MY ENERGY EFFICIENT HOME

6 Steps to Maximize Energy Savings and Minimize Home Improvement Costs

Buying electricity is like renting your home from a landlord. Just like a rental payment, that utility meter attached to your home is lighting your hard-earned cash on fire. Rather than an investment into your home's equity, your monthly electricity bill payment is money you'll never see again.

Buying electricity is outdated—and you don't have to accept it as your monthly norm anymore! What if you could transform your electricity bill from a rental payment into an investment into your home?

Stop wasting your hard-earned money on unnecessary expenses like electricity and gasoline!

All it takes is six simple steps and some smart investments to maximize your home's potential.

With the right home improvements in the right order, you can minimize your utility costs, improve your home's energy consumption, and start moving toward a greater level of energy independence.

Before you get started... here are three important things you need to know ...

FYI #1: The key to saving money on your home's electricity bill? Green Assets!

Green Assets are energy-efficiency improvements that are added to a home that help to reduce the energy demand and electricity-related expenses of a home. To be considered a Green Asset, a home feature must reduce energy consumption and do so without sacrificing the lifestyle or comfort of the occupants.

THE THREE GREEN ASSET CATEGORIES ARE:

#1: GREEN ENERGY DEVICES

These are devices that still consume energy, but they do so more efficiently and reduce cost along the way. These Green Energy Devices perform the same functions as their traditional counterparts, but they use less energy and at a lower cost.

Examples:

- ✓ LED Lighting
- ✓ Ceiling Fans
- ✓ Electric Vehicles
- ✓ Energy Star Rated Appliances
- ✓ Variable-Speed Pool Pumps
- ✓ High-Efficiency Water Heaters
- ✓ Whole-House Fans
- ✓ High-Efficiency HVAC Systems
- ✓ Geothermal HVAC Systems

#2: GREEN ENERGY AIDS

These either reduce the amount of energy consumed or reduce the expenses that occur when an electrical device is consuming energy.

Examples:

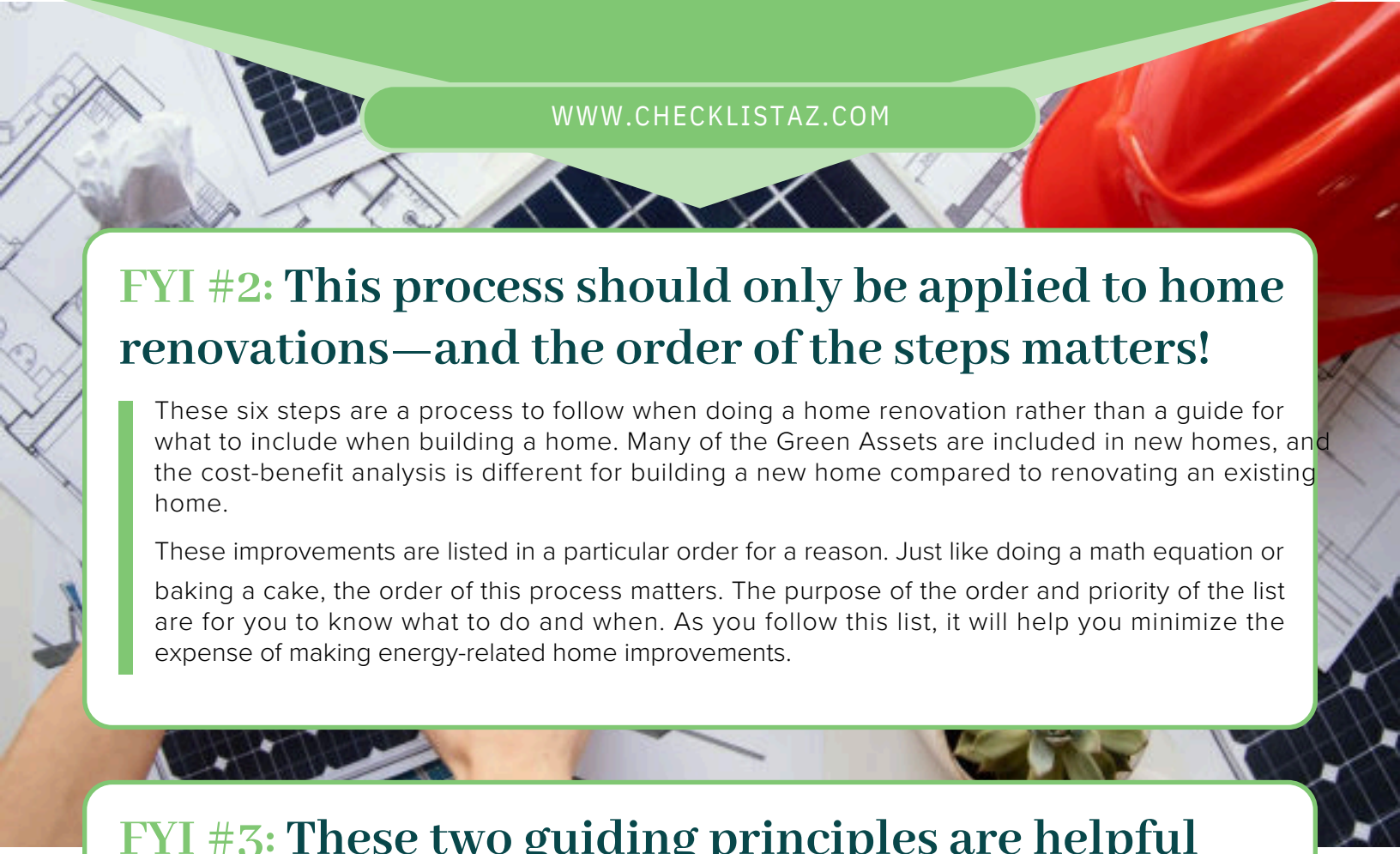
- ✓ Smart Thermostats
- ✓ Energy Consumption Monitoring Systems
- ✓ High-Efficiency Insulation
- ✓ Smart Lighting Systems
- ✓ Smart Electrical Panels and Breakers
- ✓ High-Efficiency Windows
- ✓ Electric Vehicle Chargers

#3: GREEN ENERGY SYSTEMS

These are the assets that a home requires to generate and store clean, renewable energy onsite. While these have a significant cost, they take advantage of the abundant amount of free sunlight available to generate and store clean electricity. Green Energy Systems facilitate energy independence—they are the only way for a homeowner to generate, store, and consume their own energy.

Examples:

- ✓ Photovoltaic Solar
- ✓ Solar Water Heater
- ✓ Electric Vehicle's Battery Pack
- ✓ Onsite Wind Turbine
- ✓ Batteries



FYI #2: This process should only be applied to home renovations—and the order of the steps matters!

These six steps are a process to follow when doing a home renovation rather than a guide for what to include when building a home. Many of the Green Assets are included in new homes, and the cost-benefit analysis is different for building a new home compared to renovating an existing home.

These improvements are listed in a particular order for a reason. Just like doing a math equation or baking a cake, the order of this process matters. The purpose of the order and priority of the list are for you to know what to do and when. As you follow this list, it will help you minimize the expense of making energy-related home improvements.

FYI #3: These two guiding principles are helpful to understand as you decide how to prioritize the money you invest in improving your home.

GUIDING PRINCIPLE #1: REDUCE BEFORE YOU PRODUCE.

Start by improving the inefficiencies of your home and then look at solar and batteries. This assures that you're not overspending on solar and energy storage. The investment into solar can be recuperated—but not if you overspend on it! Just like if your tire is leaking air, it's better to patch the hole rather than replace the tire. Once you have made reasonable improvements to the home's ability to use and retain its energy in an efficient way, then it's a good idea to look at the ultimate goal of solar and batteries.

GUIDING PRINCIPLE #2: START SMALL.

Start with small and easy improvements first, then as you are able, move on to the larger and more advanced improvements if they are prudent. Beware, though, that you don't over invest and waste money on the wrong kind of improvements. Spend the right amount of money on the right kinds of improvements. There are many things you can do, and whether or not to do them can often be decided with the help of a Sprk Green Home Energy Report.

MY ENERGY EFFICIENT HOME

6 Steps to Maximize Energy Savings and Minimize Home Improvement Costs

Below are six prioritized steps with the best bang for your buck. At the end of the day, everyone has a slightly different situation—so remember, good judgment and prudence should always go into any kind of investment or home improvement process.

step 1

Get Your Home Energy Baseline

There are many companies and services out there that can provide energy audits at various levels. These can be great—as long as they are done by proficient professionals.

To help you understand your home and its energy, Spark built a free in-depth home energy analysis tool called the Sprk Home Energy Assessment. It can help you better understand your home energy profile by evaluating your home, the energy it uses, and how the people living there are using that energy. It's an easy tool for self-analyzing your home and establishing an energy baseline.

The Sprk Home Energy Assessment can be completed at www.sprkhome.com. After you fill out the survey, you will receive a free Green Home Energy Report. This will give you the information you need about your home and can help you complete the 6-step improvement process to save money on electricity.

step 2

Install Low-Priced Green Assets

Start with the three basic Green Assets that any home should have. These three Green Assets alone can make a big difference in the amount of electricity that your home consumes. They all offer a high amount of energy saved compared to the cost of installing them. Since they are all fairly simple to install and can be done as a DIY project, this a great place to start for improving your home.

Start by Installing:

- ✓ Ceiling Fans
- ✓ Smart Thermostats
- ✓ LED Light Bulbs

step 3

200% GUARANTEE
Checklist Inspections
480-361-8120

Consider Adding More Advanced Green Assets

Consider some of the more advanced or higher priced home energy-efficiency improvements. The most common concern is not their effectiveness, but most homeowners 'ability to finance them or just pay for them outright. There are many finance options available that require little to no money down to make energy improvements to your home. The Freddie Mac Green Choice Mortgage is a great option to roll Green Assets into the mortgage at a very affordable rate over 30 years.

Choose improvements with the greatest energy savings and lowest install price to maximize energy efficiency while minimizing the cost to install them.

Continue by Installing:

- Energy Star Rated Appliances (such as refrigerator, dishwasher, washer, and dryer)
- High-Efficiency Attic Insulation
- Energy Consumption Monitoring
- Smart Lighting System
- High-Efficiency Water Heaters
- Variable-Speed Pool Pumps
- Whole-House Fan
- Solar Water Heater
- Smart Electrical Panels and Breakers
- High-Efficiency HVAC Systems
- Geothermal HVAC Systems
- High-Efficiency Windows
- High-Efficiency HVAC Systems
- Geothermal HVAC Systems

step 4

Consider Driving an Electric Vehicle

For those who have always driven gasoline-powered vehicles, electric vehicles (EV) can be somewhat of an unknown. If you look at them from strictly a savings perspective, they can save you a significant amount of energy and energy-related costs. When gas prices climb over two dollars a gallon, driving an electric vehicle can certainly provide significant energy savings.

This item is the fourth step on the list because replacing your vehicle should be considered before installing solar, since the money saved by harvesting the electricity for your EV from your solar is also significant.

Driving an electric vehicle is also the key to a home achieving energy independence.

Most homes don't have a way to make their own gasoline, but any home with enough unobstructed roof space for solar does have the ability to get all the energy needed for their vehicle. Imagine never needing to buy gasoline or depending on anyone else for the energy for your home or transportation.

Next Consider an Electric Vehicle:

- ✓ Home Electric Vehicle Charger
- ✓ Electric Vehicle

step 5

Make Your Own Electricity By Adding Solar to Your Home

Even though it's the fifth step in this process, solar is the Green Asset that trumps all others. Most homeowners have enough roof space for enough solar to power both the electric needs of the home and an EV.

Solar gives you the ability to completely eliminate or at least minimize your electricity and gasoline expenses. When you invest in enough solar to offset all your electricity needs, you gain the ability to achieve energy independence.

Solar is the fifth step on this list not because it's less important than the previous four steps, but because there are more affordable ways to save. You should explore those less expensive options before determining how much solar to install. Because productive roof space is an important factor for deciding on your solar placement, and because many roofs have significant amounts of shading, it's a good idea to reduce how much electricity you need to generate before deciding how much solar to install.

The majority of people who made the switch to solar don't spend any money out of pocket and choose to either finance it or obtain a solar lease.

We recommend a loan over a lease, and many solar loans available now allow you to finance other Green Assets in addition to your solar. That way, your entire home energy improvement project can be tied into one tidy finance product.

Going solar after you've added an EV is also helpful because you can size the system with that in mind. You can always add panels to a system, but it's easier to plan for the right-sized system from the start. A less-favored alternative to generating your electricity, but one that's rising in popularity, is an onsite wind turbine. While these don't offer as many benefits compared to solar, they do provide other unique benefits such as generating electricity at night.

Next Consider Generating Your Own Electricity:

- ✓ Photovoltaic Solar System
- ✓ Onsite Wind Turbine

step 6

Consider Adding Onsite Battery Storage

Adding batteries to your home is optional but recommended to maximize energy savings and energy independence. The key factor to consider is the energy storage plan provided by your local utility company. Many utilities offer net-metering or net-billing plans to help you store extra energy generated by your solar that you don't use. If these plans are available, storing your energy in batteries may not be necessary.

Although many utility companies provided this service to solar homes in the past, many of them have now reduced or eliminated net metering for homeowners going solar. Check availability with your local utility company. Even if net metering is available, those who want to maximize their energy independence know that batteries are a must. But if net metering isn't available, then batteries are needed to maximize energy savings.

Next Consider Storing Your Own Electricity:

✓ Batteries

Batteries are last on this list because they are late on the scene when it comes to affordable Green Assets that can be used to optimize a home. They also can be paired well with a solar system in an initial install or added onto an existing solar system. Batteries are essential to keeping your power on during power outages. Batteries can also be added to a home without solar to take advantage of utility power even if there is a power outage.

How are the savings generated from Green Assets calculated?

The algorithm to calculate the savings generated by leveraging Green Assets can be complex, but here is a simplified explanation for you.

- Measure the difference in the amount of electricity consumed when utilizing Green Assets as compared to what might have been consumed in the absence of the Green Assets.
- Then take that difference and multiply it by the current energy costs to establish a savings baseline.
- Multiply it out in time increments for the relevant timeframes, which are typically 1 month, 1 year, 10 years, and 25 years.
- When multiplying the savings numbers across multiple years, factor the projected change in the cost of energy to match the rate of change over a given timeframe.

The following lists of how to prioritize Green Assets are based on an average home with the following energy consumption:

- Home with an average electricity bill of $200 a month with a price per kWh of $0.15
- Gas car driving 15,000 miles a year, paying a price of $4 a gallon, and getting 22 MPG

Checklist Inspections
480-361-8120

How to Prioritize Home Energy Improvements

Green Assets with the 6-Step Home Improvement Process

This list of Green Assets is organized in two ways, first by the type of Green Asset and then by where they fall in the 6-Step Home Improvement Process. They also have an estimated price range you might see when you purchase. The prices are ranges based on improving an existing home (not installing new).

1.Green Energy Devices:

Examples of Green Energy Devices - Price Ranges

Step 2:

- LED Lighting - $100–500
- Ceiling Fans - $200–1,200

Step 3:

- Energy Star Rated Appliances - $500–4,000
- Variable-Speed Pool Pumps - $2,000
- High-Efficiency Water Heaters - $1,000–3,000
- Whole-House Fan - $1,000–3,000
- High-Efficiency HVAC Systems - $8,000–18,000
- Geothermal HVAC Systems - $14,000–25,000

Step 4:

- Electric Vehicle $25,000–200,000

2.Green Energy Aids:

Examples of Green Energy Aids — Price Ranges

Step 2:

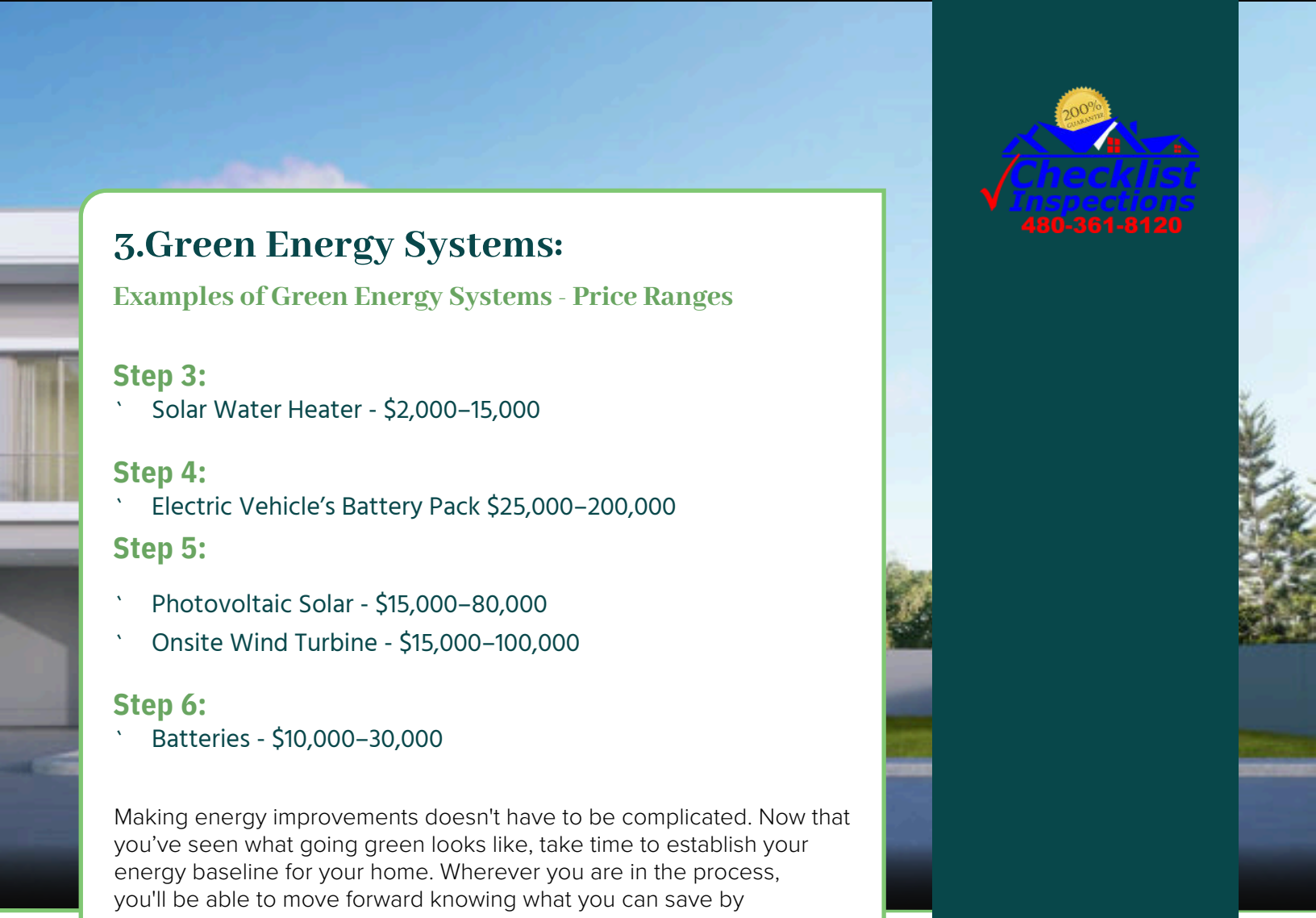
- Smart Thermostats $100–1,000

Step 3:

- Energy Consumption Monitoring $500–1,000
- High-Efficiency Insulation $2,000–15,000
- Smart Lighting System $1,000–15,000
- Smart Electrical Panels and Breakers $3,000–6,000
- High-Efficiency Windows $10,000–25,000

Step 4:

- Electric Vehicle Chargers $300-2,000



3.Green Energy Systems:

Examples of Green Energy Systems - Price Ranges

Step 3:

- Solar Water Heater - $2,000–15,000

Step 4:

- Electric Vehicle's Battery Pack $25,000–200,000

Step 5:

- Photovoltaic Solar - $15,000–80,000
- Onsite Wind Turbine - $15,000–100,000

Step 6:

- Batteries - $10,000–30,000

Making energy improvements doesn't have to be complicated. Now that you've seen what going green looks like, take time to establish your energy baseline for your home. Wherever you are in the process, you'll be able to move forward knowing what you can save by investing in making your home green.

The first step is easy and FREE!

Get Started with Step 1 Today!

Complete the Checklist Inspections Solar Energy Assessment, powered by Sprk, and receive your FREE Green Home Energy Report at www.checklistaz.com

Checklist Inspections
480-361-8120