Documentation Contents of the electricity grid export

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Point layer

Name/Wiki/Columns	Meaning
poi_cable_distribution_cabinet.ptl id, ref, gas_insulated, location, name, voltage, operator, substation	A **distribution cabinet** is a box with vertically mounted doors that contains technical equipment and tools for various devices such as traffic lights, telephone lines, water meters, etc. and, unlike a building, cannot be entered. It is usually found along pavements and roads, but can also be used for other distribution cabinets that cannot be entered.
poi_catenary_mast.ptl id, ref, operator, material, line_attachment	A mast that carries the overhead lines for electrified railways or trolleybus routes.
poi_power_compensator.ptl id, ref, name, rating, operator, substation, compensator, voltage, location	A static reactive power compensator is a system that can be used to compensate for reactive power in electrical power transmission networks
poi_power_connection.ptl id, operator, cables	The term power=connection is used for a free-standing electrical connection between two or more overhead lines. Normally these connections are made at supports such as power=tower, power=pole or even at line terminations/substructures. Sometimes, however, they are also found where several overhead lines cross without supports: The tag power=connection is needed for such situations to make it clear that the power lines are connected and current can flow between them.
poi_power_converter.ptl id, ref, name, poles, rating, operator, substation, converter, voltage, location	A converter station is the facility in a high-voltage direct current (HVDC) transmission system where the conversion of three-phase current into direct current (and vice versa) takes place.
poi_power_distribution.ptl id, ref, gas_insulated, location, name, voltage, operator, substation	This property describes the type of substation. With power=substation + substation=transmission, substations for long-distance lines with a voltage of 110 kV or higher are described. In addition to the transformers required for the transformation, the substation also contains switchgear for the overvoltage and undervoltage outgoing lines.
poi_power_generator_biofuel.ptl id, source, class, method, type, plant, name, ref, operator	A power plant fuelled with biofuel. Biofuels can be: vegetable oil fuel, biodiesel, bioethanol, biomethane, cellulosic ethanol, biokerosene, etc.
poi_power_generator_fossilfuel.ptl id, source, class, method, type, plant, name, ref, operator	Power plant that runs on fossil fuels
poi_power_generator_nuclear.ptl id, source, class, method, type, plant, name, ref, operator	A nuclear power plant is a thermal power plant for generating electrical energy from nuclear energy through controlled nuclear fission.
poi_power_generator_others.ptl id, source, class, method, type, plant, name, ref, operator	Other types of power plants
poi_power_generator_renewable.ptl id, source, class, method, type, plant, name, ref, operator	Power plant that runs on renewable energy
poi_power_generator_waste.ptl id, source, class, method, type, plant, name, ref, operator	Waste-to-energy plant
poi_power_generator_water.ptl id, source, class, method, type, plant, name, ref, operator	Hydropower (waves, tides, reservoirs, rivers, osmosis)
poi_power_insulator.ptl id, operator, line_attachment, line_management, line_arrangement, ref, height	This is a current insulator that connects an overhead line to another (earthed) infrastructure.

poi_power_minor_distribution.ptl id, ref, gas_insulated, location, name, voltage, operator, substation	With power=substation + substation=minor_distribution, a substation for the local distribution grid between 3 kV and 30 kV is described. The voltage is reduced to the usual household voltage of 400 / 230 V. In addition to the transformer required for the transformation, the transformer station also contains switchgear for the upstream and downstream lines.
poi_power_pole.ptl id, ref, operator, design, pole, material, structure height, line_management, voltage	An electricity pylon carries power lines for low and medium voltage from 0.4 to 30 kV. In German, it is also referred to as a small overhead line pylon, wooden pylon or low-voltage pylon. The end pylons of a medium-voltage power line either form the position transition into an underground cable or carry a transformer for low voltage (see below in the centre example image).
poi_power_pole_transformer.ptl id, ref, operator, design, pole, material, structure height, line_management, voltage, transformer, primary_voltage, secondary_voltage	This key describes the purpose of a transformer for electric current in connection with a power poleThis key describes a low-voltage power pole in unit with a transformer
poi_power_portal.ptl id, ref, operator, design, type, tower, material, structure height, colour	A guyed gantry is a gantry-like cable support point for laying (bracing) cables in switchgear such as a substation. They have two or more supports. The high-voltage lines run between the supports.
poi_power_substation.ptl id, ref, gas_insulated, location, name, voltage, operator, substation	A substation/switchgear is used to increase or decrease the voltage (voltage=*) in an energy transmission network and is generally connected to the energy transmission network via one or more high-voltage lines (power=line) and may contain one or more transformers (power=transformer). Substations can vary in size, from small buildings the size of garden sheds to larger installations the size of several football pitches.
poi_power_switch.ptl id, operator	High and medium-voltage switches are electrical switches for voltages above 1 kilovolt (kV).
poi_power_tower.ptl id, ref, operator, design, type, tower, material, structure height, colour	Power=tower refers to masts for high-voltage overhead lines.
poi_power_transition.ptl id, ref, gas_insulated, location, name, voltage, operator, substation	A substation that acts as a transition between overhead and underground lines. This is not a real substation, but an enclosed area with cable connections in which underground cables are connected to an overhead line. It does not contain any active components such as switches or transformers.
poi_transformer.ptl id, name, operator, location, voltage, transformer, primary_voltage, secondary_voltage, frequency, phases, rating	A transformer is a unit within a substation power=substation that connects the different voltage levels of the electricity grid.

Line layer

Name/Wiki/Columns	Meaning
railway_electrification_dc.pll	Traction current Direct current
id, ref, name, power, voltage, frequency, wires, cables, circuits, operator	
railway_electrification_ac.pll	Traction current Alternating current
id, ref, name, power, voltage, frequency, wires, cables, circuits, operator	
powerline_dc.pll	High-voltage direct current transmission
id, ref, name, power, voltage, frequency, wires, cables, circuits, operator	
powerline_ac.pll	A high-voltage overhead line for the transmission of electrical energy.
id, ref, name, power, voltage, frequency, wires, cables, circuits, operator	
power_busbar.pll	Busbars in high-voltage switchgear
id, ref, name, power, line, voltage, frequency, cables, operator	A busbar connects one or more circuits via the connected bays. The arrangement comprises either rigid tubular conductors or flexible conductors. Strictly speaking, the term busbar refers to only one conductor, but usually an assembly of three busbars is also referred to as a busbar, which is the definition used here.
power_bay.pll	A feeder connects an input circuit power=portal or transformer power=transformer to a busbar.
id, ref, name, power, line, voltage, frequency, cables, operator	

Polygon layer

Name/Wiki/Columns	Meaning
power_switchgear.pgl	Switchgear, or more precisely their busbars line=busbar, form the 'nodes' of the high, medium and low voltage networks. The incoming and outgoing lines in the line=bay nodes are referred to as branches. A distinction is made between feeders, outgoing feeders and couplings to other network nodes. Normally, the busbars and nodes should be mapped individually, see below. However, sometimes the layout of the switchgear is not known, for example if the switchgear is inside a building or if good aerial photographs are not available. In such cases, the switchgear can be mapped as a surface. Only map switchgear in this way if it is not possible to map more details. If the switchgear is located in a building, the switchgear should not be tagged separately.
id, ref, name, power, location, voltage, frequency, gas_insulated, operator	
power_substation.pgl	A substation/switchgear is used to increase or decrease the voltage (voltage=*) in an energy transmission network and is generally connected to the energy transmission network via one or more high-voltage lines (power=line) and may contain one or more transformers (power=transformer). Substations can vary in size, from small buildings the size of garden sheds to larger installations the size of several football pitches.
cid, id, ref, name, voltage, frequency, substation, gas_insulated, location, operator, area	
power_plant_area.pgl	A power plant is a technical facility for generating electricity or heat. One or more generators or turbines power=generator are used for this purpose. The power station also includes a supply of output energy, e.g. coal stockpile, oil tank or a substation power=substation.
id, ref, name, source, method, output, electricity, operator, area	