








NJ Green Home Remodeling Guidelines V1.0 - Weatherization and Energy General


Product:	Product Features	Certifications	Product Directory/Service Resources
Home Performance Audit	Save up to 30% on energy costs, increase the comfort, safety, and durability of your home (NJ Office of Clean Energy). Contact N.J. Office of Clean Energy to find certified contractors.		New Jersey Board of Public Utilities. Office of Clean Energy. Home Performance with Energy Star http://www.njcleanenergy.com/residential/programs/home-performance-energy-star/home-performance-energy-star-r
Awnings	Purchase an awning or screen shade to install over your deck or patio to block direct sunlight and rain and save energy.		Professional Awning Manufacturers Association. 2018 http://www.awninginfo.com/ https://awnings.ifai.com/residential/ FSEC Window Orientation and Shading www.fsec.ucf.edu/en/consumer/buildings/homes/windows/
Native plants, species, and trees	Plant native plants and trees to provide shade and reduce watering needs.		Rutgers University. New Jersey Agricultural Experiment Station. Incorporating Native Plants in Your Residential Landscape. https://njaes.rutgers.edu/fs1140/ Rutgers University. "If Plants Could Talk" – A Gardening Television Series http://ifplantscouldtalk.rutgers.edu/ National Gardening Association. 2019 https://garden.org/


			<p>Native Plant Society of New Jersey, List of NJ Native Plants. 2013 http://www.npsnj.org/pages/nativeplants_Plant_Lists.html</p> <p>NJ Department of Agriculture – Jersey Grown. 2015 https://www.jerseygrown.nj.gov/</p>
Roofing	<p>Install a “Cool Roof” with highly reflective roofing material such as lightly colored shingles and/or metal. Metal roofing materials are also durable, recyclable, usually composed of recycled materials, and resist against harsh weather and fire.</p>		<p>US EPA Energy Star. Roof Products https://www.energystar.gov/products/building_products/roof_products</p> <p>Metal Roofing Alliance. 2018 https://www.metalroofing.com/</p> <p>US EPA. Heat Islands. Using Cool Roofs https://www.epa.gov/heat-islands/using-cool-roofs-reduce-heat-islands</p>
Insulation	<p>Look for products that are flame retardant, formaldehyde-free, contain no VOCs, and use a non-ozone depleting blower agent.</p>		<p>US EPA Energy Star. Why Seal and Insulate? https://www.energystar.gov/campaign/seal_insulate/why_seal_and_insulate (accessed 3/19/19)</p> <p>US EPA Energy Star. Look for Energy Star Certified Insulation https://www.energystar.gov/campaign/seal_insulate/certified_insulation (accessed 3/19/19)</p> <p>US EPA Energy Star. Types of insulation https://www.energy.gov/energysaver/weatherize/insulation/types-insulation#sprayedfoam</p>

Windows	<p>Several types of window glazing are gas filled, heat-absorbing tint, insulated (double-glazed, triple-glazed, and quad-glazed), low emissivity (low-E) coatings, reflective coatings, and spectrally selective coatings. Select Windows that are Low-E (Low-Emittance), have high-performance U-factor (measure of the rate of heat loss) and a Solar Heat Gain Coefficient (SHGC) rated for New Jersey.</p>	 	<p>National Fenestration Rating Council http://www.nfrc.org/</p> <p>Efficient Windows Collaborative https://www.efficientwindows.org/</p> <p>Energy Star – High Performance Windows https://www.energystar.gov/index.cfm?c=new_homes_features.hm_f_advanced_windows</p> <p>US EPA Energy Star. Residential Windows, Doors and Skylights https://www.energystar.gov/products/building_products/residential_windows_doors_and_skylights/</p> <p>US EPA Energy Star. Certified Products. Energy Efficient Window and Door Performance Criteria https://www.energystar.gov/products/building_products/residential_windows_doors_and_skylights/key_product_criteria</p>
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Air Conditioning System	Select an Air Conditioning System that meets or exceeds Energy Star standards. Choose a model with a Seasonal Energy Efficiency Ratio (SEER) of at least 14 for ductless mini-split or central air conditioning.		<p>New Jersey Board of Public Utilities. Clean Energy Program. COOLAdvantage Program. http://www.njcleanenergy.com/residential/programs/cooladvantage/cooladvantage-program</p> <p>US EPA Energy Star. Certified Products. Central Air Conditioner. 2019 https://www.energystar.gov/products/heating_cooling/air_conditioning_central</p> <p>US EPA Energy Star. Certified Products. Room Air Conditioner https://www.energystar.gov/productfinder/product/certified-room-air-conditioners/</p> <p>The Consortium for Energy Efficiency (CEE) and the Air-Conditioning and Refrigeration Institute (ARI) online database. US EPA Energy Star. Central Air Conditioner http://www.ceedirectory.org</p> <p>American Council for an Energy-efficient Economy. Smarter House. Buying Tips. Should I replace my existing System? 2015 https://smarterhouse.org/cooling-systems/buying-tips</p>
Duct Mastic/Sealant	Seal ducts with products that have low- to zero-VOCs. Choose products that are Energy Star and GreenGuard certified.	 	<p>US EPA Energy Star. Energy Savings at Home. Why Seal and Insulate? https://www.energystar.gov/index.cfm?c=home_sealing.hm_improvement_sealing</p> <p>GreenGuard - Product Search SPOT.Caulks and Sealants. GreenGuard Certification https://spot.ul.com/main-app/products/catalog/?keywords=caulks+and+sealants</p>



Fan: Attic	Choose models with features including self flash, curb mount, and gable mount for pitched or flat roof applications.		<p>US EPA Energy Star www.energystar.gov</p> <p>US EPA. Energy Star. About Attic Ventilation https://www.energystar.gov/index.cfm?c=diy.diy_attic_ventilation</p> <p>BuildingGreen.com www.Buildinggreen.com</p> <p>Home Ventilating Institute - Home Ventilation & Indoor Air Quality Guide. 2019 https://www.hvi.org/publications/VentLivingAreas.cfm</p>
Fan: Bathroom	Install a bathroom fan to reduce moisture in the bathroom mold growth. Select models with a built-in Energy Star light fixture that are programmable, produce low noise, and can have a high CFM (Cubic Feet per Minute).		<p>US EPA Energy Star. Certified Products. Ventilation Fans. 2019 https://www.energystar.gov/products/heating_cooling/fans_ventilating</p> <p>Home Ventilating Institute - Home Ventilation & Indoor Air Quality Guide . 2019 https://www.hvi.org/publications/VentLivingAreas.cfm</p>
Fan: Ceiling	Install ceiling fans that meet or exceed Energy Star standards. Choose a model that has both clockwise and		<p>Energy Star http://www.energystar.gov/</p> <p>US EPA. Energy Star. Certified Products. Ceiling Fans. 2019 https://www.energystar.gov/products/lighting_fans/ceiling_fans</p>


	counter clockwise motion.		<p>US EPA. Energy Star. Certified Products. Find and compare Products. Ceiling Fans. https://www.energystar.gov/productfinder/product/certified-ceiling-fans/results</p> <p>Home Ventilating Institute - Home Ventilation & Indoor Air Quality Guide –2019 https://www.hvi.org/publications/VentLivingAreas.cfm</p>
Programmable Thermostat	<p>Install a programmable thermostat that meets or exceeds Energy Star standards to save energy and money by reducing wasted cooling or heating when no one is home. The model should be compatible with your system and have features including battery operation and indicator, settings options that allow for vacation overrides and weekends, an energy monitor, and filter change indicator.</p>		<p>US EPA. Energy Star. Certified Products. Programmable Thermostats https://www.energystar.gov/products/heating_cooling/programmable_thermostats</p> <p>United States Department of Energy. Office of Energy Efficiency and Renewable Energy. Thermostats. Energy Saver. Setting Your Thermostat for Comfort and Savings. https://www.energy.gov/energysaver/thermostats</p>

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Compact Fluorescent Lamps (CFL)	Select compact fluorescent lamps (CFLs) that use less energy, last longer, and contain less mercury than incandescent lamps. Choose lamps with a Color Rendering Index (CRI) suitable for the task. For ambient lighting, select a lamp that produces a warm or yellowish hue. Task lighting requires lamps that produce a bluish or cool hue.		<p>US EPA. Energy Star: Compact Fluorescent Light Bulbs http://www.energystar.gov/index.cfm?c=cfls.pr_cfls</p> <p>US Department of Energy. Lighting Choices to Save You Money. https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money</p> <p>Rensselaer Polytechnic Institute: Lighting Research Center. 2019 https://www.lrc.rpi.edu/</p>
Light-Emitting Diode (LED) Light Fixture	Select LED light fixtures that use less energy, produce less heat, and are more durable than incandescent and even fluorescent lamps.	Energy Star	<p>US EPA. Energy Star. Certified Products. Light Fixtures https://www.energystar.gov/products/lighting_fans/light_fixtures</p> <p>US Department of Energy. Lighting Choices to Save You Money. https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money</p> <p>Rensselaer Polytechnic Institute: Lighting Research Center. 2019 https://www.lrc.rpi.edu/</p>

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Piping	Use PEX (or cross-linked polyethylene) tubing as a plumbing substitute for copper or rigid plastic piping. Look for products made of non-halogenated plastics that contain no heavy metals or brominated flame retardants.		<p>PEX Information pexinfo.com</p> <p>Fact Sheet on the Safety of PEX Plumbing Products. NSF, The Public Health and Safety Organization. 2019. http://www.nsf.org/newsroom/fact-sheet-on-the-safety-of-pex-plumbing-products</p> <p>PEX Supply Pipe: Everything You Need to Know. Family Handyman. 2019. https://www.familyhandyman.com/plumbing/pex-piping-everything-you-need-to-know/view-all/</p>
Water Heater	Purchase high-efficiency water heaters to replace aging or obsolete models.		<p>Consumer Reports: Water Heaters. November 2018 https://www.consumerreports.org/cro/water-heaters/buying-guide/index.htm</p> <p>US Department of Energy. Tankless or Demand-Type Water Heaters https://www.energy.gov/energysaver/water-heating/tankless-or-demand-type-water-heaters</p>

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Cooking Appliances	Purchase Energy Star – rated cooking appliances.		<p>American Council for an Energy Efficient Economy . (2015). Smarter House. Cooking https://smarterhouse.org/appliances-energy/cooking</p> <p>US EPA, Energy Star. Certified Products. Appliances. https://www.energystar.gov/products/appliances</p>
Dishwasher	Select a dishwasher that meets or exceeds Energy Star standards.		<p>US EPA. Energy Star. Certified Products. Dishwashers. 2019. https://www.energystar.gov/products/appliances/dishwashers</p> <p>CEE (Consortium for Energy Efficiency) Energy Efficiency Program Library. Residential Dishwasher Qualifying Product List. December 2018. https://library.cee1.org/content/qualifying-product-lists-residential-dishwashers/</p> <p>American Council for an Energy Efficient Economy . (2015). Smarter House. Dishwashing https://smarterhouse.org/appliances-energy/dishwashing</p> <p>American Council for an Energy Efficient Economy (2015) Smarter House. Dishwashing. Energy Saving Tips. https://smarterhouse.org/dishwashing/energy-saving-tips</p> <p>US EPA Energy Star. Buyers Guide. https://www.energystar.gov/index.cfm?c=dishwash.pr_tips_dishwashers</p> <p>Consumer Reports: Dishwashers https://www.consumerreports.org/cro/dishwashers.htm</p>
Office Equipment	Select office equipment that meets or exceeds Energy Star standards. Look		<p>US EPA. Energy Star. Certified Products. Office Equipment. 2019 https://www.energystar.gov/products/office_equipment</p>

	for products that can go into sleep mode when not in use to reduce phantom loads.		<p>Consumer Guide to Home Energy Savings, 9th Edition, American Council for an Energy-Efficient Economy, 2007 www.aceee.org</p>
Range Hood	Choose a range hood with and Energy Star-rated fan. Kitchen ventilation systems remove moisture and VOCs (volatile organic compounds) that are produced from cooking.		<p>US EPA. Energy Star. Certified Products. Ventilation Fans. 2019 https://www.energystar.gov/products/heating_cooling/fans_ventilating</p> <p>Consumer Reports. Range Hoods. Range Hood Buying Guide. 2016. https://www.consumerreports.org/cro/range-hoods/buying-guide/index.htm</p> <p>ACEE- Smarter House - Proper Ventilation for Gas Appliances https://smarterhouse.org/cooking/proper-ventilation-gas-appliances</p> <p>HVI's Fresh Ideas Home Ventilation & Indoor Air Quality Guide Articles. Home Ventilating Institute. 2019 https://www.hvi.org/publications/VentLivingAreas.cfm</p>
Refrigerator	Select an energy efficient refrigerator that meets or exceeds Energy Star standards. Top-freezer models are the most efficient followed by bottom-freezer models, while side-by-side models are the least efficient.		<p>US EPA. Energy Star. Certified Products. Refrigerators. 2019 https://www.energystar.gov/products/appliances/refrigerators</p> <p>US EPA. Energy Star. Certified Products. Find and Compare. Refrigerators. 2019 https://www.energystar.gov/productfinder/product/certified-residential-refrigerators/results</p> <p>(US Department of Energy. Office of Energy Efficiency & Renewable Energy. Purchasing Energy-Efficient Residential Refrigerators. https://www.energy.gov/eere/femp/purchasing-energy-efficient-residential-refrigerators</p> <p>American Council for an Energy Efficient Economy (2015) Smarter House. Food Storage. Energy Saving Tips. https://smarterhouse.org/food-storage/energy-saving-tips</p>

Washing Machine	Select a high efficiency, front-loading washing machine that meets or exceeds Energy Star standards. Rebates are available for selected models.		<p>US EPA. Energy Star. Certified Products. Clothes Washer. https://www.energystar.gov/products/appliances/clothes_washers?qt-consumers_product_tab=2#qt-consumers_product_tab</p> <p>New Jersey Board of Public Utilities. New Jersey's Clean Energy Program. Appliance Rebates & Lighting. http://www.njcleanenergy.com/residential/programs/energy-star-product-rebates/new-jersey-energy-star-product-rebates</p>
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