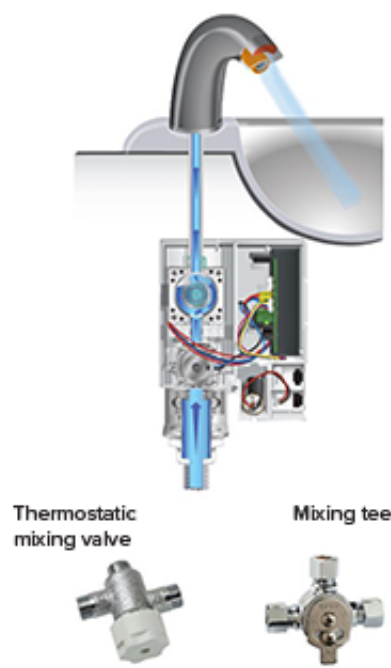


TOTO®

Standard EcoPower® Faucet with Mixing Valve

TEL105-D10ET - 10 sec-cycle on-demand (0.09gpc) w/ thermostatic valve
 TEL105-C20ET - 20 sec-cycle continuous (0.19gpc) w/ thermostatic valve
 TEL105-D10EM - 10 sec-cycle on-demand (0.09gpc) w/ mixing tee
 TEL105-C20EM - 20 sec-cycle continuous (0.19gpc) w/ mixing tee

Ideal for high-traffic commercial spaces, the TOTO Standard EcoPower sensor faucets provide an elegant water conservation solution for LEED option. Powered by water, EcoPower's turbine creates an electrical current that is stored in rechargeable cells to power the Smart Sensor System of the faucet. The mixing valve is available in a thermostatic or mixing tee option.



Thermostatic mixing valve Mixing tee

Performance Dashboard

Features & functionality

- Hydropower self generating system
- No minimum daily usage requirement
- Micro-sensor positioned underneath the spout head for accurate hand detection ensuring smooth and consistent water distribution
- Durable chrome plated spout body
- Single-hole mount
- Kit includes spout body, controller box, and mounting hardware – less supply lines
- Equipped with 0.5gpm flow control
- Mixing valve options available

Visit TOTO for more product specifications for:
[TEL105 Series](#)

Environmental performance

- Improved by:**
- Powered by the sheer force of running water
 - See [How we make it greener](#) for water savings information
 - Metal parts and electric components are recyclable at the end of service
- Certifications & rating systems:**
- CALGreen® compliant
 - Declare™ Label
 - Contributes to earning credits in LEED®

[See LCA results & interpretation](#)

[See material health results & interpretation](#)

CSI MasterFormat™ #22 42 39



ECO-POWER® SELF-SUSTAINING FAUCETS

- Powered by water to create an electrical current that is stored in rechargeable cells to power the Smart Sensor System of the faucet or valve.
- Reduces electricity use, lower maintenance costs and hands-free, automatic-shut-off functionality.



SM Transparency Report™ + Material Health Overview™

| VERIFICATION | LCA |
|--------------------|-----|
| 3rd party verified | |
| Verified | |
| Self-declared | |

Validity: 09/02/16 – 09/02/19
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LCA results & interpretation

Standard EcoPower® Faucet with Mixing Valve

Life cycle assessment

Material health

Scope and summary

Cradle to grave Cradle to gate with options Cradle to gate

Functional unit

One faucet in an average U.S. commercial environment for 3 years. The period of 3 years is modeled as the period of application based on the average technical lifespan for commercial applications. The economical lifespan of commercial applications can be longer or shorter due to aesthetic replacements or more intense use. The implication is that the LCA model assumes that the application ends at year 3 and that the materials will be treated in an end-of-life scenario.

Reference service life: 3 years

Data reporting period: 2015

Default use phase scenario

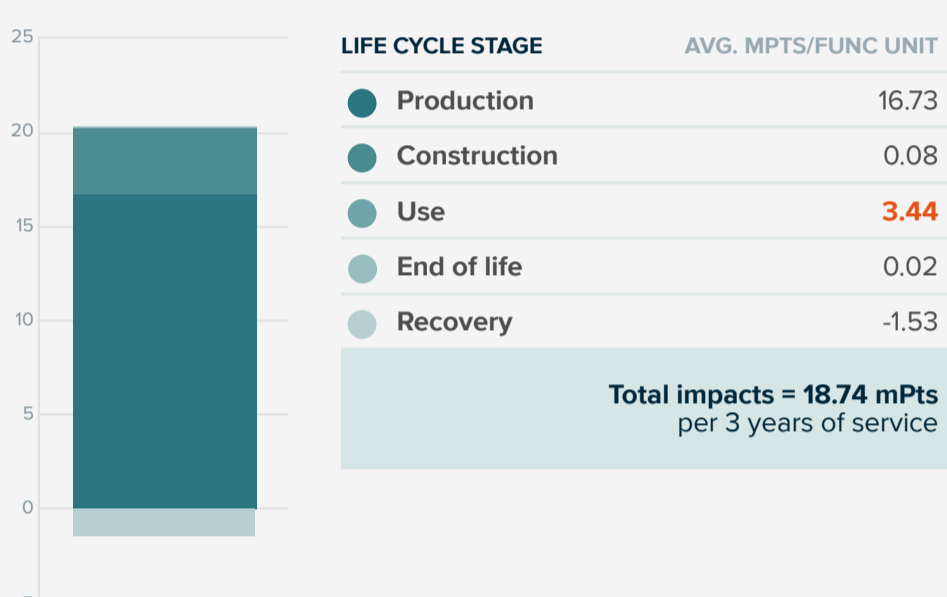
TEL105-D10ET and TEL105-D10EM: 3 years of service in an average U.S. commercial environment with 0.09 gallon/use and 133 uses/day resulting in 13,107.15 gallons of water.

TEL105-C20ET and TEL105-C20EM: 3 years of service in an average U.S. commercial environment with 0.19 gallon/use and 133 uses/day resulting in 27,670.65 gallons of water.

Material composition greater than 1% by weight

| PART | MATERIAL | AVG. % WT. |
|-----------------------------|-------------------------|------------|
| Spout body | Brass (C36000) | 13.0% |
| Packaging | Cardboard | 12.8% |
| Controller box cover | ABS | 10.4% |
| Mixing valve body | Brass | 7.4% |
| Spout mounting bracket | Stainless steel, SUS303 | 6.4% |
| Spout mounting nut | Brass | 5.1% |
| Spout mounting rod | Stainless steel, SUS304 | 4.8% |
| Hose | PVC | 4.8% |
| Controller adapter | Brass, Pb free | 4.2% |
| Controller mounting bracket | Stainless steel, SUS303 | 2.2% |
| Generator coil | Copper | 1.8% |
| Connector | Polypropylene | 1.7% |
| Nozzle base | Polyacetal | 1.6% |
| Spout aerator gasket | NBR | 1.6% |
| Spout nozzle key | Brass | 1.6% |
| Hose clip | Steel | 1.6% |
| Manuals | Paper | 1.2% |
| Board | Electronics | 1.1% |
| Generator coil cover | Brass | 1.1% |
| | Other | 15.5% |

Total impacts by life cycle stages [mPts/func unit]



What's causing the greatest impacts

All life cycle stages

The production stage is dominating the results for most impact categories. The production stage has the most significant contributions to eutrophication (mostly from emissions from copper mining and the printed wiring board), non-carcinogens (emissions from the production of copper and zinc) and ecotoxicity (mostly from disposal of steel slags and bottom ashes from coal fired power plants, and barium emissions to water from the extraction process of natural gas). The use phase is relevant to most impact categories, especially fossil fuel depletion, ozone depletion, carcinogenics, and global warming. The use stage impact is mostly due to the embedded energy arising from acquisition, treatment and distribution of the water used during the use of the product.

The recovery stage includes recycling processes and benefits by preventing the need to produce primary materials. Recycling is a relevant factor for some of the impact categories, offsetting a portion of the impacts caused by production. Additionally, the delivery of the product to the construction/installation site, the construction/installation processes, the processes for dismantling the product and final waste treatment during the end of life stage do not have a significant impact.

Production stage

Brass parts and the printed wiring board, along with the brass turning process have significant contributions to the impact categories. Stainless steel materials and the turning steel process are relevant to the carcinogenics category. The electroplating process along with injection molding are major contributors to the ozone depletion category. Additionally, polishing has a somewhat significant processing contribution to the results. Transport via oceanic freighter appears as a relevant contributor to the fossil fuel depletion and smog categories.

Sensitivity analysis

Deviations in the LCA results are a result of the difference in the assembly parts of the two faucets as well as the use phase. TEL105-D10ET and TEL105-C20ET contain more mass than TEL105-D10EM and TEL105-C20EM. The continuous cycle uses more water per cycle than the on-demand version of the two faucets.

Multi-product weighted average

Results represent the weighted average using production volumes for the products covered. Variations of specific products for differences of 10-20% against the average are indicated in purple; differences greater than 20% are indicated in red. A difference greater than 10% is considered significant.

TOTO PeoplePlanetWater. programs improving environmental performance

- TOTO's EcoPower® products are powered by the force of running water.
- The electronic and mechanical components are programmed and designed to allow water flow and accurate flush volume only when needed.
- Water consumption is reduced in the use phase due to superior flushing performance.

[See how we make it greener](#)

LCA results

| LIFE CYCLE STAGE | PRODUCTION | CONSTRUCTION | USE | END OF LIFE | RECOVERY |
|--|--------------------------|-------------------------------------|----------------------------------|-------------------------------------|---|
| Information modules: Included Excluded | A1 Raw Materials | A4 Transportation/Delivery | B1 Use | C1 Deconstruction/Demolition | D Reuse, recovery and/or recycling |
| | A2 Transportation | A5 Construction/Installation | B2 Maintenance | C2 Transportation | |
| | A3 Manufacturing | | B3 Repair | C3 Waste processing | |
| | | | B4 Replacement | C4 Disposal | |
| | | | B5 Refurbishment | | |
| | | | B6 Operational energy use | | |
| | | | B7 Operational water use | | |
| | | | | | |

SM 2013 Learn about SM Single Score results

| Impacts per 3 years of service | 16.73 mPts | 0.08 mPts | 3.44 mPts | 0.02 mPts | -1.53 mPts |
|--|--|---|--|---|--|
| Materials or processes contributing >20% to total impacts in each life cycle stage | Brass parts together with the printed wiring board in addition to manufacturing processes such as brass turning. | Transportation of the product to the installation site or consumer and disposal of packaging. | Volume of water use during the operation of the product and the embedded energy use in the water used. | Transport to waste processing, waste processing and disposal of material flows transported to a landfill. | Plastic and metal components' recycling processes. |

TRACI v2.1 results per one faucet

A variation of 10 to 20% | A variation greater than 20%

| LIFE CYCLE STAGE | PRODUCTION | CONSTRUCTION | USE | END OF LIFE | RECOVERY | |
|------------------------------|-------------------------|--------------|----------|-------------|----------|-----------|
| Ecological damage | | | | | | |
| Impact Category | Unit | | | | | |
| Acidification | kg SO ₂ eq | 9.00E-01 | 8.73E-03 | 2.48E-01 | 1.42E-03 | -2.40E-02 |
| Ecotoxicity | CTU _e | 2.50E+02 | 1.90E+00 | 1.64E+01 | 2.89E-01 | -1.40E+01 |
| Eutrophication | kg N eq | 5.05E-01 | 8.14E-04 | 2.73E-02 | 2.61E-04 | -7.08E-03 |
| Global warming | kg CO ₂ eq | 6.55E+01 | 9.35E-01 | 4.76E+01 | 2.42E-01 | -2.22E+00 |
| Ozone depletion | kg CFC-11 eq | 4.58E-06 | 1.99E-09 | 2.16E-06 | 2.23E-08 | -1.20E-07 |
| Human health damage | | | | | | |
| Impact Category | Unit | | | | | |
| Carcinogenics | CTU _h | 2.81E-06 | 1.07E-08 | 9.80E-07 | 3.29E-09 | -4.61E-07 |
| Non-carcinogenics | CTU _h | 9.66E-05 | 1.00E-07 | 4.04E-06 | 1.30E-07 | -7.79E-06 |
| Respiratory effects | kg PM _{2.5} eq | 1.09E-01 | 1.55E-04 | 1.67E-02 | 1.53E-04 | -4.23E-03 |
| Smog | kg O ₃ eq | 6.46E+00 | 2.80E-01 | 2.27E+00 | 2.89E-02 | -2.55E-01 |
| Resources depletion | | | | | | |
| Impact Category | Unit | | | | | |
| Fossil fuel depletion | MJ surplus | 4.25E+01 | 1.37E+00 | 2.87E+01 | 2.80E-01 | -2.29E+00 |

References

LCA Background Report

TOTO Sanitary Fittings Products LCA Background Report (public version), July 2016

SM Transparency Report Framework

Part A: LCA Calculation Rules and Background Report Requirements v2016 (compliant with ISO14040-44 and ISO14025)

Part B: Product Group Definition – Commercial Faucets

SM Transparency Reports / EPDs enable purchasers and users to present the environmental performance of products on a life cycle basis. They are designed to present information transparently to make the limitations of comparability more understandable. SM Transparency Reports / EPDs of products that comply with the same PCR and include the same life cycle stages, but are made by different manufacturers, may not sufficiently align to support direct comparisons. They therefore, cannot be used as comparative assertions unless the conditions defined in ISO 14025 Section 6.7.2. "Requirements for Comparability" are satisfied.

Rating systems

The intent is to reward project teams for selecting products from manufacturers who have verified improved life-cycle environmental performance.

LEED BD+C: New Construction | v4 - LEED v4

Building product disclosure and optimization

Environmental product declarations

- Industry-wide (generic) EPD 1/2 product
- Product-specific Type III EPD 1 product

Green Globes for New Construction and Sustainable Interiors Materials and resources

- NC 3.5.1.2 Path B: Prescriptive Path for Building Core and Shell
- C 3.5.2.2 and SI 4.1.2 Path B: Prescriptive Path for Interior Fit-outs

SM Transparency Report™ + Material Health Overview™

| | |
|---------------------|---|
| VERIFICATION | LCA |
| 3rd party verified | <input checked="" type="checkbox"/> NSF |
| | Transparency Report |
| Verified | <input checked="" type="checkbox"/> NSF |
| | Material evaluation |
| Self-declared | <input checked="" type="checkbox"/> |

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LCA & material health results & interpretation

Standard EcoPower® Faucet with Mixing Valve

Life cycle assessment

Material health

Evaluation program: Declare

Declare labels are issued to products disclosing ingredient inventory, sourcing and end of life options. Declare labels are based on the Manufacturers Guide to Declare, administered by the International Living Future Institute.

How it works

Material ingredients are inventoried and screened against the [Living Building Challenge](#) (LBC) Red List which represents the 'worst in class' materials, chemicals, and elements known to pose serious risks to human health and the greater ecosystem.

The Declare product database and label are used to select products that meet the Living Building Challenge's stringent materials requirements, streamlining the materials specification and certification process.

Assessment scope and results

Content inventory: All ingredients identified by name and CAS #
Inventory threshold: 100 ppm

Declaration status:

The Declare product database and label are used to select products that meet the LBC's stringent materials requirements, streamlining the materials specification and certification process.

- LBC Red List Free [?]
- LBC Compliant [?]
- Declared [?]

● **EcoPower® Standard Faucet with Thermostatic Mixing Valve**

● **EcoPower® Standard Faucet with Mixing Tee**



[Click on each label to see the full declaration](#)

How this rating was achieved

Declare level

'Declared' is awarded to products when all the ingredients name and CAS numbers have been disclosed. 100% disclosure qualifies the product for the LEED v4 building product disclosure and optimization - material ingredients credit option 1.

What's in the product and why

The spout body and mixing valve are plated with chrome (Hexavalent Chromium VI). Chromium material is used as a decorative finish in applications where corrosion-resistance and durability are required. During the chrome plating process health hazards have been identified and are managed. Process controls are used to protect the environment and the production workers wear personal protection equipment. After the plating process the chrome surface is inert and does not pose any health risks. The parts in their final form do not represent any hazards to the user.

The TOTO facility in which the faucet is manufactured is ISO 14001 certified. This means that the facility has implemented an environmental management system as part of TOTO's commitment to the health of the environment.

Where it goes at the end of its life

TOTO encourages consumers to recycle their used faucets. Contact your local municipality for recycling programs.

How we're making it healthier

The EcoPower technology enables the faucet to operate off the energy grid and requires no routine battery replacement. This technology helps to reduce pollution and hazardous waste, thereby mitigating human health impacts.

[See how we make it greener](#)

References

Declare

TOTO USA, Declare label for Standard EcoPower® Faucet TEL105 with Thermostatic Mixing
TOTO USA, Declare label for Standard EcoPower® Faucet TEL105 with Mixing Tee

Manufacturer's Guide to Declare

A comprehensive guide providing information about the program, the assessment methodology, how to submit material data to obtain a Declare label and how they are used to meet the Health & Happiness and Materials Petals of the Living Building Challenge.

Rating systems

LEED BD+C: New Construction | v4 - LEED v4
Building product disclosure and optimization

Material ingredients

Credit value options 1 product each

1. Reporting 2. Optimization 3. Supply chain optimization

Living Building Challenge Materials petals imperatives

10. Red List Free 12. Responsible Industry 13. Living Economy Sourcing

WELL Building Standard® Air and Mind Features

Air 4. VOC reduction **Air** 26. Enhanced Material Safety

Mind 97. Material Transparency **Mind** 98. Organizational Transparency



SM Transparency Report™ + Material Health Overview™

| | |
|---------------------|---|
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| Transparency Report | |
| Verified | <input checked="" type="checkbox"/> NSF |
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How we make it greener

Standard EcoPower® Faucet with Mixing Valve

Collapse all

See LCA results by life cycle stage

CONSTRUCTION

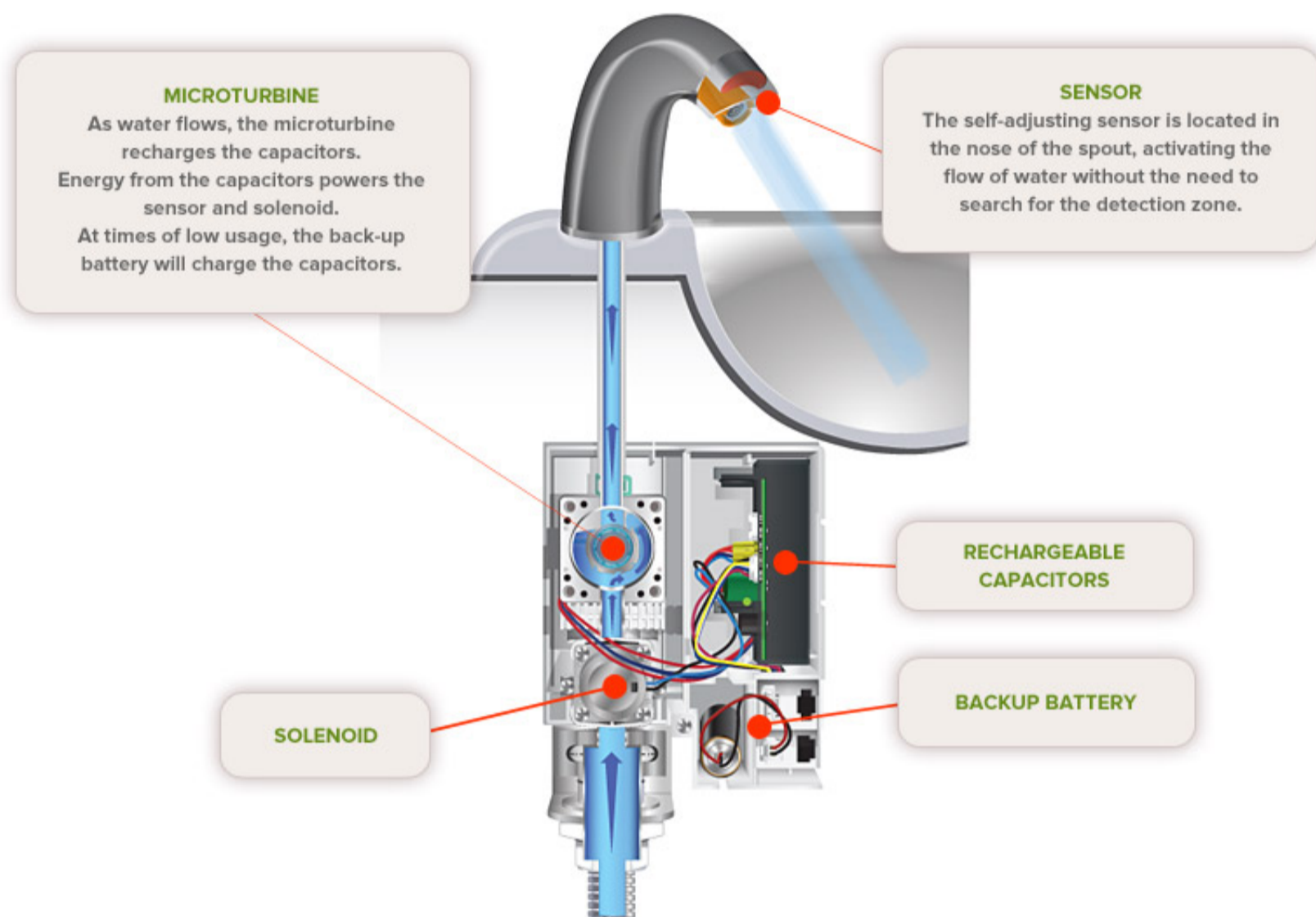


TOTO participates in the UPS Carbon Neutral program. TOTO is a certified SmartWay partner.

USE



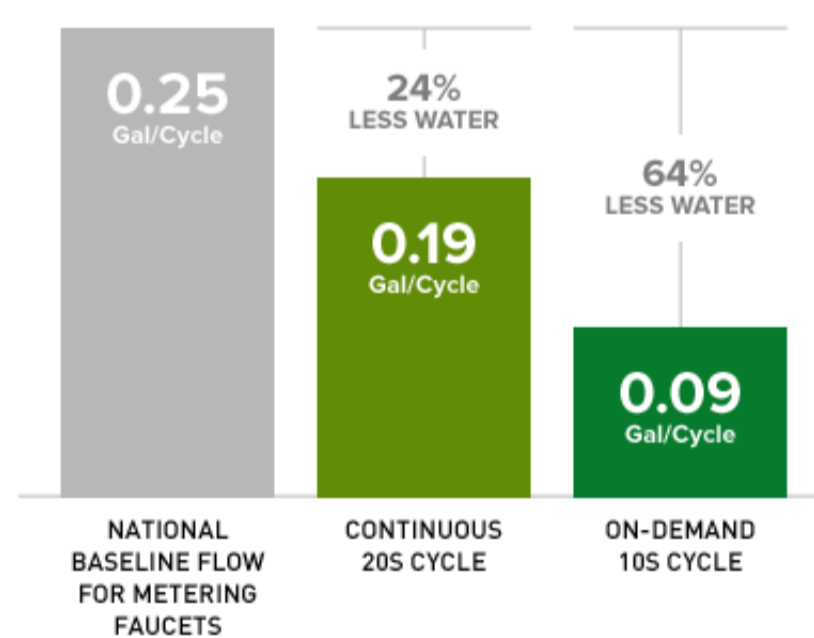
TOTO's Standard EcoPower® Faucets feature the highly regarded EcoPower technology. Engineered to reduce environmental impacts, TOTO's EcoPower products offer water and energy savings without sacrificing performance. Below are some of the features of TOTO's EcoPower technology.



SENSOR: Located in the nose of the faucet, the EcoPower sensor ensures that water flows only when needed. The detection zone is right where you need it, eliminating the need to search with your hands to activate the flow of water. For on-demand versions, the sensor will stop the flow of water upon removal of the hands from the sensing zone, preventing wasted water.

MICROTURBINE: TOTO's EcoPower technology enables the product to operate 100% off grid. As water flows, the hydro powered microturbine recharges the capacitors for the sensor and solenoid. Less reliance on the back-up battery results in much less battery waste.

SOLENOID: The solenoid mechanism, a water-saving technology, maintains consistent flow rate under a range of supply pressures.



Using the same proven engineering as our legendary EcoPower TEL3/5G series, the low flow TEL105 series reinforces TOTO's performance reputation while offering additional water savings.



Metal and electronic parts can be recycled at the end of life.



SM Transparency Report™ + Material Health Overview™

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Transparency Report

Material evaluation

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