Understanding the Scenario Analysis Outputs

This document describes the Key Concepts and Data associated with the scenario analysis outputs.

KEY CONCEPTS

Sectors and Technologies

The asset-level data behind this analysis covers 8 sectors. Scenario analysis of output data is done for the Oil&Gas, Coal, Power, and Automotive sectors. Scenario analysis of emissions intensity is done for the Shipping, Aviation, Steel, and Cement sectors.

A technology is a method of production within a sector. For example, within the Power sector electricity can be generated using coal-fired, gas-fired, nuclear, hydro, and or renewable power plants. In general, technologies within a sector produce fungible outputs, and vary by their relative "brown"- or "green"-ness. For example, within the Automotive sector electric vehicles and gasoline engine vehicles are both considered "passenger vehicles" (fungible); electric vehicles are considered the "greener" technology option relative to gasoline engines.

Production vs Capacity

Asset-level data providers provide "build out plans" for each asset that, depending on the sector, are forward-looking projections of either production or capacity. In contrast to production data, capacity data requires the application of an additional utilization factor to generate production numbers.
Production data is provided for the fossil fuel and automotive sectors (for example, the number of vehicles produced in a given year), while power sector is data is given as capacity (MW of installed electric generation capacity). No utilization factors are applied in the results; results are in the same format (production or capacity) as the asset-level databases.

For brevity, in the text below the term "production" is used in a generic sense to encompasses either production or capacity (which will depend on the sector).

Current Plans vs Plans "consistent with the scenario"

Companies' current build-out plans (production or capacity, depending on the sector) are retrieved from data providers at the asset level and aggregated along the Bloomberg-defined corporate structure, and are referred to as the company's "current plans". Columns in the output files with current plan data have the "**Plan.**" prefix.
Columns in the output files with the "**Scen.**" prefix provide production/capacity plans consistent with the specified scenario. Data in these columns take the initial year production as a starting point, and then apply the changes specified by the scenario to produce an alternate set of production/capacity plans that are consistent with the scenario.

Data Units

The following table shows the units for each sector that are provided in the results files. The oil and gas sectors have been converted from Barrels of Oil and m^3 of gas to GJ respectively. The conversion factor for oil is 6.12 GJ/Barrel and for gas is 0.0372 GJ/m^3.

Production / Capacity				Emission Factors	
Sector	**Unit**	**Sector**	**Unit**	**Sector**	**Unit**
Power	MW	Aviation	Number of planes	Aviation	kg CO2/km passenger
Oil and Gas	GJ/day	Cement	t/a	Cement	t CO2/t Cement
Coal	t/a	Shipping	Number of Ships	Steel	t CO2/t Steel
Automotive	Number of cars	Steel	t/a		

DATA DICTIONARY

Describes the columns in the scenario analysis results files.

Identifiers

These columns uniquely identify a row of results.

Column Name	Which asset class does this column apply to?	
Investor.Name	EQ, CB	Investor Name
Portfolio.Name	EQ, CB	Portfolio Name
Scenario	EQ, CB	Identifies the scenario applied to calculate production "under the scenario", which are saved in the ".Scen" columns. IEA Scenarios currently included are the IEA's: B2DS, SDS, CPS, and NPS.
Allocation	EQ, CB	Identifies the allocation method used for allocating some portion of the production of an entire company (pulled from ALD) to the company's securities held in the portfolio. Also referred to as the Accounting Principle. Possible values are: PortfolioWeight. (used for EQ and CB) – production is allocated based on the weight (by Market Value) of the company's securities in the portfolio. Ownership. (EQ only) – production is allocated based on the share of a company owned by the portfolio (i.e., percent of free floating shares owned).
EquityMarket	EQ	A grouping/filtering variable based on the country of domicile of the company issuing the securities. Based on its country of domicile, every company in the equity portfolio is mapped to one or more of the following EquityMarket values: Global, Developed, or EmergingMarkets. For example, production from a company domiciled in the US would be included in both "Global" and "Developed" results.
Scenario Geography	EQ, CB	A grouping/filtering variable based on the country where production is located. Every country is mapped to one or more of the following regional Scenario Geographies: Global, GlobalAggregate, OECD, Non-OECD, North America, Europe, and Asia Pacific. For example, production located in Japan would be included in "Global", "OECD", and "AsiaPacific" results. Global Aggregate is different from Global for the power sector. While the global refers to the scenario targets at the global level, the global aggregate uses the most regional scenario for a certain plant and aggregates the scenario values up. For example, for a portfolio with power capacity in the US and India, the global aggregate scenario would reflect the scenarios of both the US and India based on the share of capacity between the two countries.
Sector	EQ, CB	Identifies the sector of production, based on the asset-level data.
Technology	EQ, CB	Identifies the Technology used within a Sector to produce output, based on asset-level data.
Year	EQ, CB	2019-2024

Results

The results/metrics in these columns apply to the specific combination of values in the identifier columns (see previous table). These columns are used by both the Company-Level and Portfolio-level results files. *(Note: "Deviation" is only in the portfolio results).*

TECHNOLOGY RESULTS			
Plan.TechProd	Technology production when all production from each company is allocated to the portfolio.	**Scen.TechProd**	Technology production consistent with the specified Scenario, when all production from each company is allocated to the portfolio.
Plan.Alloc.WtTechProd	Technology production allocated to the portfolio based on the either the weight of each company in the portfolio (PortWeight method) or the percent of the company that the portfolio owns (Ownership method). This is equal to **Allocation.Wt * Plan.TechProd** (aggregated up to the portfolio level)	**Scen.Alloc.WtTechProd**	Technology production consistent with the specified Scenario, and allocated to the portfolio based on either the weight of each company in the portfolio (PortWeight method) or the percent of the company that the portfolio owns (Ownership method). This is equal to **Allocation.Wt * Scen.TechProd** (aggregated up to the portfolio level)
Plan.Carsten	Under the PortWeight allocation method, this is the percent of portfolio market value exposed production in the specified Technology. Not calculated under the Ownership allocation method.	**Scen.Carsten**	Under PortWeight allocation method, this is the percent of portfolio market value exposed to production in the specified **Technology** consistent with the specified **Scenario**. Not calculated under the Ownership allocation method.
Plan.EmissionsFactor	Emissions Factor in CO2/production units for each technology. Only provided for cement, steel and aviation sectors.	**Scen.EmissionsFactor**	Emissions Factor consistent with the given **Scenario** in CO2/production units for each Technology. Only provided for cement, steel and aviation sectors.
SECTOR RESULTS			
Plan.SecProd	Sector production, if all production from each company was allocated to the portfolio. This is the sum of **Plan.TechProd** for all technologies within the Sector.	**Scen.SecProd**	Sector production, if all production from each company consistent with the **Scenario** was allocated to the portfolio. This is the sum of **Scen.TechProd** for all technologies within the Sector.
Plan.Alloc.WtSecProd	Sector production allocated to the portfolio based on the weight of each company in the portfolio (PortWeight method) or the percent of the company that the portfolio owns (Ownership method). This is the sum of **Plan.AllocWtTechProd** for all technologies within the Sector.	**Scen.Alloc.WtSecProd**	Sector production consistent with the scenario allocated to the portfolio based on the weight of each company in the portfolio (PortWeight method) or the percent of the company that the portfolio owns (Ownership method). This is the sum of **Scen.AllocWtTechProd** for all technologies within the Sector.

Plan.Sec.Carsten	Under PortWeight allocation method, this is the percent of portfolio market value exposed to the given Sector. Not calculated under the Ownership allocation method. This is the sum of **Plan.Carsten** for all technologies within the sector.	**Scen.Sec.Carsten**	Under PortWeight allocation method, this is the percent of portfolio market value exposed to the given Sector, if production is consistent with the given scenario. Not calculated under the Ownership allocation method. This is the sum of **Scen.Carsten** for all technologies within the sector.
Plan.Sec.EmissionsFactor	Emissions Factor in CO2/production units for the given sector. This is the weighted average (by production) of **Plan.EmissionsFactor** for all technologies within the sector. Only provided for cement, steel and aviation sectors.	**Scen.Sec.EmissionsFactor**	Emissions Factor consistent with the given **Scenario** in CO2/production units for the given sector. This is the weighted average (by production) of **Scen.EmissionsFactor** for all technologies within the sector. Only provided for cement, steel and aviation sectors.