

Environmental Benefits

The following metrics estimate the net environmental benefits of switching to paperless bill, statement, and payment transactions. These metrics represent the impact at the individual household level as well as the impacts that would be achieved if 2, 5, 10, and 20 percent of the U S population switched to paperless transactions.

These environmental benefits include both the resources that are saved by switching to electronic bills, statements, and payments, as well as the additional energy consumption associated with processing electronic bills, statements, and payments. These environmental benefits are intended to provide personal impact statements and to support the consumer messaging platform that individual change can make a difference.

Individual Household

The average American household receives approximately 19 bills and statements and makes approximately 7 payments in paper form per month.

By switching to electronic bills, statements, and payments the average American household would:

- Save **6.6 pounds** of paper¹
- Save **0.079 trees**²
- Prevent producing **113 pounds** of greenhouse gases³
 - Saving this amount of greenhouse gas is the equivalent of:⁴

¹ According to 2006 US Census data, there were 114,384,000 households in the US. The 2006 US Postal Service Household Diary Study calculated that households receive 25,965,000,000 bills and statements in 2006, and mailed 9,001,000,000 payments in that same year. By dividing the number of bills/statements and the number of payments by the number of households, PPC calculated that the average household receives approximately 19 bills and uses 7 checks to make payments each month. The exact numbers used in the calculator for average bills/statements and payments, respectively, are 18.916544 and 6.557589. The total weight of paper is based on 0.028 pound per bill and 0.003075 pound per check.

² Paper consumption facts assume standard copy paper with 0% recycled content. (*Environmental Defense Paper Calculator*, available at <http://www.papercalculator.org>).

³ Greenhouse gas emissions provided as pounds of CO₂ equivalents. The total greenhouse gas release includes CO₂ produced through the production of paper the transport of bills, statements, and checks, and the energy use involved in conducting online financial transactions. CO₂ emissions associated with paper production were calculated using the Environmental Defense Paper Calculator (*Environmental Defense Paper Calculator*, available at <http://www.papercalculator.org>). CO₂ emissions associated with gasoline consumption were calculated using the World Resources Institute Mobile Combustion calculation tool (<http://www.ghgprotocol.org>).

⁴ Greenhouse gas emissions equivalency estimates were made using the Environmental Protection Agency (EPA) Greenhouse Gas Equivalencies Calculator (<http://www.epa.gov/cleanenergy/energy-resources/calculator.html>).



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- The emissions avoided by not driving **115 miles**
- The emissions avoided by not consuming **5.8 gallons** of gasoline
- Planting **1.3 tree seedlings** and allowing them to grow for 10 years
- Preserving **20 square feet** of forest from deforestation
- Avoid releasing **63 gallons** of wastewater into the environment
- Avoid using **2.1 gallons of gasoline** to mail bills, statements, and payments

2 Percent of Households (2,287,680 US households)

If 2 percent of American households switch to electronic bills, statements, and payments the collective impact would:

- Save **15,093,962 pounds** of paper
- Save **181,128 trees**
- Prevent producing **259,572,674 pounds (129,786 tons)** of greenhouse gases
 - Saving this amount of greenhouse gas is the equivalent of:
 - The emissions avoided by not driving **261,949,735 miles**
 - Taking **19,208 cars off the road**
 - The emissions avoided by not consuming **13.2 million gallons** of gasoline
 - Planting **3 million tree seedlings** and allowing them to grow for 10 years
 - Preserving **1,117 acres** of forest from deforestation
- Avoid creating **143,960,137 gallons** of wastewater
- Avoid creating enough wastewater to fill **218 Olympic-size swimming pools**
- Avoid filling **859,733 household garbage bags** with waste
- Avoid filling **614 garbage trucks** with waste
- Avoid using **4,717,058 gallons of gasoline** to mail bills, statements, and payments

5 Percent of Households (5,719,200 US households)

If 5 percent of American households switch to electronic bills, statements, and payments the collective impact would:

- Save **37,734,904 pounds** of paper
- Save **452,819 trees**
- Prevent producing **648,931,686 pounds (324,466 tons)** of greenhouse gases
 - Saving this amount of greenhouse gas is the equivalent of:
 - The emissions avoided by not driving **654,874,338 miles**
 - Taking **56,281 cars off the road**
 - The emissions avoided by not consuming **33.1 million gallons** of gasoline

- Planting **7.6 million tree seedlings** and allowing them to grow for 10 years
- Preserving **2,793 acres** of forest from deforestation
- Avoid creating **359,900,343 gallons** of wastewater
- Avoid creating enough wastewater to fill **545 Olympic-size swimming pools**
- Avoid filling **2,149,332 household garbage bags** with waste
- Avoid filling **1,535 garbage trucks** with waste
- Avoid using **11,792,646 gallons of gasoline** to mail bills, statements, and payments

10 Percent of Households (11,438,400 US households)

If 10 percent of American households switch to electronic bills, statements, and payments the collective impact would:

- Save **75,469,808 pounds** of paper
- Save **905,638 trees**
- Prevent producing **1,297,863,372 pounds (648,932 tons)** of greenhouse gases
 - Saving this amount of greenhouse gas is the equivalent of:
 - The emissions avoided by not driving **1,309,748,676 miles**
 - Taking **111,753 cars off the road**
 - The emissions avoided by not consuming **66.2 million gallons** of gasoline
 - Planting **15.1 million tree seedlings** and allowing them to grow for 10 years
 - Preserving **5,283 acres** of forest from deforestation
- Avoid creating **719,800,685 gallons** of wastewater
- Avoid creating enough wastewater to fill **1,090 Olympic-size swimming pools**
- Avoid filling **4,298,664 household garbage bags** with waste
- Avoid filling **3,071 garbage trucks** with waste
- Avoid using **23,585,291 gallons of gasoline** to mail bills, statements, and payments

20 Percent of Households (22,876,800 US households)

If 20 percent of American households switch to electronic bills, statements, and payments the collective impact would:

- Save **150,939,615 pounds** of paper
- Save **1,811,275 trees**
- Prevent producing **2,595,726,744 pounds (1,297,863 tons)** of greenhouse gases
 - Saving this amount of greenhouse gas is the equivalent of:
 - The emissions avoided by not driving **2,619,497,352 miles**
 - Taking **223,507 cars off the road**
 - The emissions avoided by not consuming **132 million gallons** of gasoline



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- Planting **30 million tree seedlings** and allowing them to grow for 10 years
- Preserving **10,566 acres** of forest from deforestation
- Avoid creating **1,439,601,370 gallons** of wastewater
- Avoid creating enough wastewater to fill **2,180 Olympic-size swimming pools**
- Avoid filling **8,597,328 household garbage bags** with waste
- Avoid filling **6,141 garbage trucks** with waste
- Avoid using **47,170,582 gallons of gasoline** to mail bills, statements, and payments