

Appliance (Specific Name)	Primary Metric Value	Metric Unit & Period	Secondary Metric Value	Secondary Metric Unit	Definition/ Context of "Typical"	Key Distinctions/ Clarifications	Source(s)
Refrigerator (Top-Freezer ~18 cu.ft.)	~360	kWh/year	~150	W (while cooling)	ENERGY STAR top- freezer fridge, running ~8 hours of compressor "on" time per day (cycles on/off) ¹ .	Energy use varies by size, age, defrost type, ambient temperature, and features (e.g. through- door ice) – newer efficient models use less. An ENERGY STAR top-freezer (~18 cu.ft.) uses ~360 kWh/yr vs. ~560–630 kWh/yr for larger bottom- freezer or side-by-side units ² . Older or larger units (pre-1990s or >25 cu.ft.) can draw 2×+ more energy per year.	ENERGY STAR (EPA) ¹

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Freezer (Standalone Chest, ~15 cu.ft.)	~300	kWh/year	~30–40	W (avg. draw)	Typical modern manual-defrost chest freezer operating ~20–30% of the time (compressor cycles) ⁴ . Assumes moderate ambient (indoor) temperature.	Chest freezers tend to use less energy than uprights (manual vs. auto-defrost). Energy use ranges ~200–400 kWh/yr for newer compact chest models vs. older upright freezers which can exceed 700–800 kWh/yr ⁵ ⁶ .	<i>NRCan 201 Report</i> ⁵
Clothes Washer (Front-Load)	~0.25	kWh per cycle	~500	W (during use)	Front-loading washing machine using cold or warm water (no internal heater), ~30–45 min average cycle ⁷ .	Most energy for laundry is used by water heating and drying, not the washer's motor. Modern ENERGY STAR washers use ~20% less energy than older models. Machine's own electricity per load is low (~0.25 kWh) ⁸ , but can increase if internal water heating (for sanitization) is used.	<i>Arcadia Blo</i>

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Clothes Dryer (Electric, 5 kg load)	~2.5	kWh per load	~3000	W (heating element)	Standard electric tumble dryer on a normal cycle (~45 min drying time) ⁹ . Assumes a typical load size dried to cabinet dryness.	Electric resistance dryers draw ~4-6× more power than washers. A typical 240 V dryer heats at ~3-5 kW; energy per load ~2-3 kWh ¹⁰ . Auto- sensor models may shut off sooner for smaller or lighter loads. Gas dryers use gas for heat but still ~0.2 kWh for the motor/ blower. Standby modes draw trivial power.	<i>Arcadia Bla</i>

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Dishwasher (Auto, Heated Dry ON)	~1.2	kWh per cycle	~1200	W (wash cycle avg.)	Modern dishwasher running a normal wash (~1 hour) plus heated dry (~30 min) ¹¹ ¹² . Uses hot water from home supply plus an internal heating element for drying.	Base electricity ~1.2 kWh for wash (pump + small heater) ¹¹ ¹² ; optional electric heated drying can roughly double consumption (additional ~1 kWh) ¹³ ¹⁴ . New ENERGY STAR dishwashers use <4 gallons of hot water per load, relying on a water heater (gas or electric) for much of the total energy ¹¹ ¹⁵ .	<i>Direct Energy</i> ¹¹ ¹²

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Electric Oven (Conventional)	~2.4	kWh per hour	~2400	W (heating element)	Typical 30" electric oven at ~350– 400 °F. Draws about 2400 W while heating; duty-cycle reduces draw once temperature is reached ¹⁶ .	Ovens cycle on/off to maintain temperature – a one-hour "bake" uses on the order of 2–3 kWh. Higher temperatures or longer cooking increase consumption proportionally. Newer ovens with better insulation lose heat more slowly. (Gas ovens use <0.3 therm/h instead of electricity.)	<i>Arcadia Bla</i>

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Electric Stove (Cooktop Burner)	~1.5	kWh per hour	~1500	W (per burner on high)	One 8-inch electric coil or radiant burner at medium-high heat ¹⁶ . A pot boiling or pan frying on high will draw ~1.5 kW continuously.	Actual energy depends on cooking duration and heat level. A typical meal might use a burner on high for 15 minutes (~0.4 kWh) and simmer at lower power. Induction cooktops are slightly more efficient (less heat wasted), while using multiple burners simply adds up.	<i>Arcadia Bla</i>

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Microwave Oven (Countertop, ~1200 W)	~0.3	kWh per 15 min	~1200	W (while heating)	Microwave running at full power for 15 minutes ¹⁷ (e.g. heating multiple dishes). Most routine uses are shorter (2–5 minutes).	Delivers heat much faster than conventional ovens, so total energy per task is usually lower. A typical reheat (~2 minutes) uses only ~0.04 kWh. Standby draw is minimal (often <1 W for clock). Inverter microwaves may draw steady power; others cycle magnetron on/off during lower power settings.	<i>Arcadia Bla</i>

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Coffee Maker (Drip, 4-cup brew)	~0.13	kWh per use	~800	W (while brewing)	Typical drip coffee maker brewing ~4 cups in 10 minutes ¹⁸ . Heating element draws ~800 W during brew; hotplate may cycle afterwards.	If left on to keep coffee warm, the warming plate (≈50–60 W) can draw power for extended time. Newer models have auto-shutoff for the heater. Overall, brewing a pot of coffee (10 min) uses only ~\$0.02 of electricity ¹⁸ . Minor standby draw for clock/timer when plugged in.	<i>Arcadia Blo</i>

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Toaster Oven (Countertop, 1200 W)	~0.3	kWh per use	~1200	W (while heating)	Small electric oven used for ~15 minutes (e.g. to toast or bake a small item). Draws ~1.2 kW when heating; thermostat may cycle off once target temp is reached ²⁰ .	Uses much less energy than a full-size oven for small portions due to smaller cavity and shorter preheat. Consumes ~0.75 kWh if used for a full hour ²⁰ , but most uses are only a few minutes. A two-slice pop- up toaster, in comparison, draws ~800– 1500 W for ~2–3 minutes (~0.03 kWh per toast cycle).	<i>SolarPower</i> ²¹

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Central AC (Split System ~3 Ton)	~2000	kWh/year (typical)	~3500	W (cooling mode)	Whole-house central air conditioner (approx. 36,000 BTU/ h or 3-ton capacity). ~3.5 kW power draw when compressor and fan are running ²² . Assumes ~600 cooling hours/year (e.g. warm climate, ~5 hours/day for 4 months).	Actual annual energy can range widely (~500–3000+ kWh) depending on climate, home size/ insulation, thermostat settings, and efficiency (SEER rating). New high- SEER heat pumps use less energy for the same cooling output. Cycling on/off incurs startup surges but average power ~3–4 kW while running ²² .	TCL Tech ²²

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Room AC (Window Unit ~8k BTU)	~1	kWh per hour	~1000	W (cooling mode)	120 V window air conditioner cooling a small room. Draws on the order of 0.9– 1.4 kW when compressor is on ²² .	Sized for ~150 sq.ft. room. Consumes ~1 kWh per hour of active cooling. User behavior (hours used per day) drives annual usage – e.g. 8 h/day in summer ~720 kWh/season. Many units have thermostat control, cycling the compressor to maintain set temperature (reduces hourly average).	TCL Tech ²²

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Space Heater (Portable 120 V, 1500 W)	1.5	kWh per hour	1500	W (max heat setting)	Plug-in electric resistance heater at full power. Standard high setting is 1500 W (which yields ~5100 BTU/ hour of heat) ²³ .	Converts electricity directly to heat at ~100% efficiency. Consumes 1.5 kWh for each hour on "High." Many models have lower settings (~750 W) or thermostats that cycle the heater on/off to maintain room temperature. All 1.5 kW heaters provide similar heat output – running two in one room will double energy use ²³ ²⁴ .	<i>Sleep Advis</i> ²³

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Water Heater (Electric Tank ~50 gal)	~4380	kWh/year	4000	W (heating element)	Conventional electric storage water heater (dual 4 kW elements, one active at a time). DOE typical usage: ~3 hours of heating per day for a family, totaling ~12 kWh/day ²⁷ .	One of the largest single loads in all- electric homes. Yearly use ~3000– 5000 kWh for a 50-gal tank serving ~4 people ²⁸ . Actual energy depends on hot water demand (showers, laundry, etc.), inlet water temperature, tank setpoint, and insulation losses. Lowering thermostat or using insulating blankets can cut standby losses.	DOE via Dir Energy ²⁷

Appliance (Specific Name)	Primary Metric Value	Metric Unit & Period	Secondary Metric Value	Secondary Metric Unit	Definition/ Context of "Typical"	Key Distinctions/ Clarifications	Source(s)
Television (LED LCD, 50-inch)	~70	W (while on)	-	-	Modern 50" LED-backlit LCD TV drawing ~70 W during operation ³¹ . Assumes standard picture mode at moderate brightness.	Energy use scales with screen size, brightness and technology. New LED TVs of this size typically use 60–100 W; OLEDs may use slightly more for bright content ³² ³³ . When off (standby), draw is low (~0.5 W or <5 kWh/year). Usage of ~5 hours/day yields ~128 kWh/year for a 50" TV.	<i>Payless Pow</i> ³¹

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Desktop Computer (Tower + Monitor)	~180	kWh/year	~100	W (active use)	Typical mid-range desktop PC (idle ~50 W, active ~100 W) plus an LCD monitor (~20–30 W). Assumes ~10 hours use per day (mix of idle and active) ³⁵ .	Desktop energy use can vary widely. Basic office PCs may draw <50 W when not doing intensive tasks, whereas gaming or high-performance PCs can pull 200–500 W under load ³⁶ . Monitors add to the load (~0.06–0.15 kWh/h depending on size/brightness) ³⁷ . Sleep or standby modes can cut consumption to a few watts when the system is not in use.	<i>EnergySage</i>

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Laptop Computer (15- inch)	~70	kWh/year	~40	W (while in use)	Portable PC drawing ~20–50 W during use ³⁷ . Figure assumes ~5 hours of active use per day (e.g. office or streaming tasks) with some idle/ sleep time.	Laptops are designed for efficiency (to extend battery life). Typical power use is much lower than desktops – often <0.05 kWh/hour during normal use ³⁷ . Charging the battery may draw ~60–90 W briefly, but once charged, draw drops. When asleep or turned off but plugged in, draw is minimal (0–2 W range).	Silicon Valley Power ³⁷

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Networking Equipment (Modem+Router)	~90	kWh/year	~10	W (continuous)	Home internet gateway (cable/DSL/Fiber modem plus Wi-Fi router), running 24/7. Typical combined draw around 8–12 W continuously ³⁹ .	These devices consume power continuously. Annual usage ~70–100 kWh/year for a typical setup (\approx \$10–\$15/yr). New efficient or idle modes have limited effect as they are designed to stay always on. Some high-performance or older Wi-Fi routers with multiple antennas, or added extenders/mesh units, can draw closer to 15–20 W total ⁴⁰ . ⁴¹ .	<i>EcoFlow Blog</i> ³⁹

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Smart Thermostat (Wi-Fi)	<12	kWh/year	~1	W (avg. draw)	Wi-Fi-enabled learning thermostat (e.g. Nest), powered via HVAC system. Uses <1 kWh per month in electricity for operation and Wi-Fi connectivity ⁴² .	Extremely low power device – essentially a small computer with sensors. Draws power from HVAC control circuits (24VAC) or batteries, using under ~1.5 W on average. Energy impact is negligible; the value lies in optimizing HVAC usage (which saves energy overall).	<i>Google (Ne Spec</i> ⁴²

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Smart Speaker (Voice Assistant)	~18	kWh/year	~2-3	W (idle listening)	Example: Amazon Echo Dot or Google Nest Mini device, always plugged in. Idle listening ~2 W; playing music at moderate volume ~3- 6 W ⁴³ ⁴⁴ .	Small "always-on" AI speakers draw a constant low power. Annual use ~15-25 kWh (a few dollars). Larger smart speakers with subwoofers (e.g. Echo Studio) use more (idle ~5-6 W, peaks >40 W when playing loud music) ⁴⁵ ⁴⁶ . Far-field voice recognition keeps the device from truly turning off.	<i>The Ambient (Tech)</i> ⁴³

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Soundbar (2.1 Channel w/ Subwoofer)	~50	kWh/year (est.)	~20-30	W (while in use)	Soundbar for TV (~30 W active power at medium volume) plus wireless subwoofer (~20 W). Assumes ~2 hours use per day of audio playback, otherwise in standby.	Many soundbars never fully power down – networked models can draw ~5-8 W in standby (awaiting signal or Bluetooth) ⁴⁷ . Active power varies with volume and content (peaks on loud bass). A typical unit might use ~0.15 kWh/ day if used nightly (about 55 kWh/year). Some models advertise <0.5 W standby, but real-world standby can be higher ⁴⁷ .	AVForums

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Blender (Kitchen, 1– 1.5 HP motor)	~0.05	kWh per use	~1000	W (while blending)	High-speed blender drawing ~1000 W when running. A typical blending task (smoothie, etc.) takes ~3 minutes (~0.05 kWh) <small>48</small> .	Very short usage cycles keep total energy low. Even a powerful 1500 W blender running for 2 minutes uses only 0.05 kWh. Most consumer blenders range 300– 1500 W, but blending beyond a few minutes is rare. Standby draw is zero when not in use (but unplug if it has LED indicators or digital displays to avoid any minor idle draw).	<i>Jackery Blog</i>

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Streaming Stick (Media Player)	~2	kWh/year (moderate)	~1–3	W (while streaming)	Small HDMI streaming device (e.g. Roku, Fire TV Stick). Uses on the order of 1–3 W when actively streaming HD video ⁴⁹ , and typically <1 W in standby (when TV is off) ⁵⁰ .	Extremely low energy per hour of viewing – roughly 0.001–0.003 kWh/min. Over a year, ~2 kWh with a couple hours of use per day ⁴⁹ ⁵¹ . Some devices lack a true "off" and remain in network standby, but even 24/7 at 1 W is ~8.8 kWh/year. Newer models are very efficient; by contrast, older cable TV set-top boxes could draw 8–15 W continuously.	<i>TechSpot/HowToGeek</i> ⁵³

- ¹ **What's more energy efficient, a refrigerator with a top-mounted freezer, bottom-mounted freezer, or a side-by-side? – ENERGY STAR**
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