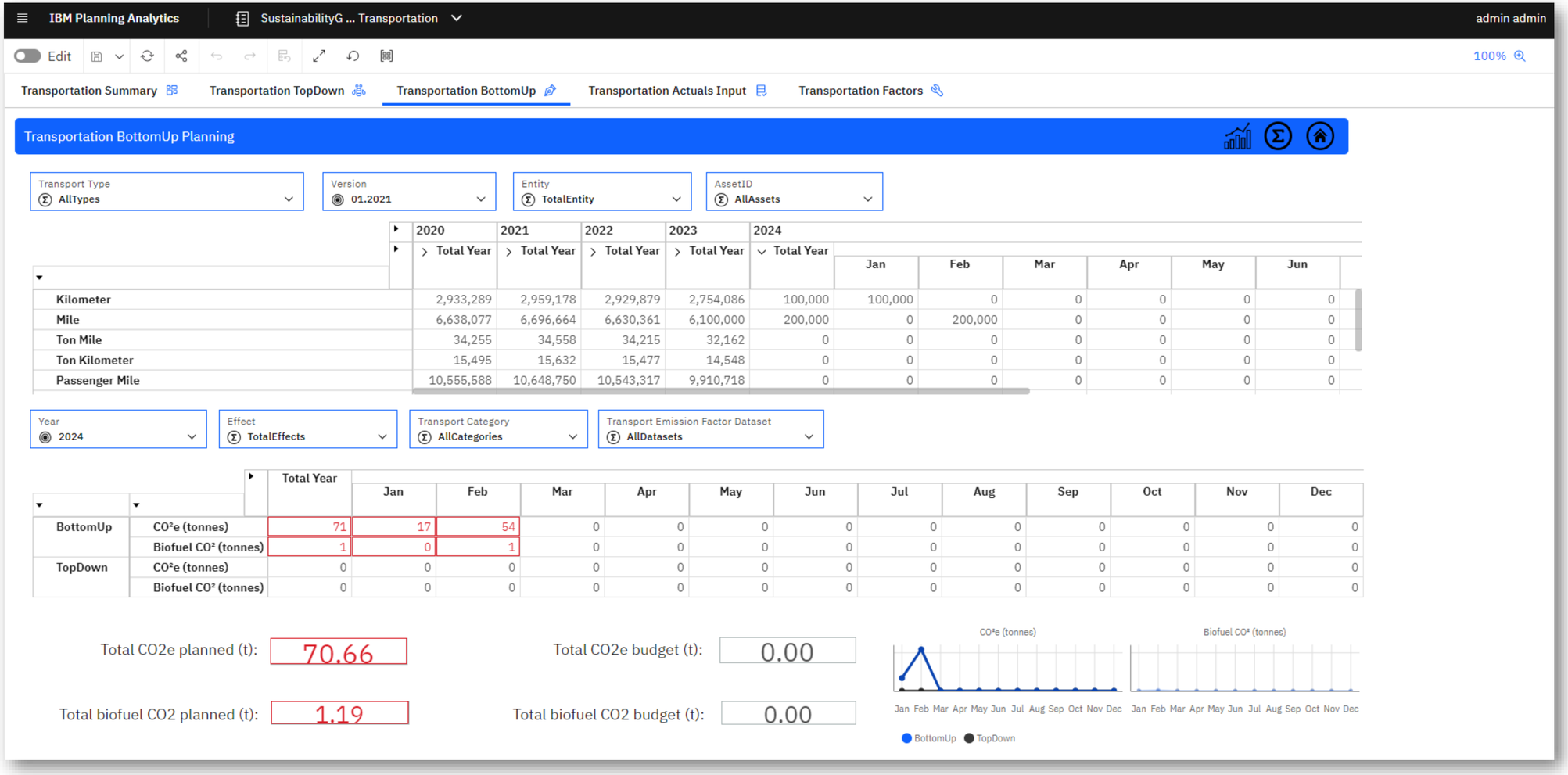
Distribute top down targets to single accounts with proportional spreads with respect to a reference scenario for the future

See what emission targets mean in operational metrics, like transport units



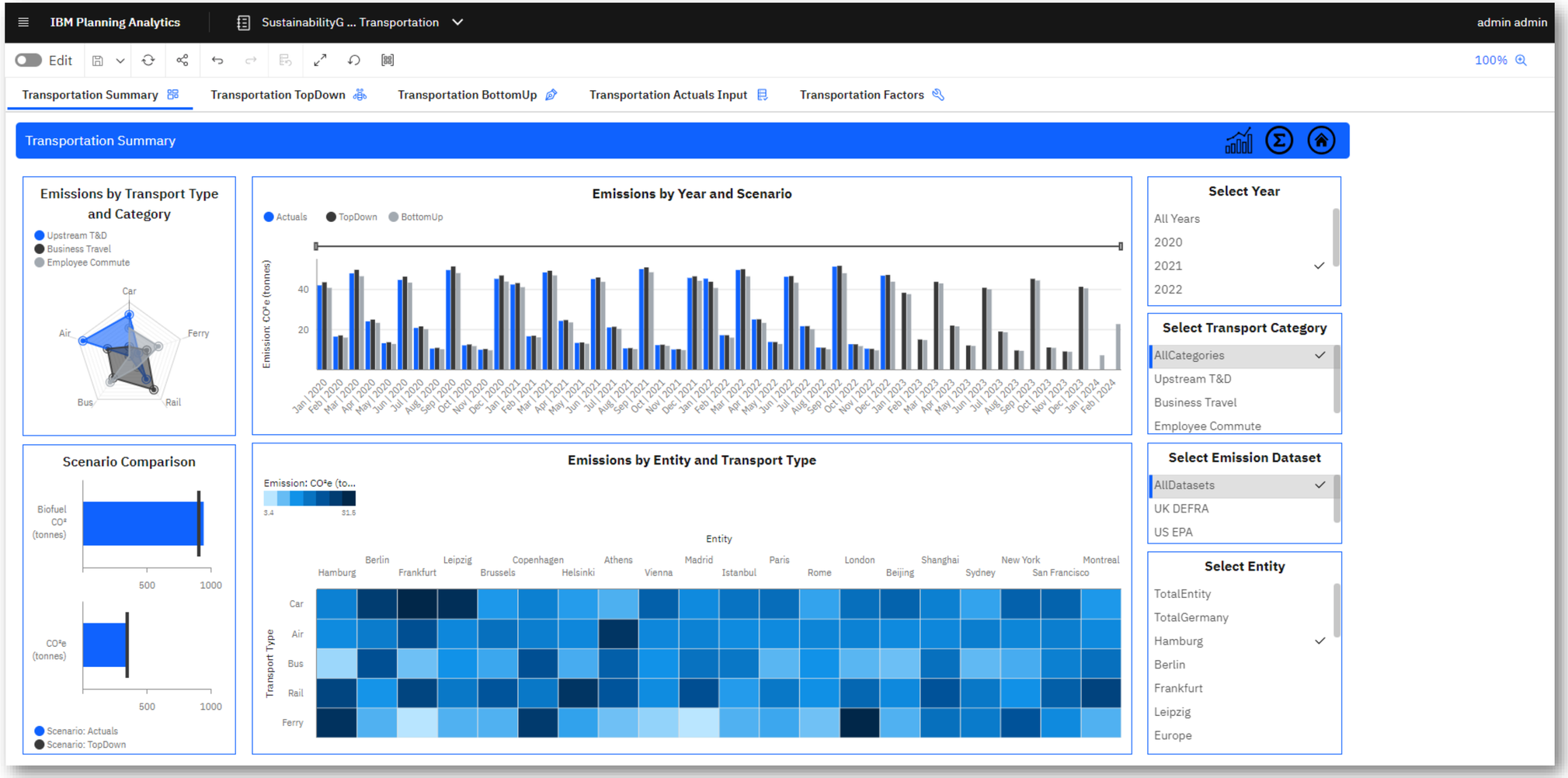
Emission targets are converted into LOB‘s units and distributed among all dimensions as observed in reference scenario

Plan bottom-up to match defined targets



Operational activities are planned in respective units, effects in carbon footprints are directly calculated and compared to targets

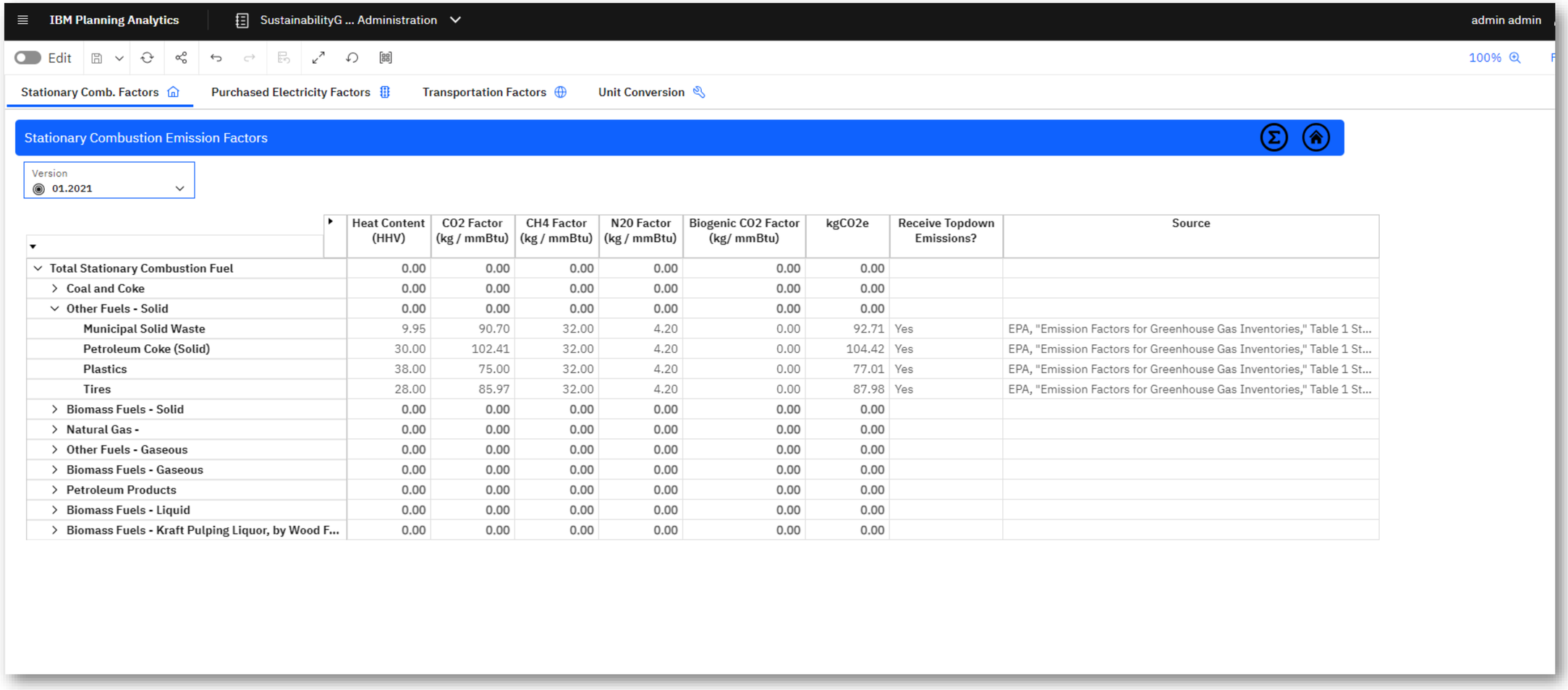
In-depth emission analysis for every account



Unlimited possibilities to visualize emissions in every account for detailed analysis

Operational Emissions Management Tool (GHG)

Handle your GHG- or emissions-factors centrally

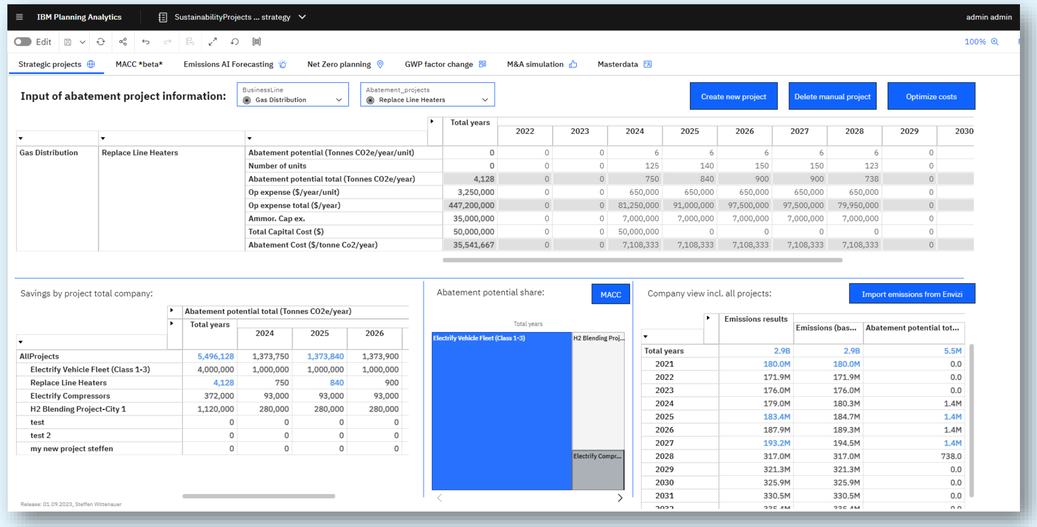


	Heat Content (HHV)	CO2 Factor (kg / mmBtu)	CH4 Factor (kg / mmBtu)	N20 Factor (kg / mmBtu)	Biogenic CO2 Factor (kg/ mmBtu)	kgCO2e	Receive Topdown Emissions?	Source
Total Stationary Combustion Fuel	0.00	0.00	0.00	0.00	0.00	0.00		
Coal and Coke	0.00	0.00	0.00	0.00	0.00	0.00		
Other Fuels - Solid	0.00	0.00	0.00	0.00	0.00	0.00		
Municipal Solid Waste	9.95	90.70	32.00	4.20	0.00	92.71	Yes	EPA, "Emission Factors for Greenhouse Gas Inventories," Table 1 St...
Petroleum Coke (Solid)	30.00	102.41	32.00	4.20	0.00	104.42	Yes	EPA, "Emission Factors for Greenhouse Gas Inventories," Table 1 St...
Plastics	38.00	75.00	32.00	4.20	0.00	77.01	Yes	EPA, "Emission Factors for Greenhouse Gas Inventories," Table 1 St...
Tires	28.00	85.97	32.00	4.20	0.00	87.98	Yes	EPA, "Emission Factors for Greenhouse Gas Inventories," Table 1 St...
Biomass Fuels - Solid	0.00	0.00	0.00	0.00	0.00	0.00		
Natural Gas -	0.00	0.00	0.00	0.00	0.00	0.00		
Other Fuels - Gaseous	0.00	0.00	0.00	0.00	0.00	0.00		
Biomass Fuels - Gaseous	0.00	0.00	0.00	0.00	0.00	0.00		
Petroleum Products	0.00	0.00	0.00	0.00	0.00	0.00		
Biomass Fuels - Liquid	0.00	0.00	0.00	0.00	0.00	0.00		
Biomass Fuels - Kraft Pulping Liquor, by Wood F...	0.00	0.00	0.00	0.00	0.00	0.00		

Auditable emissions-information

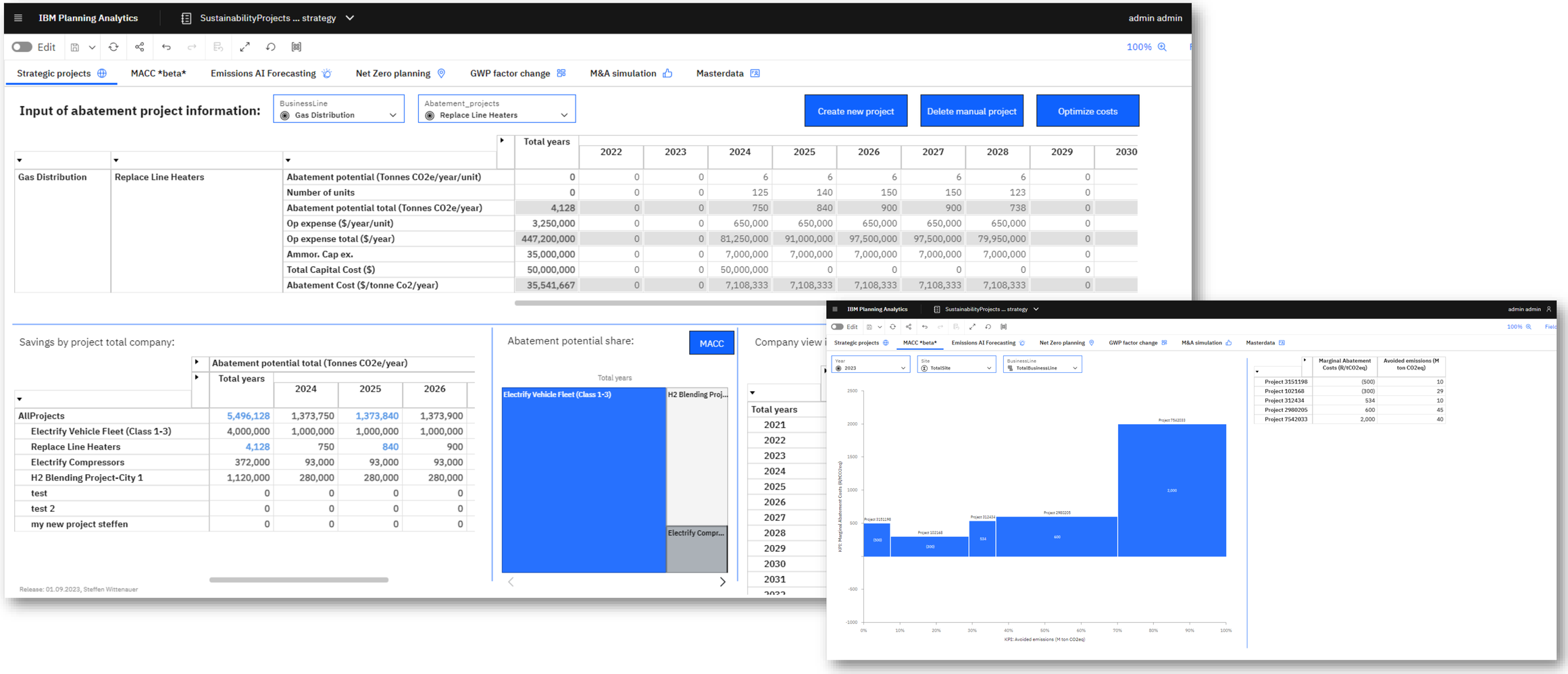
Accelerator: **Sustainability Decarbonization Strategy**

Simulate small parameters witl huge impact



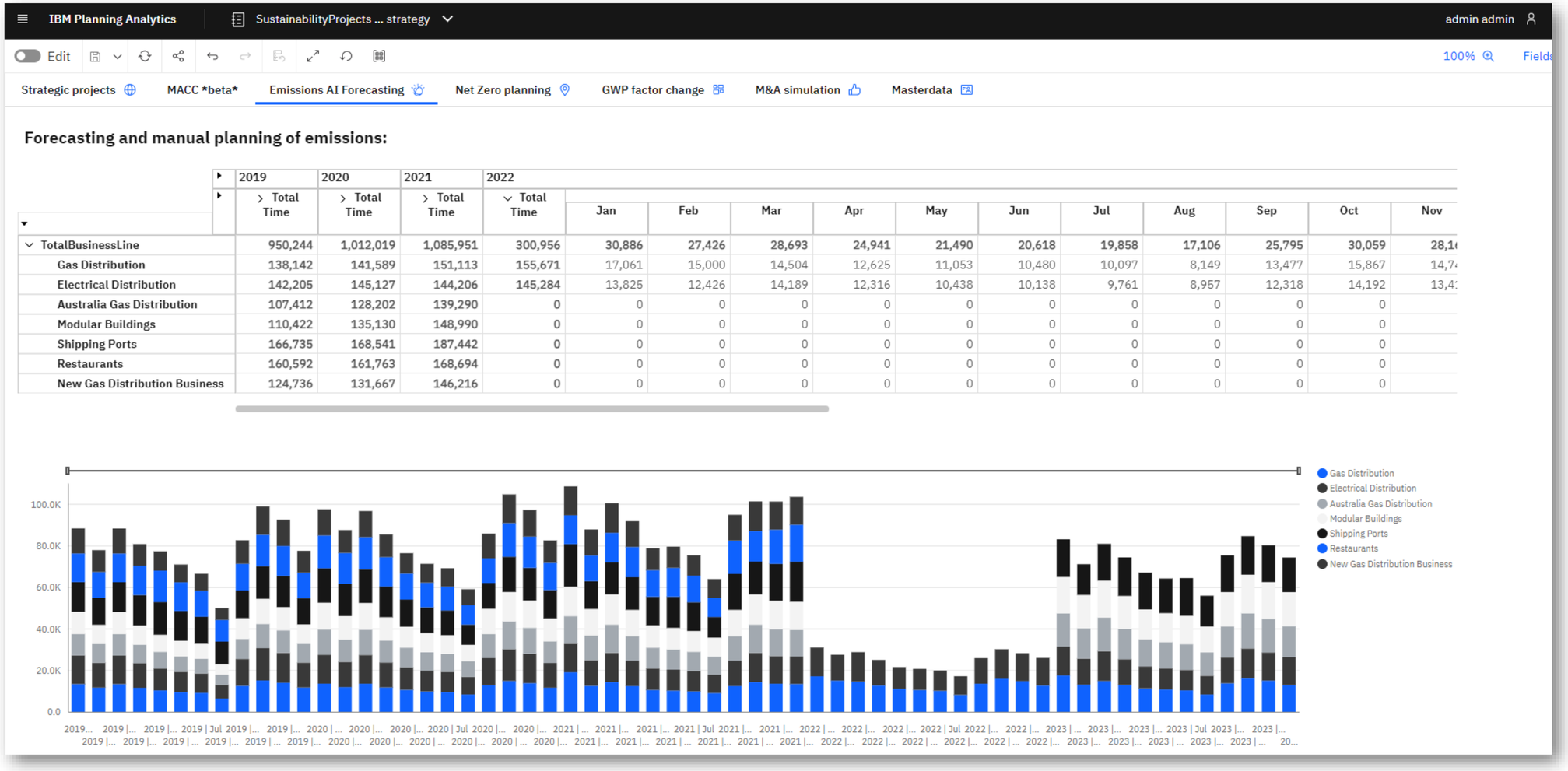
- Purpose: report, plan or simulate in different small use cases how your company can change different parameters to achieve long term sustainability targets
- Manage strategic projects with sustainability- and cost-perspective (MACC)
- Simulate or AI forecast your emissions, set up your base year and plan your reduction or even simulate if a GWP-factor would change
- Simulate in a pragmatic way how merger & acquisition or any company structure change would impact your target
- Technology: IBM Planning Analytics

Create, manage or simulate investments on strategic projects



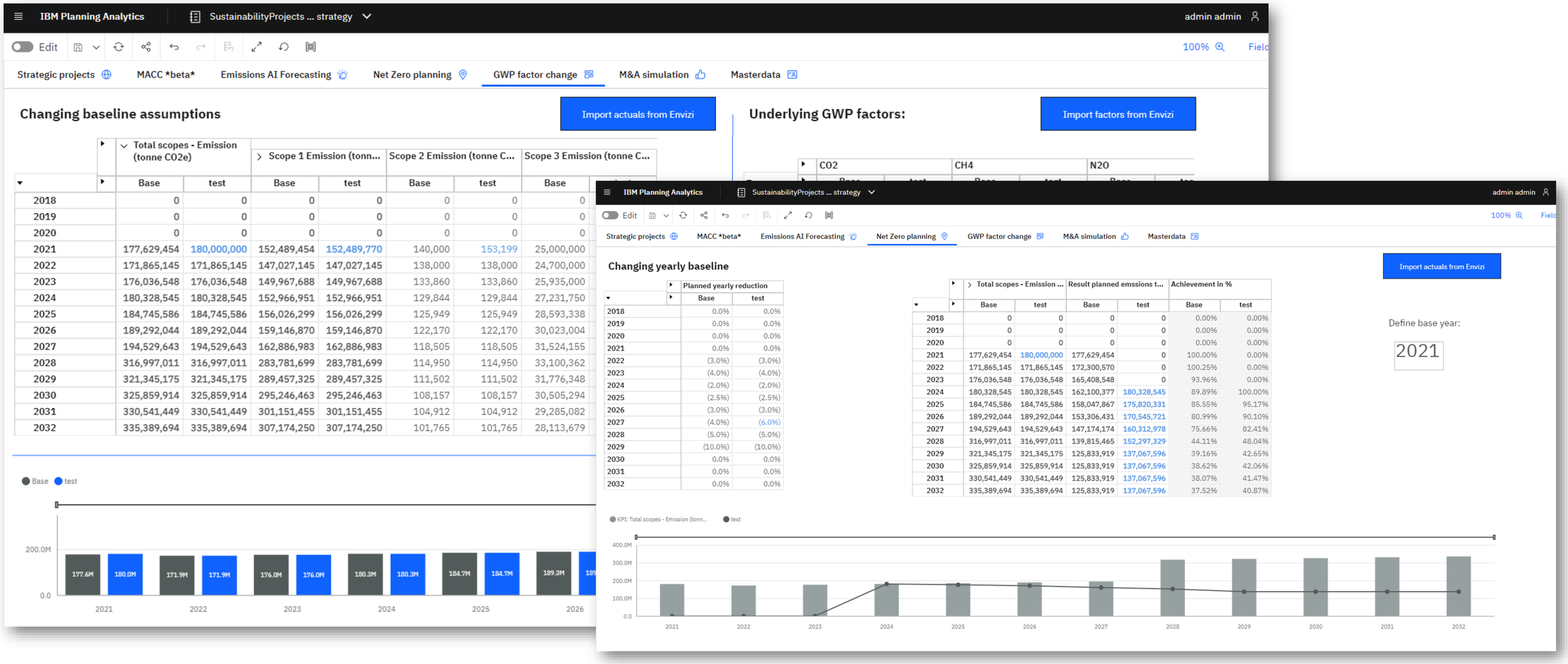
Change and plan parameters like costs, number of units, abatement potential, CAPEX etc. and see how the impact of these projects would be addit. on the long term sustainability baseline

AI-forecast emissions or other KPIs per organization unit



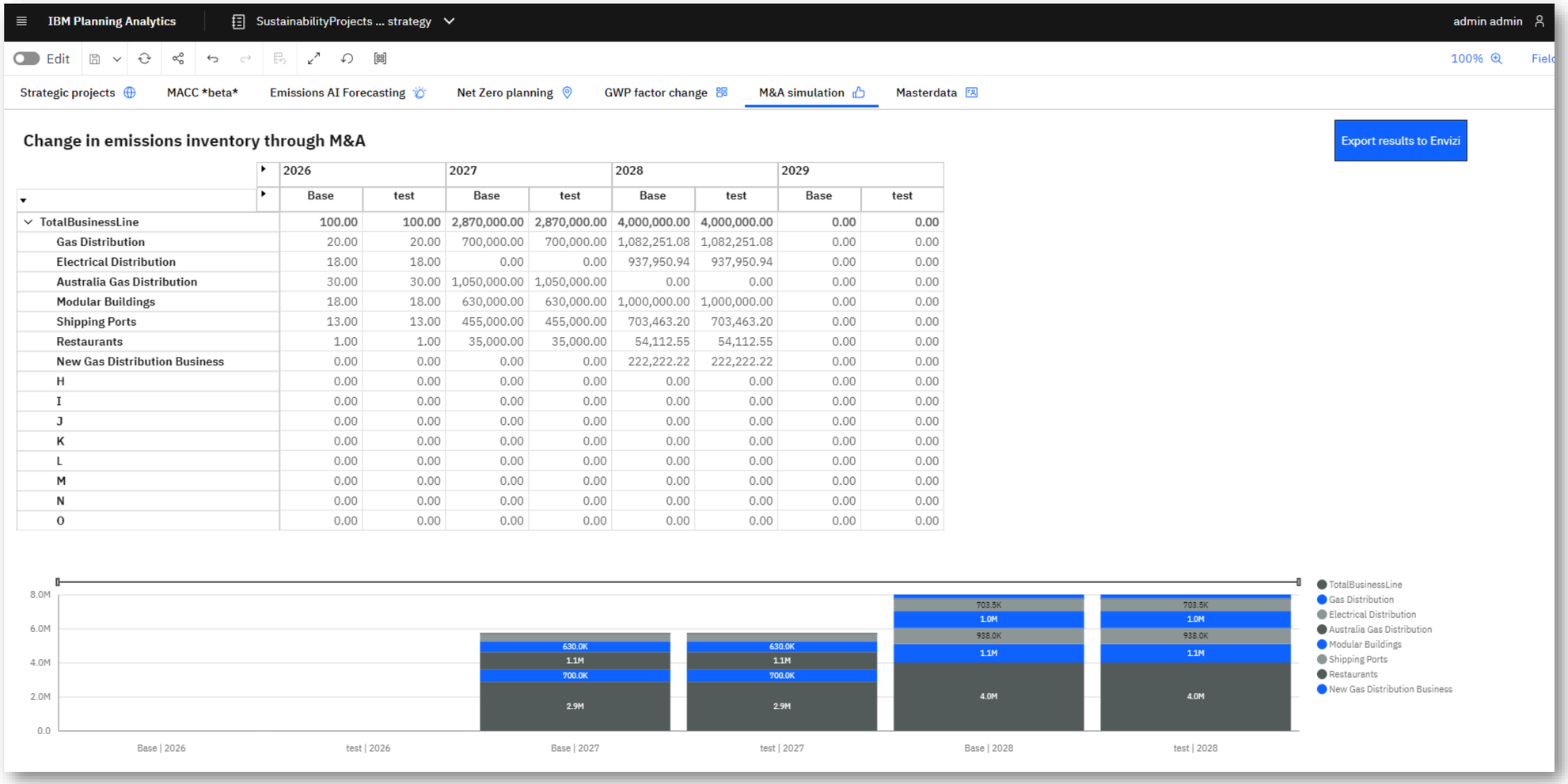
Simply mark a unit and use integrated enduser-friendly AI forecast for any kind of KPI or emission

Plan or simulate change GWP-factors or reduction-targets



Check your different emissions beside CO2 like CH4 or N20, simulate less consumption and check what would happen if in long term such factors would change

Check or compare different scenarios based on merger & acquisition

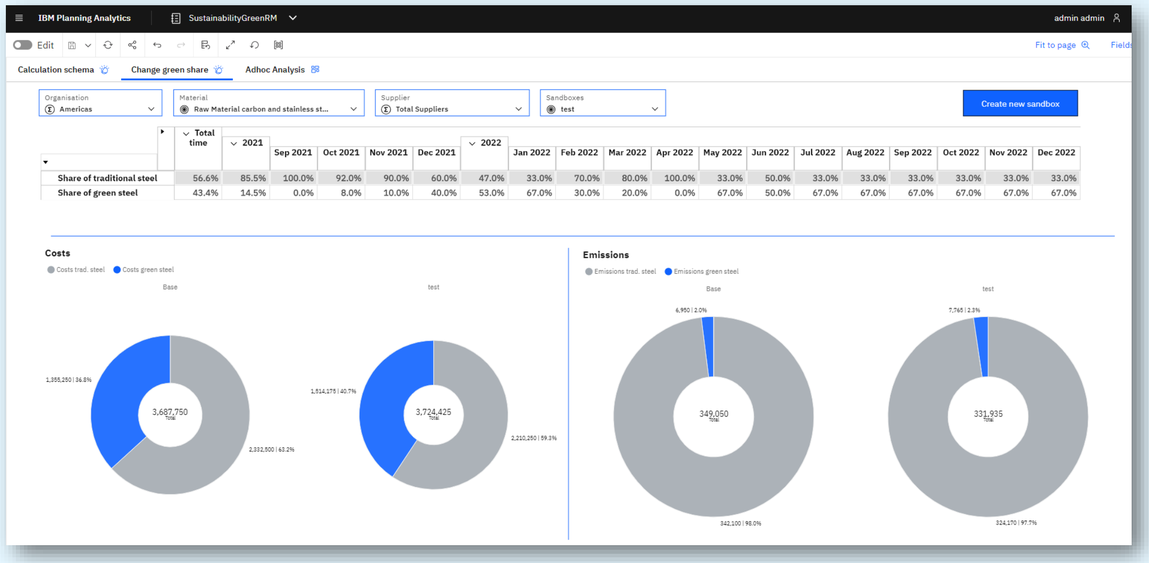


	2026		2027		2028		2029	
	Base	test	Base	test	Base	test	Base	test
TotalBusinessLine	100.00	100.00	2,870,000.00	2,870,000.00	4,000,000.00	4,000,000.00	0.00	0.00
Gas Distribution	20.00	20.00	700,000.00	700,000.00	1,082,251.08	1,082,251.08	0.00	0.00
Electrical Distribution	18.00	18.00	0.00	0.00	937,950.94	937,950.94	0.00	0.00
Australia Gas Distribution	30.00	30.00	1,050,000.00	1,050,000.00	0.00	0.00	0.00	0.00
Modular Buildings	18.00	18.00	630,000.00	630,000.00	1,000,000.00	1,000,000.00	0.00	0.00
Shipping Ports	13.00	13.00	455,000.00	455,000.00	703,463.20	703,463.20	0.00	0.00
Restaurants	1.00	1.00	35,000.00	35,000.00	54,112.55	54,112.55	0.00	0.00
New Gas Distribution Business	0.00	0.00	0.00	0.00	222,222.22	222,222.22	0.00	0.00
H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Simulate in different scenarios how merger & acquisition could impact the sustainability targets

Accelerator:
Green raw material

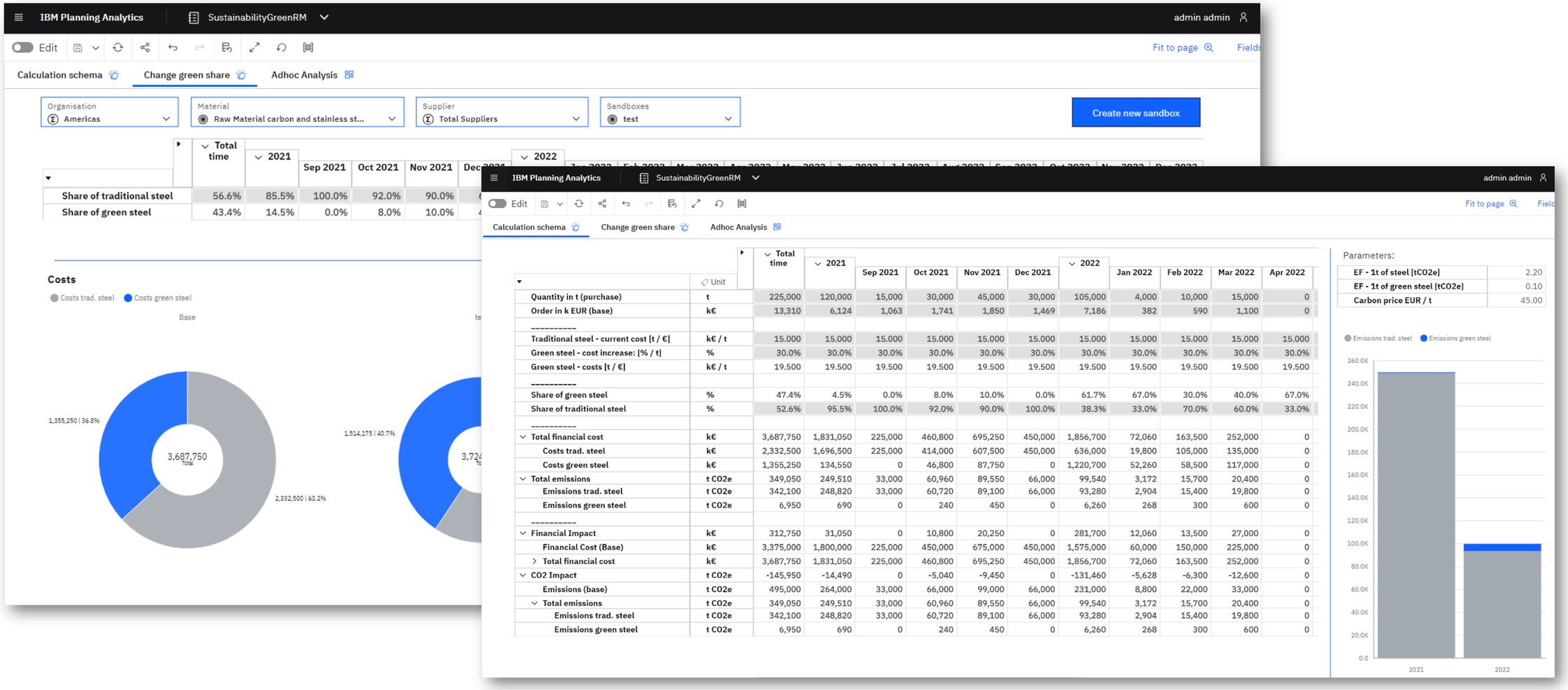
Example steel procurement: simulate share of green steel



- Purpose: simulate the impact of buying a higher share of sustainable produced raw materials in the procurement process
- Simulate different parameters like sales amount, share of green raw material, steel price and green-uplift or carbon price
- Compare different scenarios and compare them
- Visualize results in dashboards or in an ad hoc analyses
- Technology: IBM Planning Analytics + ILOG CPLEX (optional)

Green raw material

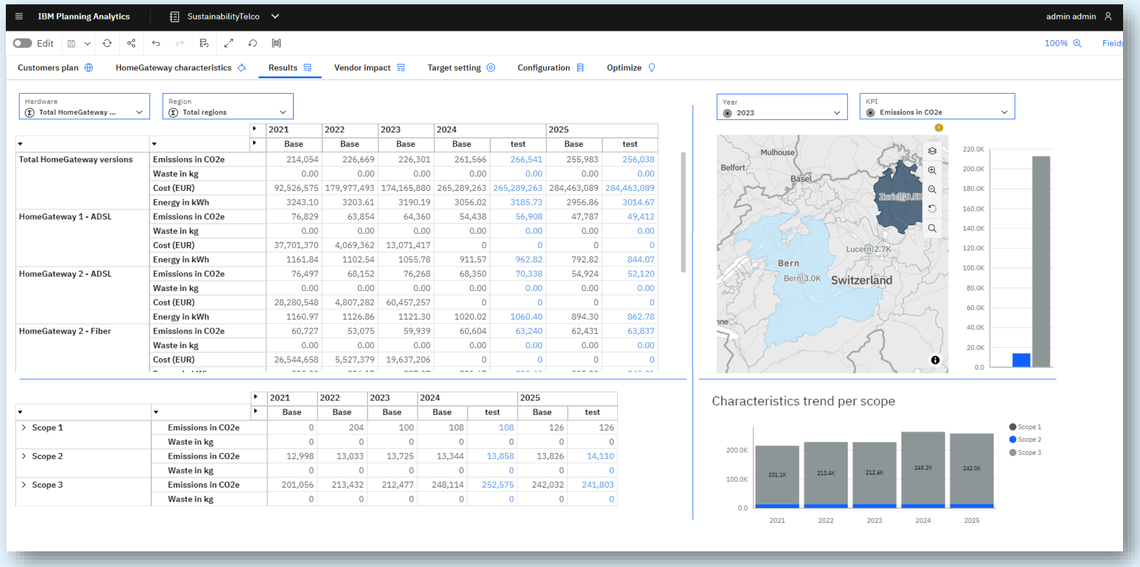
Simulate and visualize various parameters in procurement with cost-impact



Change quantity, order values and a lot of other values to compare impacts for different scenarios

Accelerator:
Sustainable Telco

Simulate change of products/clients, processes, lifecycle etc.

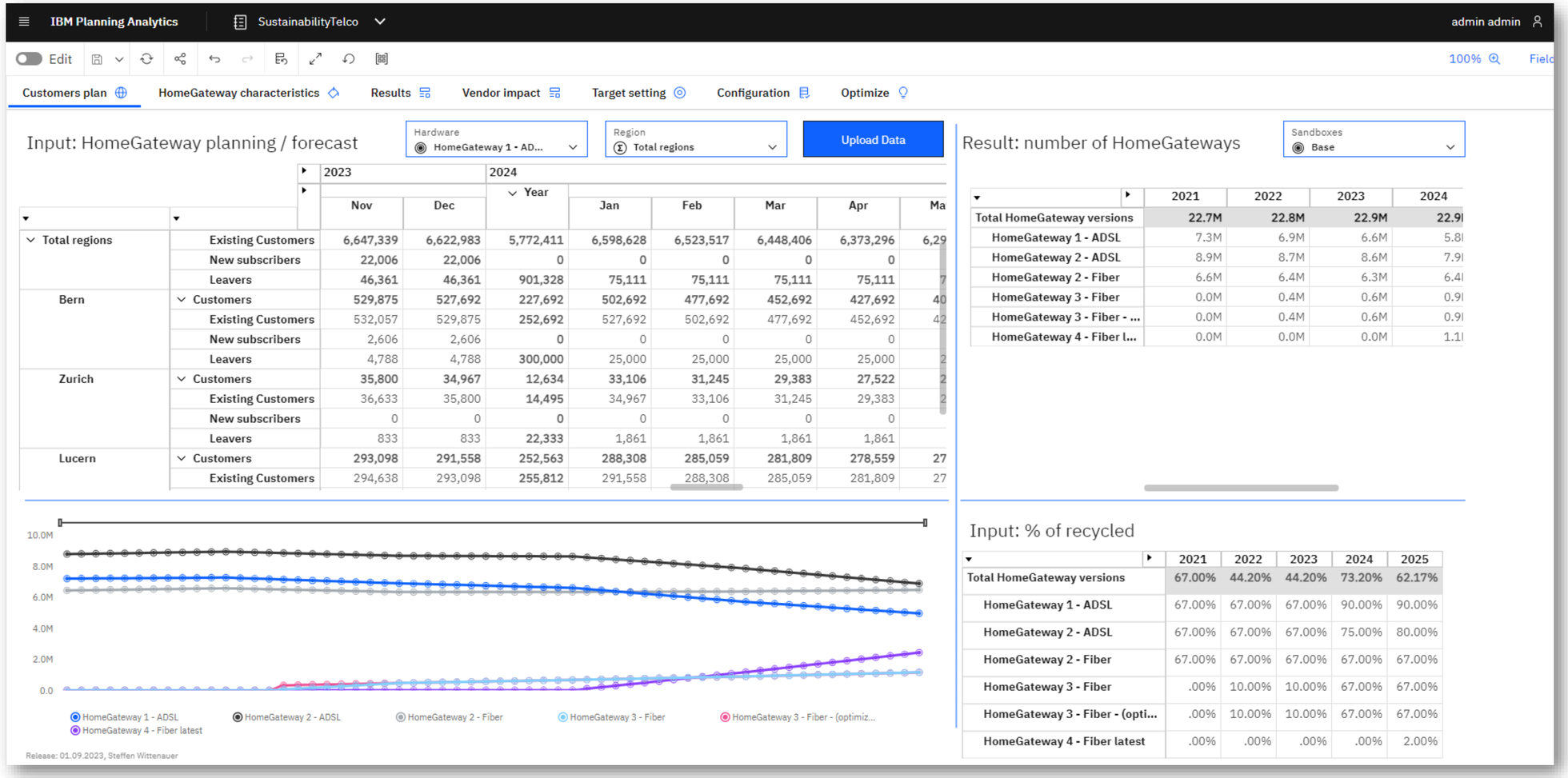


		2021	2022	2023	2024		2025	
		Base	Base	Base	Base	test	Base	test
Total HomeGateway versions	Emissions in CO2e	214,054	226,669	226,301	261,566	266,541	255,983	256,038
	Waste in kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cost (EUR)	92,526,575	179,977,493	174,165,880	265,289,263	265,289,263	284,463,089	284,463,089
	Energy in kWh	3243.10	3203.61	3190.19	3056.02	3185.73	2956.86	3014.67
HomeGateway 1 - ADSL	Emissions in CO2e	76,829	63,854	64,360	54,438	56,908	47,787	49,412
	Waste in kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cost (EUR)	37,701,370	4,069,362	13,071,417	0	0	0	0
	Energy in kWh	1161.84	1102.54	1055.78	911.57	962.82	792.82	844.07
HomeGateway 2 - ADSL	Emissions in CO2e	76,497	68,152	76,268	68,350	70,338	54,924	52,120
	Waste in kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cost (EUR)	28,280,548	4,807,282	60,457,257	0	0	0	0
	Energy in kWh	1160.97	1126.86	1121.30	1020.02	1060.40	894.30	862.78
HomeGateway 2 - Fiber	Emissions in CO2e	60,727	53,075	59,939	60,604	63,240	62,431	63,837
	Waste in kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cost (EUR)	26,544,658	5,527,379	19,637,206	0	0	0	0

		2021	2022	2023	2024		2025	
		Base	Base	Base	Base	test	Base	test
Scope 1	Emissions in CO2e	0	204	100	108	108	126	126
	Waste in kg	0	0	0	0	0	0	0
Scope 2	Emissions in CO2e	12,998	13,033	13,725	13,344	13,858	13,826	14,110
	Waste in kg	0	0	0	0	0	0	0
Scope 3	Emissions in CO2e	201,056	213,432	212,477	248,114	252,575	242,032	241,803
	Waste in kg	0	0	0	0	0	0	0

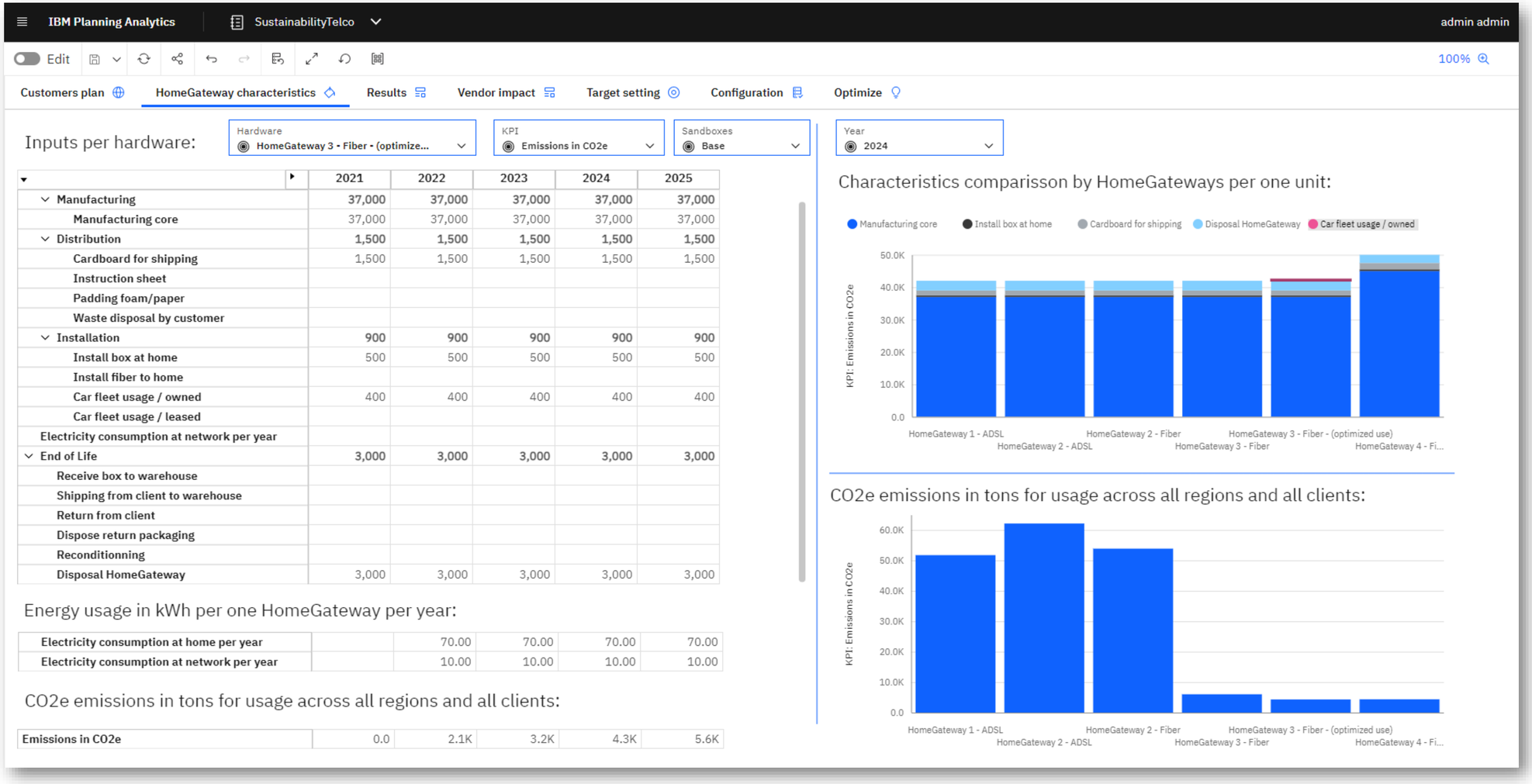
- Purpose: simulate different parameters for your products addressing different consumer groups in your product-/client-lifecycle
- Create and simulate different steps in product-/client-lifecycle
- Plan or AI-forecast different parameters like amount of subscribers/leavers
- Check your targets against projected actuals
- Technology: IBM Planning Analytics + ILOG CPLEX (optional)

Analyze / plan / forecast your products from a client-perspective



Use included AI forecast or take existing further planning functions to plan product or client-KPIs

Plan KPIs like emissions, waste, costs or any other indicator per process



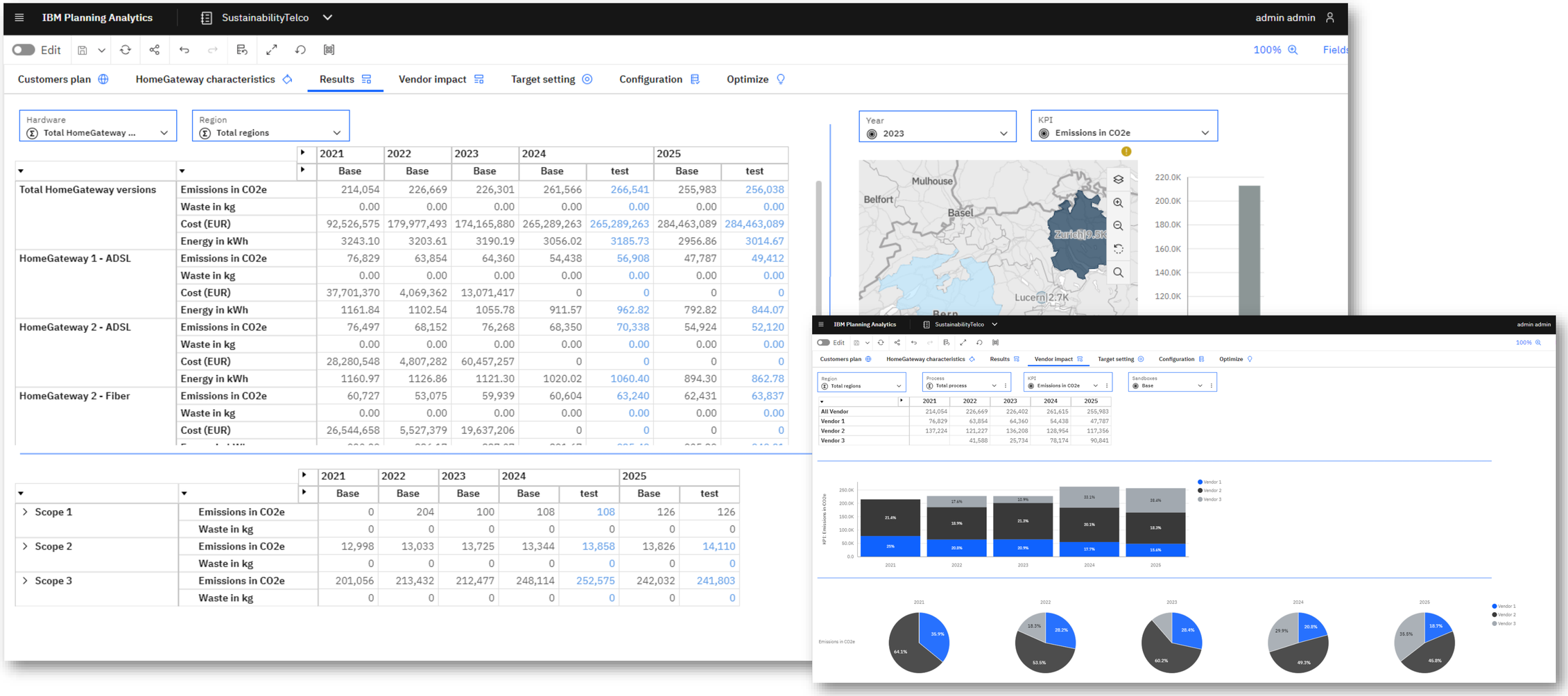
	2021	2022	2023	2024	2025
Manufacturing	37,000	37,000	37,000	37,000	37,000
Manufacturing core	37,000	37,000	37,000	37,000	37,000
Distribution	1,500	1,500	1,500	1,500	1,500
Cardboard for shipping	1,500	1,500	1,500	1,500	1,500
Instruction sheet					
Padding foam/paper					
Waste disposal by customer					
Installation	900	900	900	900	900
Install box at home	500	500	500	500	500
Install fiber to home					
Car fleet usage / owned	400	400	400	400	400
Car fleet usage / leased					
Electricity consumption at network per year					
End of Life	3,000	3,000	3,000	3,000	3,000
Receive box to warehouse					
Shipping from client to warehouse					
Return from client					
Dispose return packaging					
Reconditionning					
Disposal HomeGateway	3,000	3,000	3,000	3,000	3,000

Electricity consumption at home per year		70.00	70.00	70.00	70.00
Electricity consumption at network per year		10.00	10.00	10.00	10.00

Emissions in CO2e	0.0	2.1K	3.2K	4.3K	5.6K

Cluster all processes in any granularity and fill the KPIs automatically or per manual input

Check the results per region, product etc. for any KPI incl. scope 1-3 and supplier impact



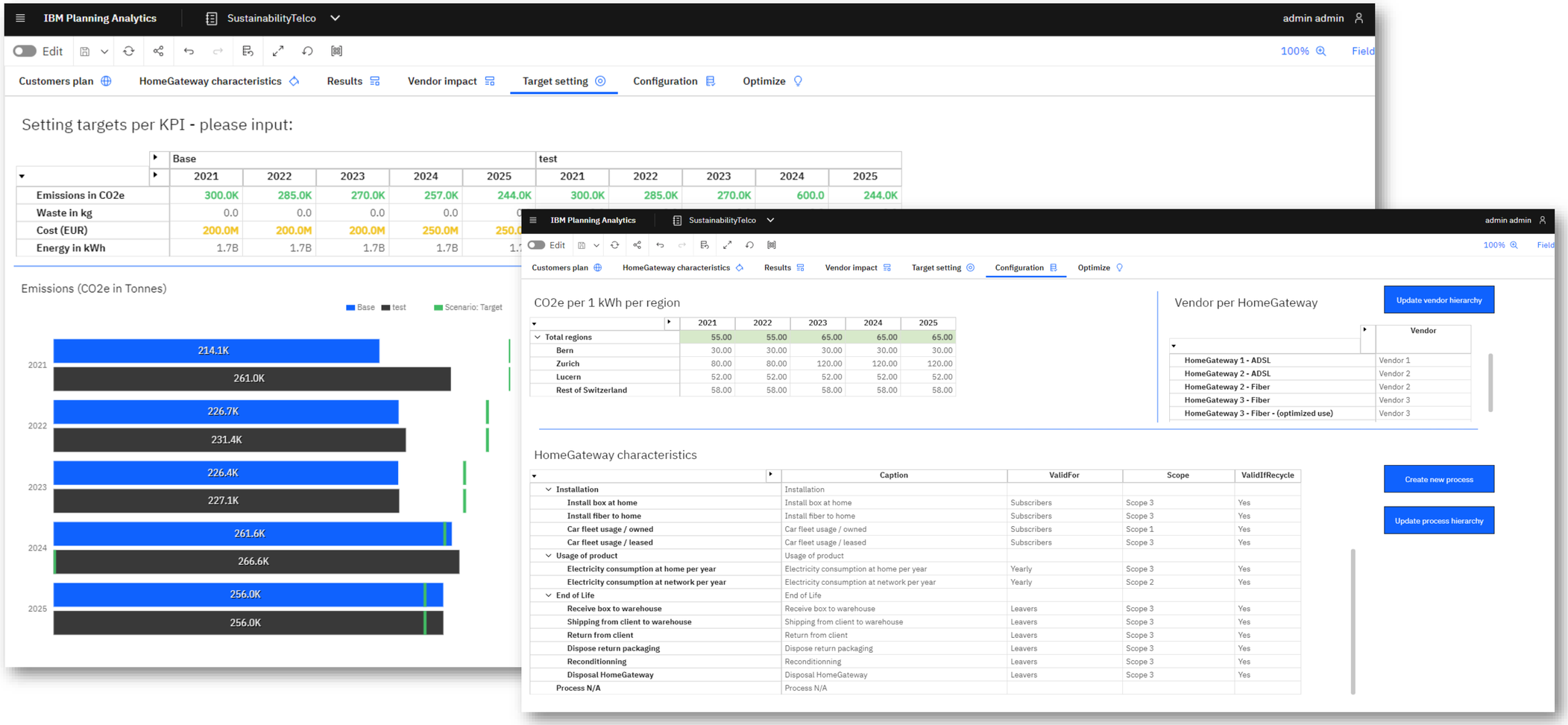
		2021	2022	2023	2024		2025	
		Base	Base	Base	Base	test	Base	test
Total HomeGateway versions	Emissions in CO2e	214,054	226,669	226,301	261,566	266,541	255,983	256,038
	Waste in kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cost (EUR)	92,526,575	179,977,493	174,165,880	265,289,263	265,289,263	284,463,089	284,463,089
	Energy in kWh	3243.10	3203.61	3190.19	3056.02	3185.73	2956.86	3014.67
HomeGateway 1 - ADSL	Emissions in CO2e	76,829	63,854	64,360	54,438	56,908	47,787	49,412
	Waste in kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cost (EUR)	37,701,370	4,069,362	13,071,417	0	0	0	0
	Energy in kWh	1161.84	1102.54	1055.78	911.57	962.82	792.82	844.07
HomeGateway 2 - ADSL	Emissions in CO2e	76,497	68,152	76,268	68,350	70,338	54,924	52,120
	Waste in kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cost (EUR)	28,280,548	4,807,282	60,457,257	0	0	0	0
	Energy in kWh	1160.97	1126.86	1121.30	1020.02	1060.40	894.30	862.78
HomeGateway 2 - Fiber	Emissions in CO2e	60,727	53,075	59,939	60,604	63,240	62,431	63,837
	Waste in kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cost (EUR)	26,544,658	5,527,379	19,637,206	0	0	0	0

		2021	2022	2023	2024		2025	
		Base	Base	Base	Base	test	Base	test
Scope 1	Emissions in CO2e	0	204	100	108	108	126	126
	Waste in kg	0	0	0	0	0	0	0
Scope 2	Emissions in CO2e	12,998	13,033	13,725	13,344	13,858	13,826	14,110
	Waste in kg	0	0	0	0	0	0	0
Scope 3	Emissions in CO2e	201,056	213,432	212,477	248,114	252,575	242,032	241,803
	Waste in kg	0	0	0	0	0	0	0

	2021	2022	2023	2024	2025
All Vendor	214,054	226,669	226,402	261,615	255,983
Vendor 1	76,829	63,854	64,360	54,438	47,787
Vendor 2	137,224	121,227	136,208	128,954	117,356
Vendor 3		41,588	25,734	78,174	90,841

Drill down to any granularity and see in the blue colored KPIs any parameter change to compare different scenarios

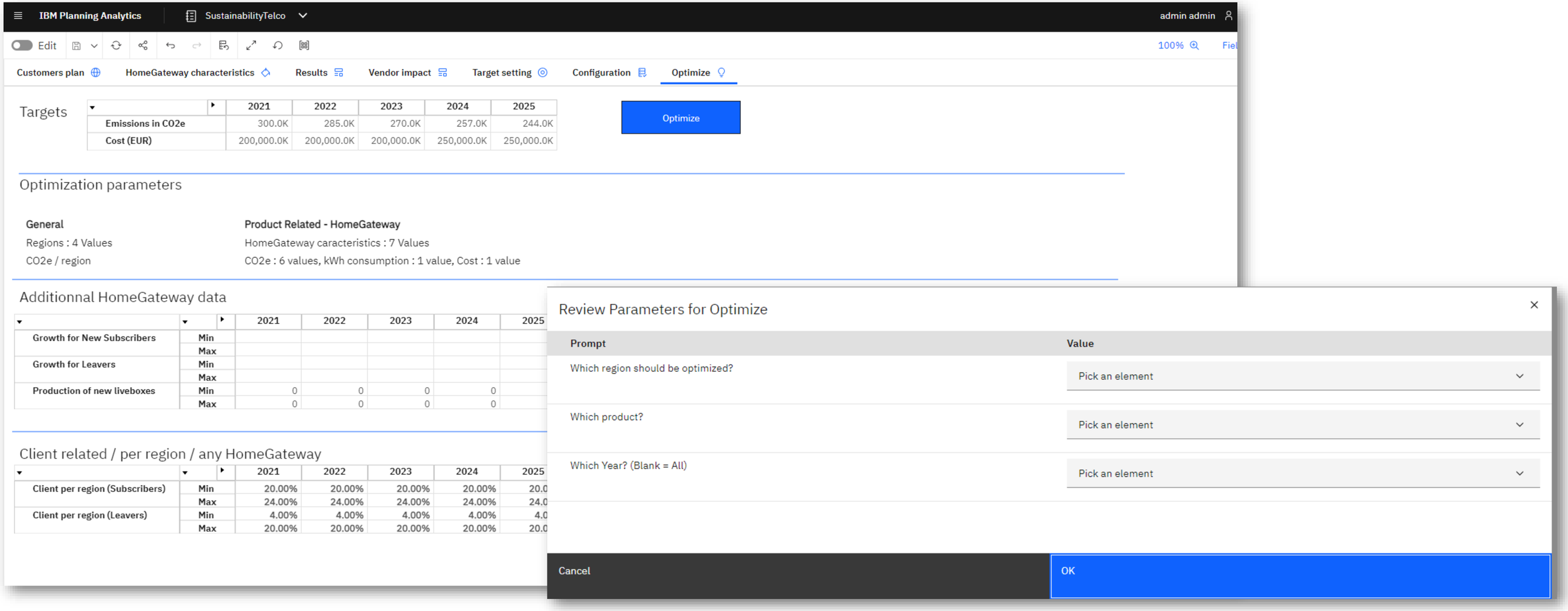
Set your targets in the tool and check if your actuals or plan fit to it



Set the targets for any KPIs. Customize on top the processes, create or change new one.

Sustainable Telco

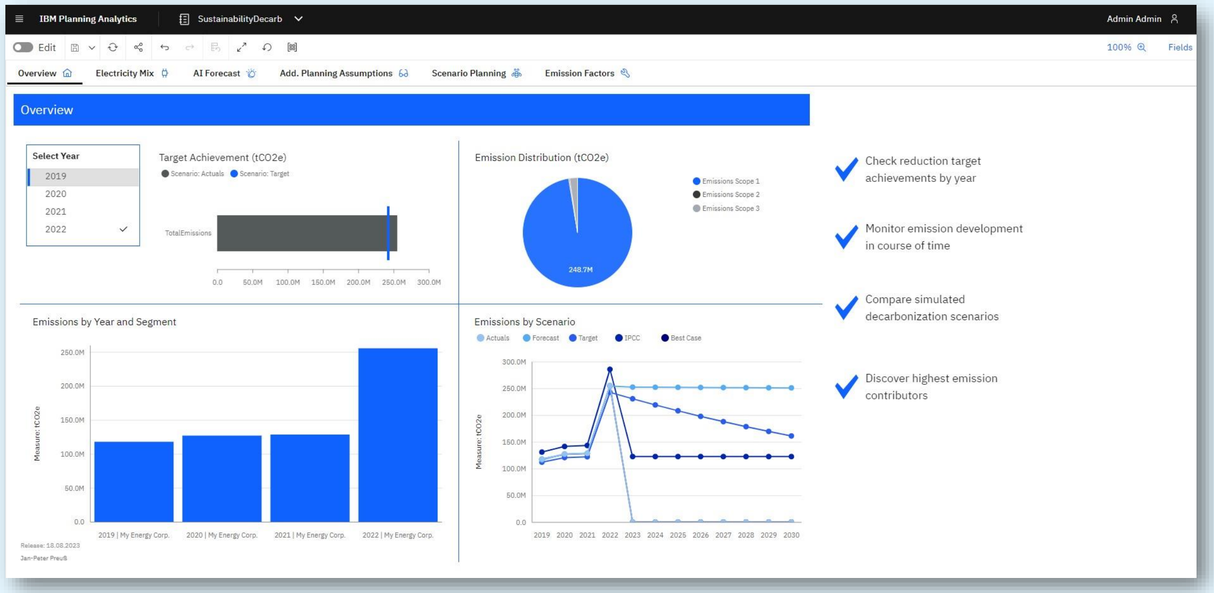
Optimize sustainability versus financial KPIs automatically



Use optionally optimizing components to find automatically the best plan for all your targets

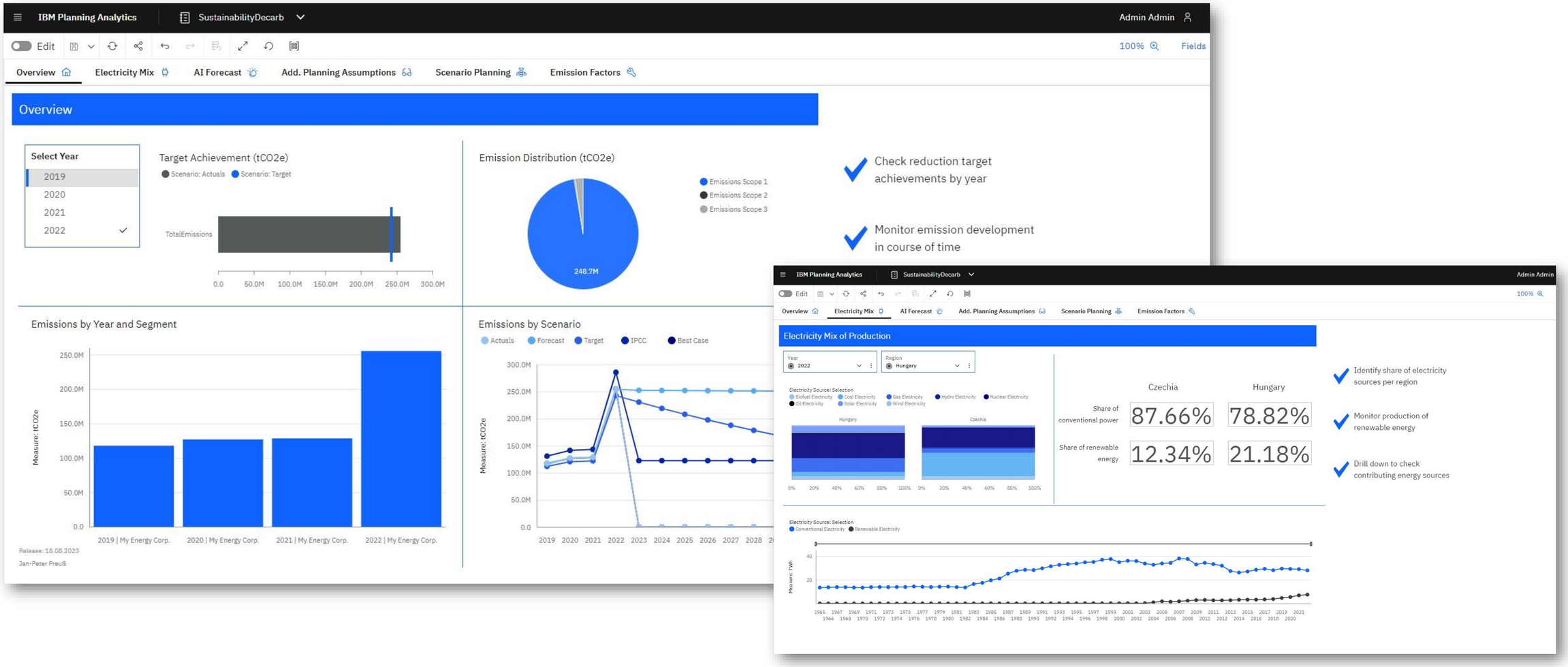
Accelerator: **Sustainable Energy Decarbonization**

Simulate energy mix of energy production or grid losses



- Purpose: plan and simulate for different production-locations the energy-mix producing electricity
- Content: based on historic data and some other manual inputted parameters, the model calculates based on GWP-factors emission-scenarios
- Data sources: master data can be manually adapted – actuals can be loaded (files, data warehouse etc.) or manually inputted in an auditable way and automatically aggregated
- Technology: IBM Planning Analytics

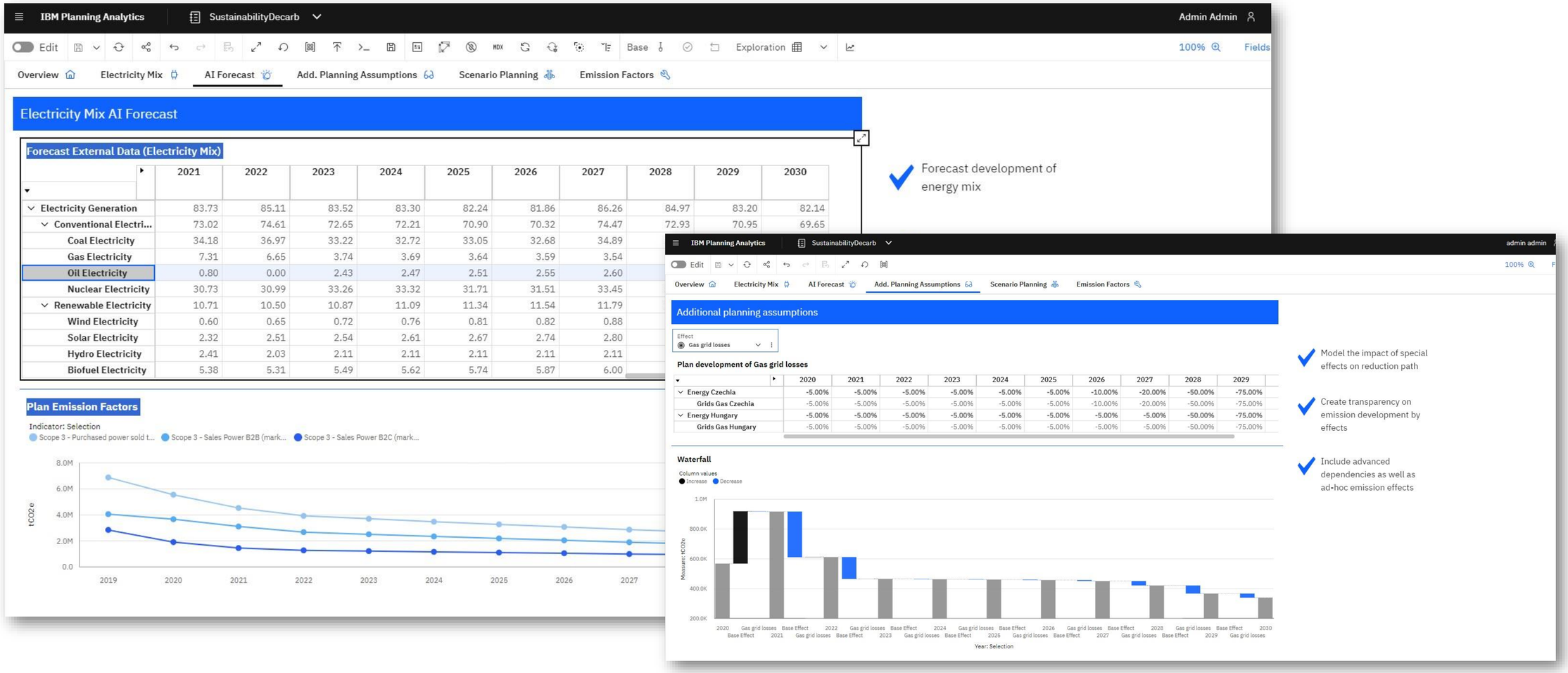
Analyze your emissions and long term history of energy mix in production



Compare locations, actuals vs. targets or any kind of data granularity

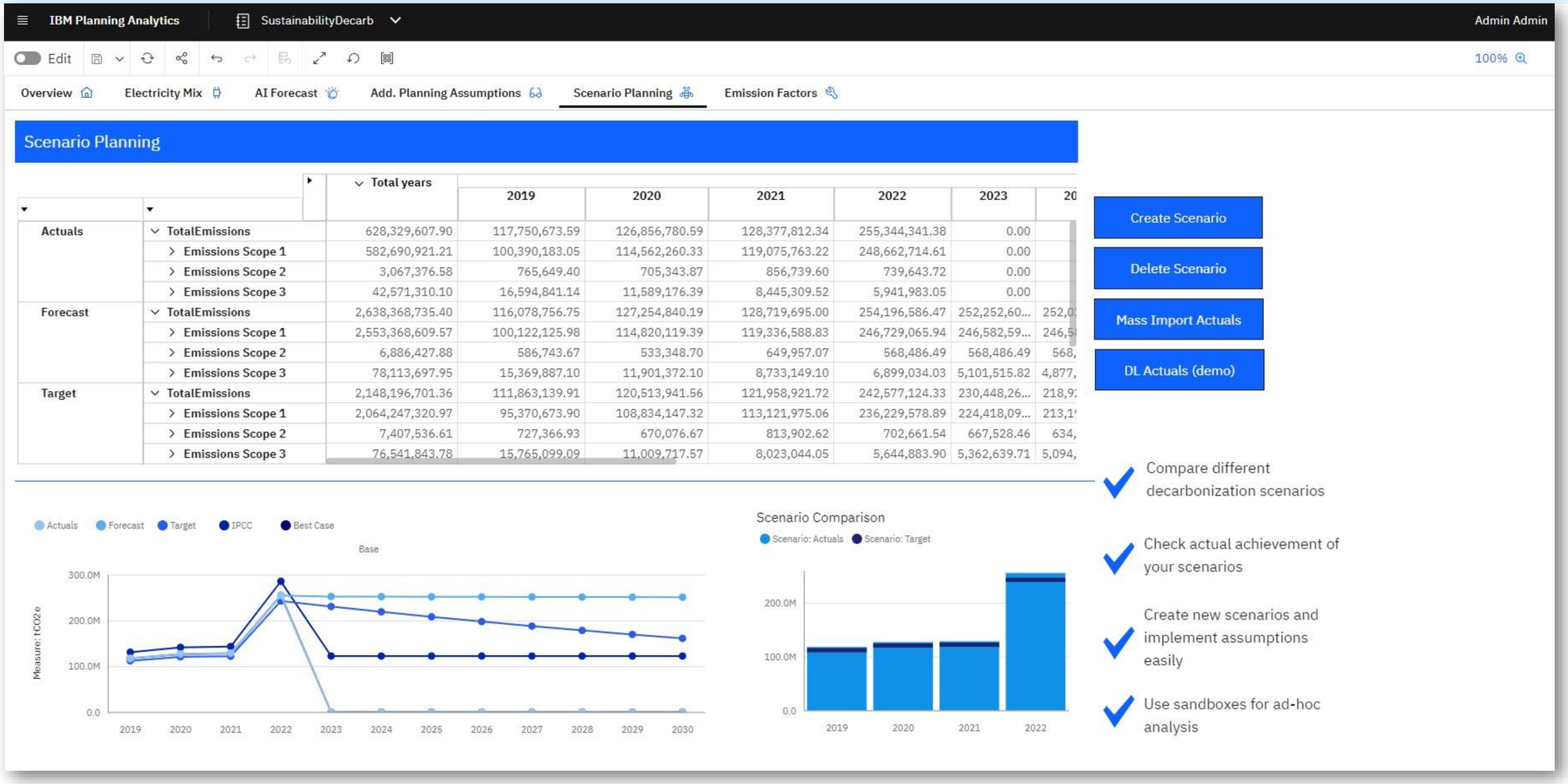
Sustainable Energy Decarbonization

Plan / forecast the energy mix in production



Manually plan or use included AI forecast to simulate the mix. In a second step plan addit. effect like reduced grid losses or other effects

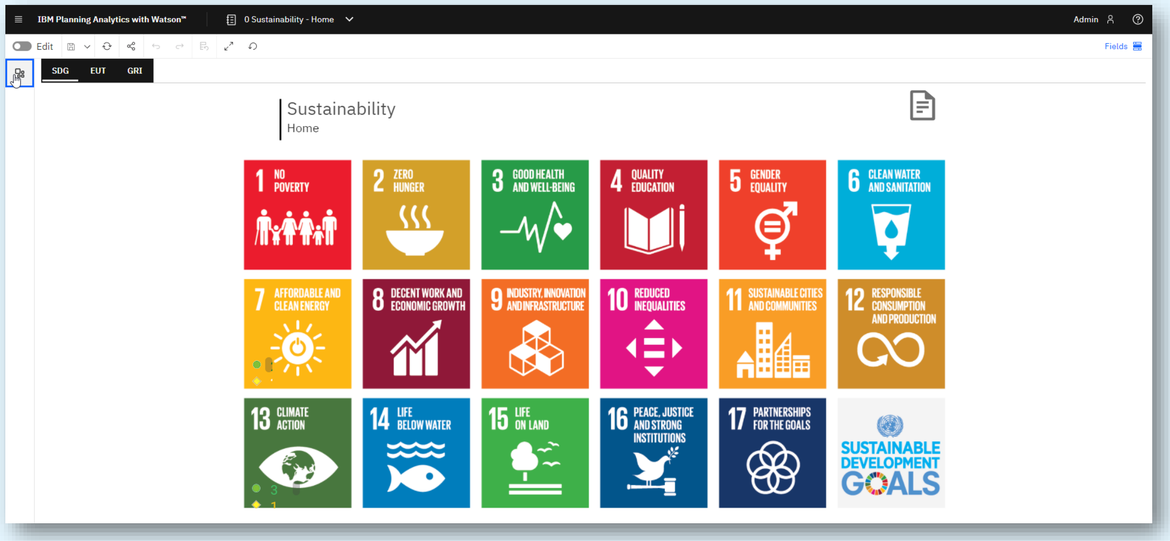
Compare the results and open new scenarios



Open new scenarios and take existing scenarios as initial baseline for all new parameter changes

Accelerator: **Sustainability analytics entry point**

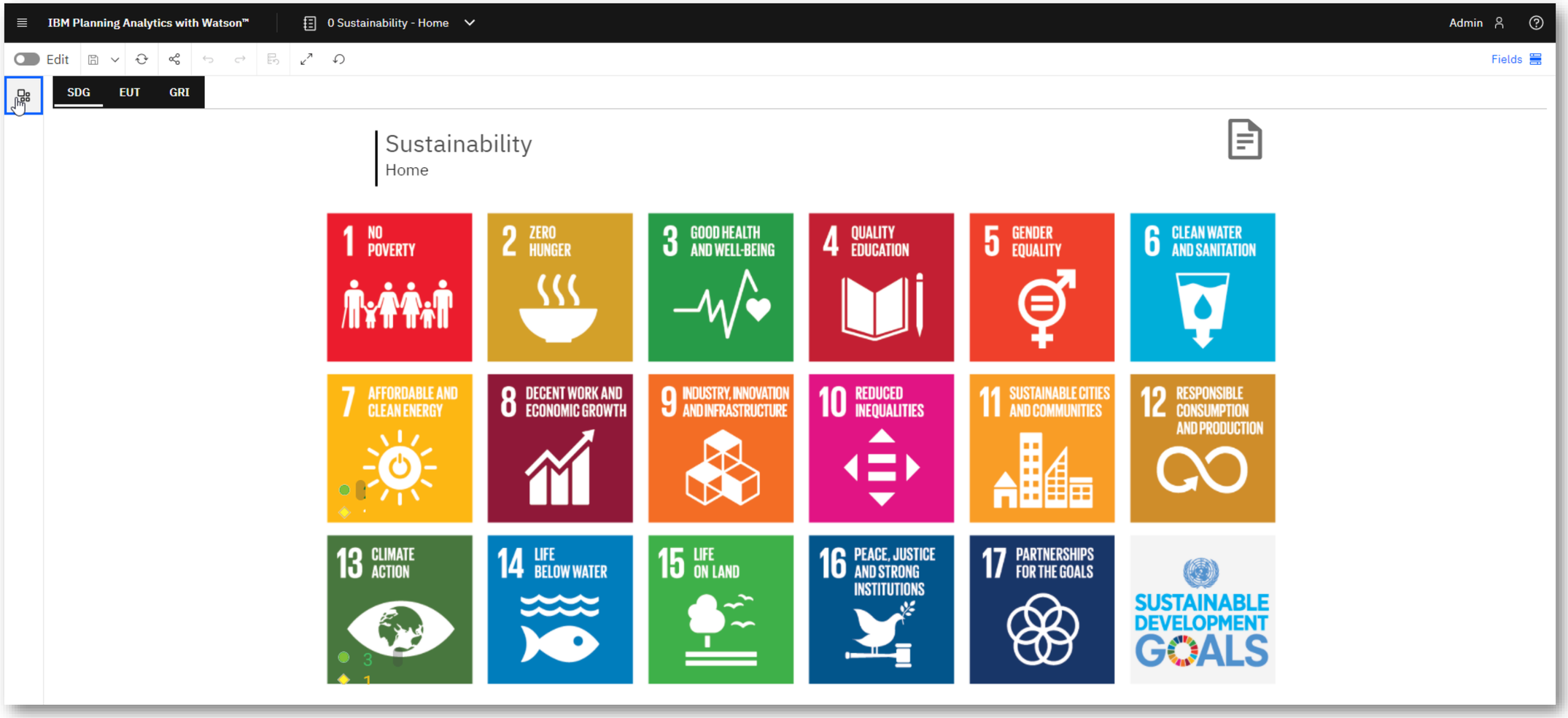
Start your data collection



- Purpose: possible starting point for each company having not yet any analytics or target-setting for sustainability. Can be used for an easy data-collection and visualization.
- Content: modular approach having the 17 UN-goals in focus
- Data sources: master data can be manually adapted – actuals can be loaded (files, data warehouse etc.) or manually inputted in an auditable way and automatically aggregated
- Technology: IBM Planning Analytics

Sustainability analytics entry point

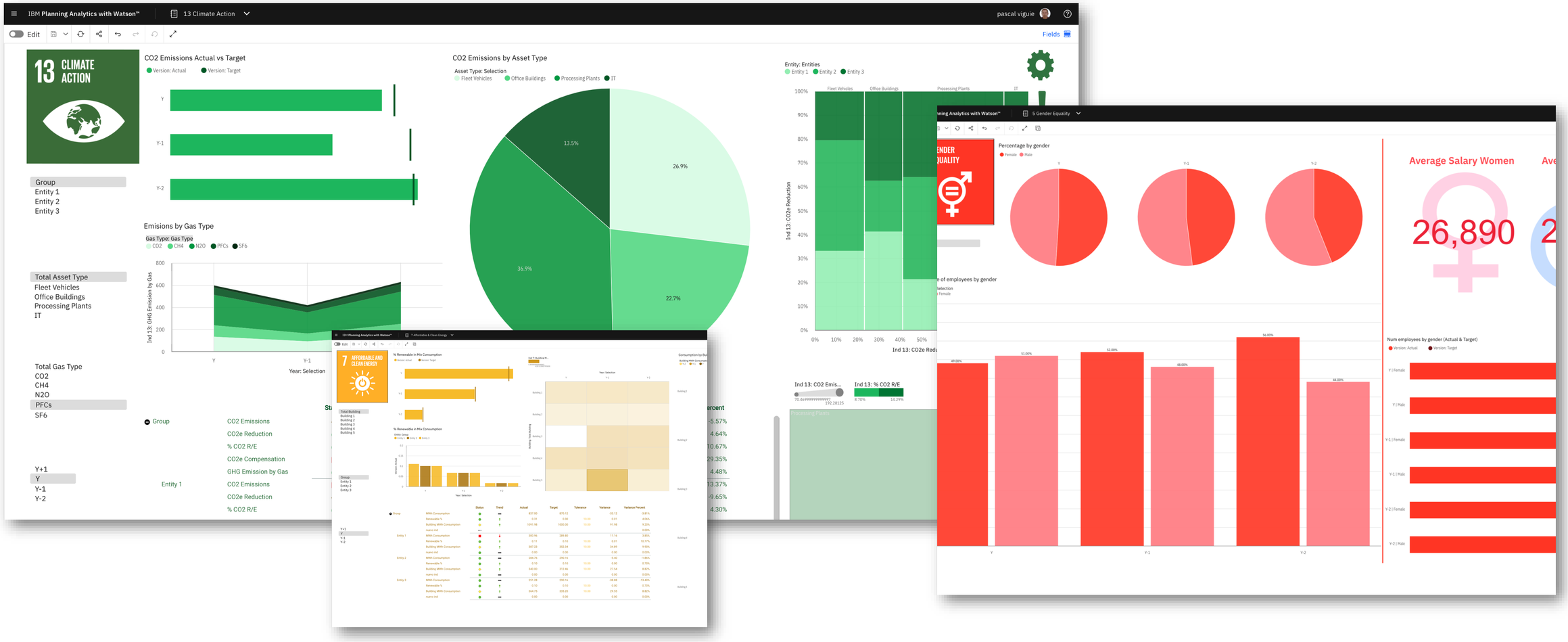
Use Planning Analytics as initial data collection



Collection based on the 17 goals (SDGs) of the United Nations

Sustainability analytics entry point

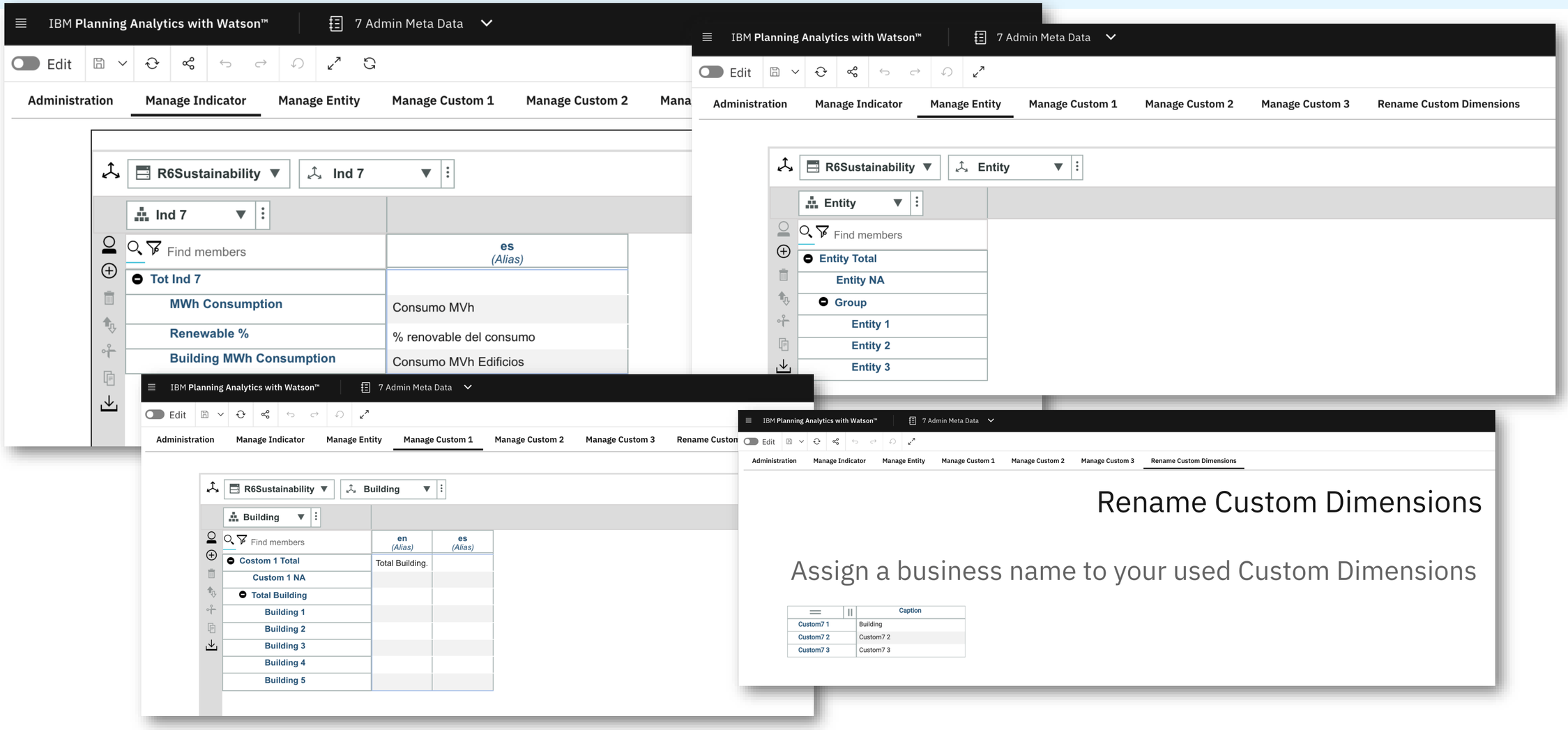
Visualize goals and indicators through modern and customizable dashboards in a few clicks



Management-ready: create within few clicks dashboards on your collected data

Sustainability analytics entry point

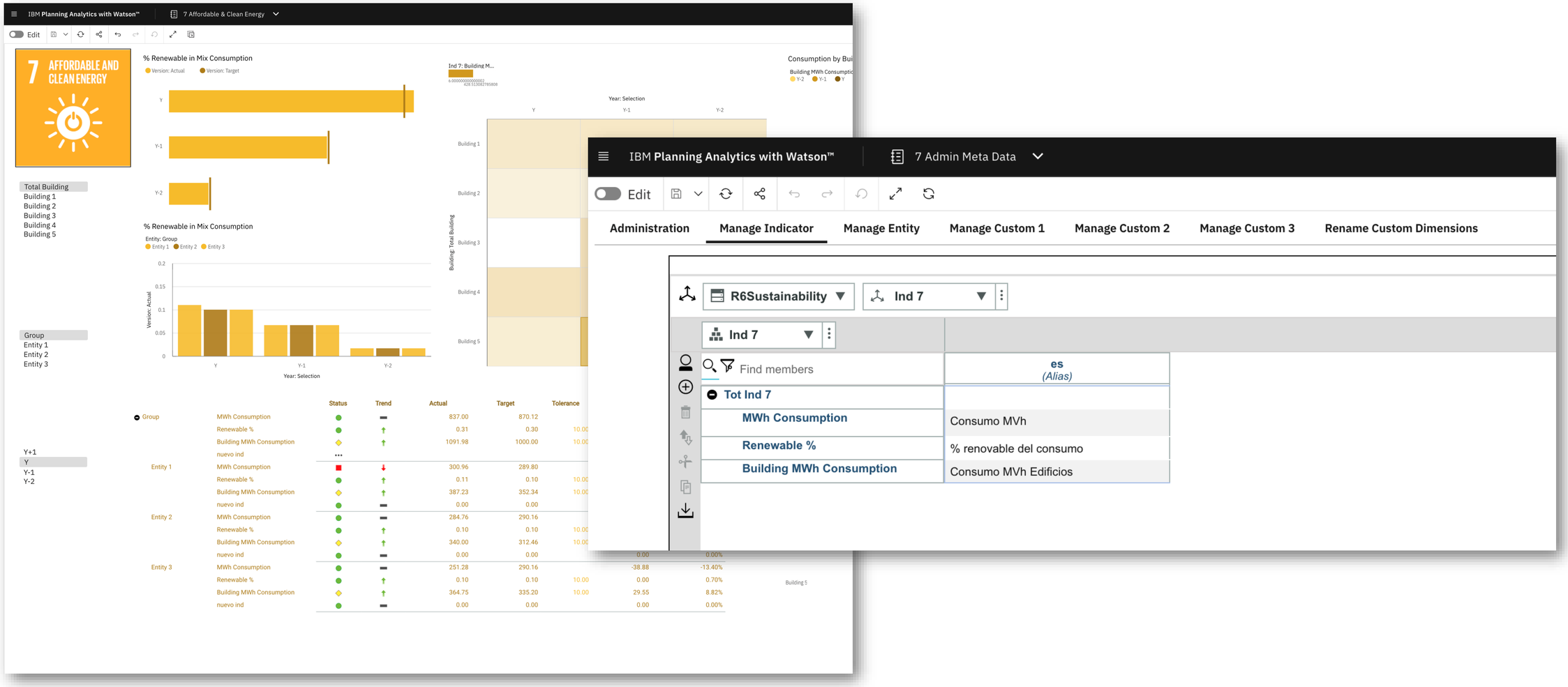
Manage the information for each indicator at the level you need



. All data granularity or master data is changeable : you can always decide to add or remove details to your indicators

Sustainability analytics entry point

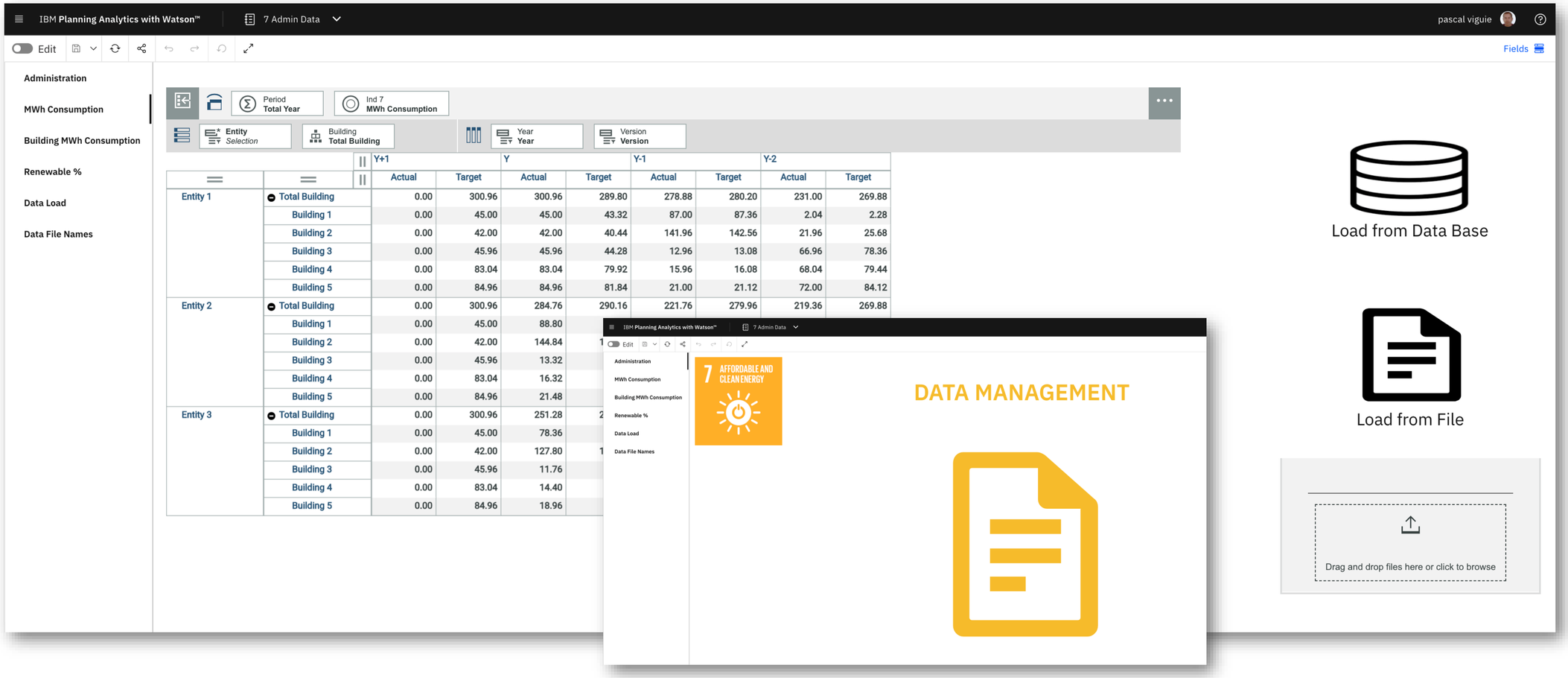
Define targets for each of the sustainability indicators and analyze deviations against data



Customize all KPIs, versions etc. depending n your needs without programming

Sustainability analytics entry point

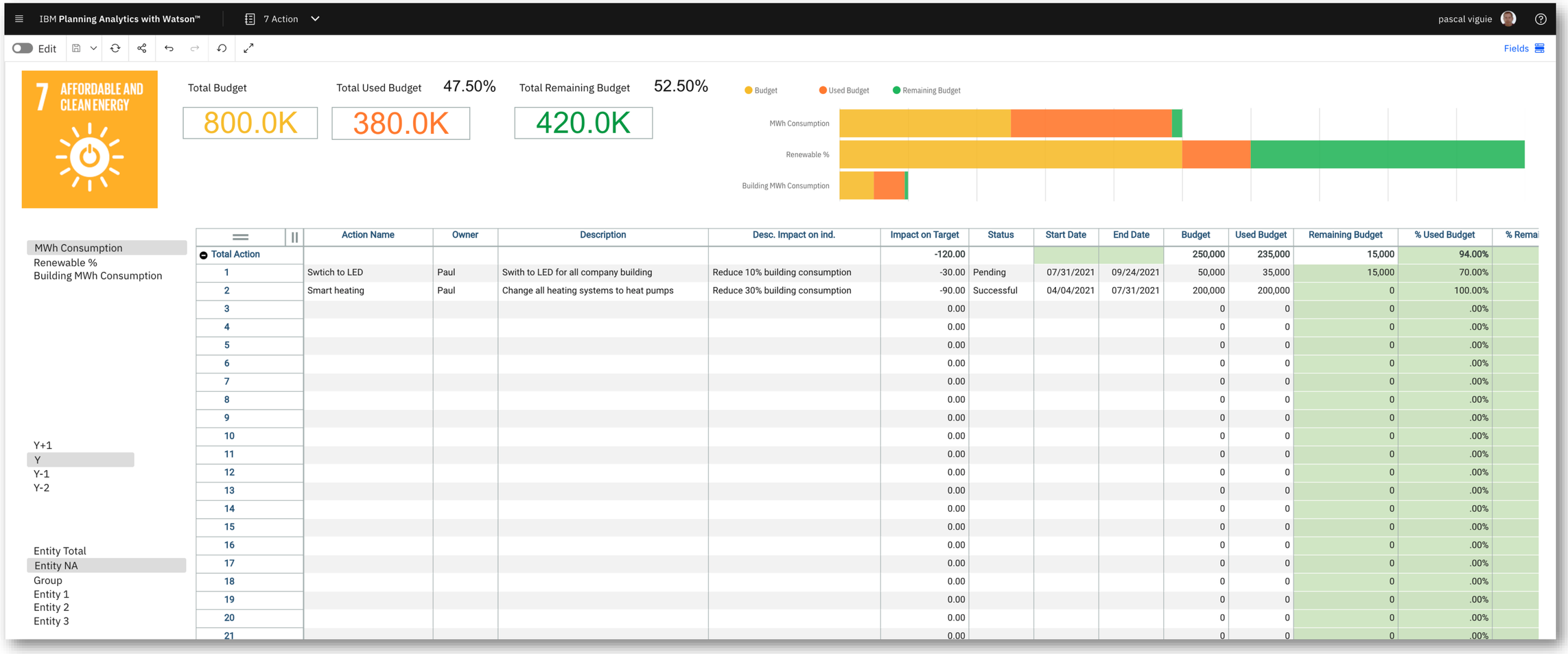
Recompile + centralize all sustainability information according to its format and availability



Five possible ways for data collection: Manual input / upload of data files / connection to data bases for manual or scheduled data load / structured and unstructured Excel data upload / integration via APIs

Sustainability analytics entry point

Create and manage initiatives and corrective actions for your indicators



	Action Name	Owner	Description	Desc. Impact on ind.	Impact on Target	Status	Start Date	End Date	Budget	Used Budget	Remaining Budget	% Used Budget	% Rema
Total Action					-120.00				250,000	235,000	15,000	94.00%	
1	Swtich to LED	Paul	Swith to LED for all company building	Reduce 10% building consumption	-30.00	Pending	07/31/2021	09/24/2021	50,000	35,000	15,000	70.00%	
2	Smart heating	Paul	Change all heating systems to heat pumps	Reduce 30% building consumption	-90.00	Successful	04/04/2021	07/31/2021	200,000	200,000	0	100.00%	
3					0.00				0	0	0	.00%	
4					0.00				0	0	0	.00%	
5					0.00				0	0	0	.00%	
6					0.00				0	0	0	.00%	
7					0.00				0	0	0	.00%	
8					0.00				0	0	0	.00%	
9					0.00				0	0	0	.00%	
10					0.00				0	0	0	.00%	
11					0.00				0	0	0	.00%	
12					0.00				0	0	0	.00%	
13					0.00				0	0	0	.00%	
14					0.00				0	0	0	.00%	
15					0.00				0	0	0	.00%	
16					0.00				0	0	0	.00%	
17					0.00				0	0	0	.00%	
18					0.00				0	0	0	.00%	
19					0.00				0	0	0	.00%	
20					0.00				0	0	0	.00%	
21					0.00				0	0	0	.00%	

Set target, track ownerships or manage budgets

Why using IBM Planning Analytics for sustainability-topics?

- The technology is offering one platform for planning/simulation, analysis and optimization. It is addressing the sustainability-use cases for all stakeholders in the company.
- Link sustainability-results directly to existing other plans like finance, cost-planning or P&L.
- The solution is able to simulate in real-time scenarios-changes of all factors, drivers, initiatives or parameters – the end-users can directly check sandboxing-results in the balance or other result-outcomes.
- The solution can handle all types of master data or granularity like products, materials, regions, supply chain-processes etc. and applications be flexible adjusted by the business department.
- No limitation for emission factors - ability to create flexible new emission factors. No limitation of user interface languages.
- IBM Planning Analytics is a mature native analytics-application which can handle billions of data records in scalable real-time-speed. Furthermore, the seamless analysis on all levels or aggregations through the whole data is possible.
- IBM Planning Analytics is part of the integrated IBM Analytics portfolio - other components like IBM Cognos Analytics, Watson Studio or ILOG CPLEX can enrich the solution (CP4D, Data Fabric etc.).