



**DATASmart LCI Package**

**What's New in DATASmart 2018?**

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## Details on 2018 Update

The 2018 DATASMART update includes 76 new processes and 47 updated processes. New Chinese specific data has been added, including bamboo board, Portland cement, steel and many different transportation modes, among others. U.S. carbon fiber data has been added. The 2018 update also includes an update to the hydropower and nuclear energy production processes to more accurately account for the water balances. Additionally, nomenclature for over 100 substances have been updated to align with PRé Sustainability's nomenclature, the developers of SimaPro. For more details, see below and find the full process list at *DATASMART 2018 Full Process List.xlsx*.

### Chinese data

75 new Chinese processes were added as well as 40 proxies, which have links to DATASMART processes. These datasets were developed by Ecovane, our Chinese partner in SimaPro's Global Partner Network.

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The following datasets are new:

- Alloy, ferromanganese, at plant/CN
- Alloy, ferrosilicon, at plant/CN
- Aluminum, primary, at plant/CN
- Bamboo board, advanced, at plant/CN
- Bamboo board, average, at plant/CN
- Brick, hollow, average/CN
- Brick, sintered, average/CN
- Brick, solid, average/CN
- Carbon four, at plant / CN
- Cement sand, M5, on site/CN
- Ceramic, sanitation, average, at plant/CN
- Ceramic, tile, average, at plant/CN
- Coke oven gas, at plant/CN
- Coke, metallurgical, at plant / CN
- Concrete, commercial, at plant/CN
- Crusher hammer, at plant/CN
- Electrode, graphite, at plant/CN
- Ethylene, at plant/CN
- Float glass, average, at plant/CN
- Float glass, between 400t/d and 600t/d, average, at plant/CN
- Float glass, less than 400t/d, average, at plant/CN
- Float glass, more than 600t/d, average, at plant/CN
- Gypsum board, at plant/CN
- Iron concentrate, processing, grade > 60%, at plant/CN

- Iron ore, Mining, grade >30%, at mine/CN
- Lime/CN
- Limestone ash, at plant/CN
- Liquefied petroleum gas, LPG, at plant/CN
- Magnesium, primary, Pidgeon process, at plant/CN
- Paper board, packing, advanced, at plant/CN
- Paper board, packing, average, at plant/CN
- Pig iron, blast furnace (BF), at plant/CN
- Polychloride PVC, at plant/CN
- Polyethylene, at plant/CN
- Portland cement, 42.5#, average, at plant/CN
- Portland cement, 42.5#, Beijing region, at plant/CN
- Portland cement, 42.5#, Central China, at plant/CN
- Portland cement, 42.5#, eastern China, at plant/CN
- Portland cement, 42.5#, northeast China, at plant/CN
- Portland cement, 42.5#, northern China, at plant/CN
- Portland cement, 42.5#, northwest China, at plant /CN
- Portland cement, 42.5#, southern China, at plant/CN
- Portland cement, 42.5#, southwest China, at plant/CN
- Propylene, at plant/CN
- Raw coal, at plant/CN
- Refinery gas, at plant/CN
- SBS, styrene butadiene styrene sheet, waterproof, at plant/CN
- Sinter, iron ore, at plant/CN
- Solder bar, Sn-0.7Cu, at plant/CN
- Solder bar, Sn37Pb, at plant/CN
- Solder bar, Sn-3.8Ag-0.7Cu, at plant/CN
- Solder paste, Sn-3.5Ag, at plant/CN
- Solder paste, Sn-3.8Ag-0.7Cu, at plant/CN
- Solder paste, Sn-9Zn, at plant/CN
- Solder paste, Sn37Pb, at plant/CN
- Sponge iron, directly reduced iron (DRI), at plant/CN
- Steel, blooming, at plant/CN
- Steel, crude, blast oxygen furnace (BOF), at plant/CN
- Steel, crude, Electric Arc furnace, at plant/CN
- Steel, waste, recycled, at plant/CN
- Transport, barge, Yangtze river/CN
- Transport, freighter, Yangtze river/CN
- Transport, lorry, 10-17.5t, freeway, average/CN
- Transport, lorry, 10-17.5t, suburb, average/CN
- Transport, lorry, 10-17.5t, urban, advanced/CN
- Transport, lorry, 10-17.5t, urban, average/CN

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- Transport, lorry, 2-5t, freeway, average/CN
- Transport, lorry, 2-5t, suburb, advanced/CN
- Transport, lorry, 2-5t, suburb, average/CN
- Transport, lorry, 2-5t, urban, advanced /CN
- Transport, lorry, 2-5t, urban, average/CN
- Transport, train, average /CN
- Transport, train, diesel locomotive, average/CN
- Transport, train, electric locomotive, average/CN
- Wooden board, at plant/CN

### Carbon fiber

The process Carbon fiber/US was added based on the following paper:

Source: Schmidt J H and Watson J (2013), Eco Island Ferry Comparative LCA of island ferry with carbon fibre composite based and steel based structures. 2.0 LCA consultants, Aalborg, Denmark.

### Updated hydropower and nuclear energy production processes

The following hydropower processes were updated. Water from turbine use is not consumed, so equal emissions were added to more accurately account for this water balance. It is assumed that 0.01% of this is emitted to air and 99.99% is emitted to water.

In addition to correcting the water balance, the amount of water, turbine use, unspecified was corrected from 0.81 m3 to the correct amount of 8.1 m3 in the bolded processes.

- **Electricity, hydropower, at pumped storage power plant/AT US-EI U**
- Electricity, hydropower, at pumped storage power plant/BA US-EI U
- Electricity, hydropower, at pumped storage power plant/BE US-EI U
- Electricity, hydropower, at pumped storage power plant/CS US-EI U
- Electricity, hydropower, at pumped storage power plant/CZ US-EI U
- Electricity, hydropower, at pumped storage power plant/DK US-EI U
- Electricity, hydropower, at pumped storage power plant/ES US-EI U
- Electricity, hydropower, at pumped storage power plant/FI US-EI U
- **Electricity, hydropower, at pumped storage power plant/FR US-EI U**
- Electricity, hydropower, at pumped storage power plant/GB US-EI U
- Electricity, hydropower, at pumped storage power plant/GR US-EI U
- Electricity, hydropower, at pumped storage power plant/HR US-EI U
- Electricity, hydropower, at pumped storage power plant/HU US-EI U
- Electricity, hydropower, at pumped storage power plant/IE US-EI U
- **Electricity, hydropower, at pumped storage power plant/IT US-EI U**
- Electricity, hydropower, at pumped storage power plant/JP US-EI U
- Electricity, hydropower, at pumped storage power plant/LU US-EI U

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- Electricity, hydropower, at pumped storage power plant/MK US-EI U
- Electricity, hydropower, at pumped storage power plant/NL US-EI U
- Electricity, hydropower, at pumped storage power plant/NO US-EI U
- Electricity, hydropower, at pumped storage power plant/PL US-EI U
- Electricity, hydropower, at pumped storage power plant/PT US-EI U
- Electricity, hydropower, at pumped storage power plant/SE US-EI U
- Electricity, hydropower, at pumped storage power plant/SI US-EI U
- Electricity, hydropower, at pumped storage power plant/SK US-EI U
- **Electricity, hydropower, at pumped storage power plant/US US-EI U**
- **Electricity, hydropower, at pumped storage power plant/US\* US-EI U**
- Electricity, hydropower, at pumped storage power plant/US\*\* US-EI U
- Electricity, hydropower, at reservoir power plant, alpine region/US- US-EI U
- Electricity, hydropower, at reservoir power plant, non alpine regions/US- US-EI U
- Electricity, hydropower, at reservoir power plant/BR US-EI U
- Electricity, hydropower, at reservoir power plant/FI US-EI U
- **Electricity, hydropower, at reservoir power plant/US\* US-EI U**
- Electricity, hydropower, at run-of-river power plant/US- US-EI U
- Electricity, hydropower, at run-of-river power plant/US\* US-EI U

The following nuclear electricity processes were updated. Water used is not consumed by the process but is emitted back into water. To account for the water balance, equal emission were added.

- Electricity, nuclear, at power plant boiling water reactor/UCTE US-EI U
- Electricity, nuclear, at power plant boiling water reactor/US US-EI U
- Electricity, nuclear, at power plant boiling water reactor/US\* US-EI U
- Electricity, nuclear, at power plant boiling water reactor/US\*\* US-EI U
- Electricity, nuclear, at power plant pressure water reactor/CN US-EI U
- Electricity, nuclear, at power plant pressure water reactor/FR US-EI U
- Electricity, nuclear, at power plant pressure water reactor/UCTE US-EI U
- Electricity, nuclear, at power plant pressure water reactor/US US-EI U
- Electricity, nuclear, at power plant pressure water reactor/US\* US-EI U
- Electricity, nuclear, at power plant pressure water reactor/US\*\* US-EI U
- Electricity, nuclear, at pressure water reactor, centrifugal enrichment/US\* US-EI U

#### Corrected land use impacts in landfill process

The process Municipal solid waste landfill, facility/kg/US/l was updated to remove erroneous landfill impacts.

### **Updated substance names**

Over 100 substance names were updated to reflect updates in PRÉ's nomenclature. PRÉ's latest append file should be applied to remove the extraneous substances from the substance list. More details on the append procedure can be found in *LTS DATASMART LCI Package\_Update Installation Manual\_2018.pdf*.

### **LTS Method: Water Consumption**

The LTS Method was updated with the Water Consumption category from ReCiPe 2016 Midpoint (H) 1.02.