



Smart Thermostats: One way to optimize energy efficiency

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In response to rising energy costs and growing environmental concerns, our household undertook a targeted initiative to improve energy efficiency—starting with the installation of smart thermostats. This report outlines our journey, choices, and the measurable impact on both our energy consumption and environmental footprint.

Heating and cooling account for nearly **half of residential energy use** in the United States. Traditional thermostats often lead to energy waste due to manual settings and inconsistent usage patterns.

In Sammamish, Washington, where seasonal temperature swings are significant, optimizing indoor climate control is both a financial and environmental priority for suburban homeowners like us.

Our Smart Thermostat Implementation

1

ENERGY STAR Installation

We installed Honeywell ENERGY STAR-certified smart thermostats in key zones of our home, ensuring complete coverage and optimized performance.

The installation included full app integration for remote control and scheduling capabilities, allowing us to manage our home's climate from anywhere.

2

Custom Schedule Creation

Thermostats were programmed to reduce heating/cooling during school and work hours when the house is typically empty.

Nighttime temperatures were carefully adjusted to balance comfort with energy efficiency, optimizing for better sleep while reducing waste.

3

Advanced Features Activation

We enabled geofencing technology that automatically detects when household members are away and adjusts temperature settings accordingly.

This smart feature eliminates energy waste during unexpected absences, something traditional programmable thermostats cannot achieve.

Real-Time Monitoring Drives Behavior Change

Data-Informed Decisions

We used real-time energy consumption data to identify peak usage periods throughout the day and week.

This visibility allowed us to make targeted adjustments to our heating and cooling patterns, focusing our efforts where they would have the greatest impact.

When electricity generation shifts away from clean sources, we now proactively minimize consumption by fine-tuning our heating and cooling settings.

New Household Habits

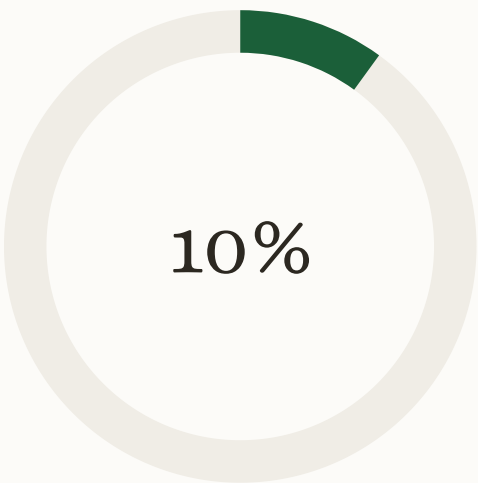
- Closing blinds during hot afternoons to reduce cooling needs
- Layering clothing in winter instead of raising the temperature
- Using tower fans to improve air circulation and comfort
- Monitoring weekly energy reports and discussing as a family
- Shifting energy-intensive activities to off-peak hours

Measurable Energy Impact



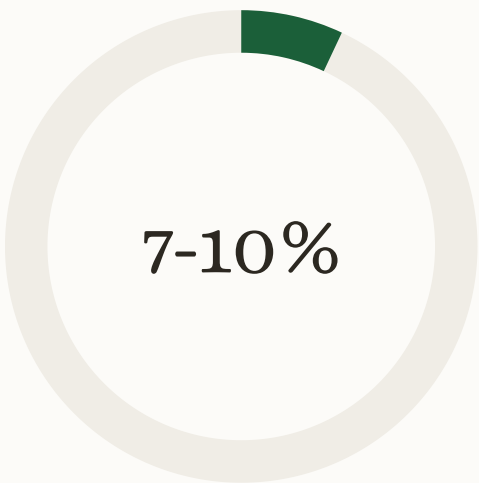
By shifting electricity consumption to times when the power grid uses cleaner, renewable sources, our smart thermostats help reduce demand on fossil fuel-fired power plants.

This picture shows that our household uses on average 90% low carbon electricity since making the switch to a smart thermostat.



Heating/Cooling Energy Reduction

Direct decrease in energy consumed for temperature control compared to previous year



Monthly Utility Bill Savings

Consistent reduction in overall energy costs



Monthly CO₂ Emissions Avoided

Combined impact of smart thermostat savings with clean energy sourcing

These improvements represent significant progress toward both household financial goals and personal environmental commitments, demonstrating that relatively simple technological upgrades can deliver meaningful returns.



Environmental Impact: Beyond Energy Savings



Reduced Carbon Footprint

Our electricity use results in 75–90% fewer CO₂ emissions per kilowatt-hour compared to homes powered primarily by fossil fuels.



Improved Air Quality

Lower emissions contribute to improved regional air quality, reducing respiratory risks and environmental degradation for our community.



Climate Goal Alignment

Our household's energy profile aligns with Washington State's climate goals and supports the broader transition to a decarbonized grid.

Lessons for Homeowners

Accessible Entry Point



Smart thermostats represent a cost-effective, high-impact entry point for household sustainability without requiring major renovations or lifestyle changes.

Technology + Behavior



The combination of smart technology and behavior change creates more significant results than either approach alone—data empowers smarter daily choices.

Community Scale



When adopted across neighborhoods, these small individual adjustments create meaningful environmental impact at the community level, amplifying your household's contribution.

Path Forward: Smart Homes, Smarter Planet

Start Your Own Energy Journey

Our household's shift toward energy efficiency began with a simple decision: to install smart thermostats. The results have been tangible—lower bills, reduced emissions, and a stronger commitment to sustainable living.

We encourage you to consider how similar technology could benefit your home. The investment is modest, the installation straightforward, and the potential impact significant—both for your family budget and our shared environment.

Small changes, multiplied across thousands of suburban homes like ours, can drive meaningful progress toward a more sustainable future for our communities.

