

# SERMON – 05/17/09

## GREEN FAITH: “Energy”

I LOVE looking at the city lights at night...

- Whether it’s driving up on Tantalus Road & stopping to look out over downtown Honolulu & Waikiki...
  - Or flying home at night, from a trip off island... looking at the city lights weaving in & out the various valleys on Oahu... like an electric lava flow...
  - Or simply standing in my driveway up Kaamilo Street, gazing down at Aloha Stadium, Pearl Harbor, and the rest of Aiea...
  - I just love looking the lights at night...
- Which might be why I became so fascinated with a series of photographs taken by NASA...
  - Here’s what the night lights of North America look like from the perspective of space...
  - Kind of beautiful, isn’t it? (*pause*)
  - Here’s a picture of Africa, Europe, and the Middle East...
  - Notice anything different?
  - (Yep, there aren’t many lights in Africa at night, are there?)
  - Here’s a broader shot of the entire globe... stretched out to show all of the continents at once...
  - Beautiful still, of course... but also a bit haunting, don’t you think?
- Across this planet called earth, nearly 1/3 of the inhabited areas are in the dark...
  - According to a 2002 World Bank report, nearly 2 billion people live without electricity...
  - If we haven’t traveled much, it’s kind of hard for us to imagine, isn’t it?

Welcome to the 4<sup>th</sup> and final week in our sermon series called “GREEN FAITH.”

- Each week we’ve been looking at a different key issue, to better understand how we, as Christians, can be better stewards of this amazing planet we live on...
  - From Climate... to Land... to Water... and now to Energy...

- We’re seeking to grasp again what it means to “love our neighbor as ourselves”...
- For how we treat the world around us has a direct impact on our neighbors **all over the world.**
- So today we’re looking at ENERGY... something that most of us probably take for granted (I know I sure do)...
  - There are 4 main sources of energy that we rely on today...
  - **Coal**... is the cheapest of all the major fuels used here in the US... but it’s also the worst polluter.
  - **Natural Gas**... is the cleanest of all fossil fuels... and is anywhere from 70-90% methane...
  - **Nuclear energy**... provides about 20% of our energy in the US, and is also a rather ‘clean’ source of energy...
  - And then, of course, there’s **oil**... petroleum... this is where we spend most of our money, as Americans, when it comes to energy...
- However, a whopping 40% of all energy used in the US (no matter what the source), is then converted into electricity for our consumption...
  - A recent article in the April ’09 edition of *Wired* magazine, lifted up how our electricity, in many ways, hasn’t moved much beyond its 19<sup>th</sup> century roots.
  - Did you know that over the past quarter century, electric power outages have been steadily rising, and now cost us close to \$150 billion a year!
  - Add to that the fact that demand for electricity is expected to increase by as much as 40% over the next 2 decades (more than twice the population growth rate, by the way!)...
  - And to meet that need, we’ll have to generate an additional 214 gigawatts... a feat that’s the equivalent of requiring the construction of more than 257 large coal power plants!
  - So we need to look at alternate forms of energy, to be sure.
- President Obama has called a new energy agenda “absolutely critical to our economic future”...
  - And his stimulus package directs more than \$40 billion toward that goal... the largest single infusion of government capital to the energy sector in US history...

- More than half of those monies will go towards power grid related projects.
  - Which has to be a step in the right direction... considering that utilities today allocate just 2% of revenue to research.
  - Jeffrey Byron of the CA Energy Commission was quoted in that *Wired* article as saying, “For God’s sake, we contribute less to research & development than the pet food industry does!”
  - To put it in perspective... China invests \$12 million AN HOUR in overseas renewable energy!
- So what are the main sources of alternate energy that we’re exploring here in the United States? (These are frequently known as “renewable” energy sources):
    - We begin with **solar energy**...
    - Consider this quote: “I’d put my money on the sun & solar energy. What a source of power! I hope we don’t have to wait until oil and coal run out before we tackle that.”
    - Guess what year this was spoken? 1931... by Thomas Edison!
    - We’re also familiar with **wind energy**... presently, wind farms produce less than 1% of the needed electricity in the US... though some believe it could generate much more in the near future.
    - Wind is plentiful all around the world... it’s clean... it will never run out... and so far, the only thing that’s holding us back from getting more out of this resource is its high cost (but that can change!).
    - We’re also exploring energy generated by **oceans & tides**... spinning turbines are secured to bobbing buoys with cylinders to convert ocean or river movement into electricity...
    - **Agriculture**... is another area for alternate sources of energy...
    - Corn & soy beans are being converted into ethanol production... we’ve heard of that before...
    - But you may be as surprised as I was to hear of other sources of fuel... like pine needles & underbrush... turkey beaks... greasy pizza boxes... pond scum... pig poop... paper waste... and animal fat!

- Yep, all of those are being studied as potential contributors to our energy needs, believe it or not (yah, the turkey beaks got me too!).
- **Geothermal** is another source that we're already using here in Hawaii...
- On the Big Island, we're sending water into the earth's center (about 3 miles underground)... then retrieving the super-heated water to generate power for making electricity!
- And I have to give some props to a friend of Jody and mine who owns an exciting new company called Better Place...
  - Shai Agassi is the founder & CEO of Better Place, a company that is working to not just put electric cars on the market...
  - But to set up charging spots & battery switching stations around a concentrated grid...
  - Think of it like using a car the way we currently use cell phones... where people could purchase a monthly plan to suit your needs.
  - Better Place has entered into a special relationship with the State of Hawaii... and you'll undoubtedly be hearing more about this in the not-too-distant future!

Before we move to ways that we can be saving energy, let me say a little about our current situation here in the Hawaiian Islands...

- We use a lot of oil here in Hawaii...
  - This chart shows the average number of barrels of oil used per person, per year around the world...
  - 1.4 in India... 2.1 in China... 11 in Europe... 25 in the US...
  - But in Hawaii... we use 45 barrels of oil PER PERSON every year!
- Or we can look at it this way... Here's a chart of the top 6 states in the US that use oil for electricity...
  - Florida, New York, Massachusetts, Alaska & Delaware all generate between 10 to 18% of their electricity from oil...
  - But we in Hawaii garner 75% of our electricity from oil.
- Is it any wonder that our electricity prices are more than double the US average...
  - And have increased over 125% since 1990?

- While the technology for alternate sources of energy advance... we have to find ways to save the precious energy we do have already.

Which brings me to the portion of the sermon where I get to share all kinds of practical suggestions on how you can make a difference in this area...

- For starters, look for **energy-efficient appliances** – especially when purchasing new things... many will have the energy star symbol. This makes a HUGE difference!
- The next time your light bulbs burn out, replace them with **compact fluorescent bulbs**... while initially more expensive, they last more than 10x longer than regular bulbs... plus, it will help reduce your lighting costs by 75%!
  - If every family in the US replaced just one light bulb with a CFL, it would save more than \$600M annually in energy costs!
- Avoid turning on your **air conditioner** unless you absolutely have to (use fans, if necessary and you'll save up to \$70/month!)...
  - But when you do turn on the AC, set it to 70 degrees... that should be cool enough for comfort (and it's an energy efficient temp, as well!).
- When you do your **laundry**... set the water cycle to warm wash & cold rinse... you'll save over 90% of the energy used when washing in hot water only!
  - Together, all the households in the US could save the energy equivalent of 100,000 barrels of oil a day by switching from hot-hot to warm-cold cycles!
- Clean the **lint screen** on your dryer & that'll save up to 5% on your electric bill.
- When it comes to **computers**... set your computer to power management mode and you'll save up to \$75/year merely by enabling the low-power sleep modes on your monitors & CPU's...
  - At the end of the day, TURN OFF your computer & monitor... it will reduce the heat & mechanical stress on your computer, as well as prolong your machine's life.
  - And if you're in the market for a new computer... consider buying a laptop! Laptops require fewer materials & less energy to produce than desktops, and use a fraction of the electricity to run.

- **Unplug** your equipment when not in use... did you know that even when your television, stereo, etc. is in the “off” position but plugged in, it still draws electricity?
  - Cell phone chargers plugged into the wall – even without the cell phone attached – draws energy...
  - It’s often called “Vampire energy”... just sucking away... and if every household unplugged its computers & cell phone chargers when not in use, collectively we’d save over \$100 million... (that’s enough to provide free health care to every low-income child under the age of 5 in the state of California!)
  - If unplugging is too much of a hassle... then consider plugging them into a wall outlet that has an on/off switch...
  - Or buying a power strip that has a toggle switch & plugging into that!
- Consider purchasing **rechargeable batteries**... just four rechargeable alkaline AA batteries can reduce the need to buy and dispose of roughly 100 conventional batteries... an eventual savings of \$40, and 8 pounds of hazardous waste!
- Find ways to use your **microwave** more often! Microwaves are between 3.5 and 4.8 more times energy efficient than traditional electric ovens...
  - So if something costs \$0.10 to cook one item in a micro... it would cost up to \$0.48 to cook the same item in the oven!
- When it comes to your automobile... keep your **tires inflated**... and you’ll improve your gas mileage by 3% (and save you, on average, 16 gallons of gas a year!).
  - And when you do get out on the highway... try to stay below 60 mph... for optimal gas efficiency!
- Finally, consider **shopping online** every now and then...
  - Believe it or not, it uses less energy to get a package to your house from an online retailer... than it does driving to the mall yourself!
  - In fact, each minute spent driving to the mall uses more than 10x the energy of a minute spent shopping online.
  - For example... to ship a 10 lb. package by overnight air (the most energy-intensive delivery mode)... it still uses 40% less fuel than the average round-trip to the mall!
  - (And if you ship through the US postal service, it’ll use 1/10 the energy!)

When I was doing research this week, I came across a 2005 lecture by MIT professor, Daniel Nocera...

- He was speaking on the future of energy... of new technologies... and where we'd need to go, to be able to keep up with the increasing energy demands of this global world.
  - He said our energy future will be found simply in WATER and LIGHT...
  - The amount of energy that the sun sends out is tremendous... and we'll need to begin to store its energy along with water... similar to the way plants use photosynthesis!
- Which got me thinking... not just about our physical energy needs... but our spiritual energy needs...
  - Jesus said, “I am the LIGHT of the WORLD!”
  - He also said, as we heard last week, ‘I am the LIVING WATER’...
  - Pardon the pun, but could it be that the world of science & physics can “shed light” on our need for the power that comes from the Son of God?
- As I was thinking and praying about what scripture passage to use for today's topic of energy... my heart was drawn to Isaiah 40...
  - This was written at a time when the people of Israel were in dire straits...
  - They had been living in captivity in a foreign land for close to 70 years...
  - Their morale was low... they were far from home... and most of them didn't know what it was like to live in freedom.
  - To this difficult context came a word of grace from the prophet Isaiah:
  - *“Have you not known? Have you not heard? The Lord is the everlasting God, the Creator of the ends of the earth. He does not faint or grow weary; his understanding is unsearchable. He gives power to the faint, and strengthens the powerless. Even youths will faint and be weary, and the young will fall exhausted; but those who wait for the Lord shall renew their strength, they shall mount up with wings like eagles, they shall run and not be weary, they shall walk and not faint.” (Isaiah 40:28-31).*
- Energy... we all need it... practically, physically & spiritually...
  - As Christians, we need to be good stewards of the natural energy resources we have around us, for sure...

- But we also need to be hooked up with THE SOURCE of spiritual energy... God Almighty...
- So that no matter what we may encounter throughout this life... we will have the strength to endure...
- For if God is for us, who can be against us?!?
- Thanks be to God for the tremendous energy available to us all... AMEN.