Solar Harvest Farm

2013 Spring Newsletter

Fellow Connoisseurs of Food Raised in Sunshine,

April 2, 2013

Since our last communication we've built another henhouse, installed a high efficiency water pumping system, implemented low tech irrigation, cleared and fenced five acres of drought pasture, survived the drought, purchased another farm of 42 acres, cleared a half mile for fencing the new farm, finished fence survey work, prepped new fields for perennial pastures, salvaged an old chicken house on the new farm, cleared countless fallen/falling box elders, cleaned out several truckloads of old steel, tires and junk, developed a forage plan and currently designing a paddock/lane way layout for the new farm. We've also purchased a state of the art seeder which will allow us to not only plant the new farm, but also rejuvenate existing pastures as well as interjecting annuals into the grazing rotation.

Other than that...sheesh, I'm not sure what there really is to talk about?!

Please kick your shoes off, sit back and take some time to read a boots-on-the-ground perspective of high tech, pasture-based, locally produced, locally consumed, solar powered, independent, non-subsidized, genuinely sustainable, family-sized farming.

Of course, we don't exist on an island. More than ever, external forces are influencing our decisions as we navigate this radical, non-conforming, outside-the-box farming model through the turbulence created by the prodigious conventional market and certainly, climate change. Because these externalities are now our headwinds, many pages of this newsletter have been devoted to these subjects.

Looking Back

There's no putting lipstick on this pig - 2012 will never be one to reminisce. We survived the drought by throwing every hour we could into opening new acreage for pasture as well as an attempt at manually irrigating some of our acreage. The new pumping system, while intended for livestock watering, was modified to implement small scale irrigation - that being defined as manually moving a golf-course style sprinkler every 2-3 hours. We never appreciate the generosity of the clouds until we're in a drought and have to pump that water. I'll let you into the way my head was thinking as I attempted to moisturize these parched fields:

The new water pumping system consists of two pumps. The primary pump is a technological marvel designed to operate from 30-300VDC or 90-240VAC. We plan to power this pump directly from solar panels this summer. This is not a high capacity well/pumping system. The beauty of this technology lies with it's efficiency. When the sun shines, even in low light conditions, water is pumped into a storage tank. This slow pumping technique allows the water taken to better match the natural water replenishment of a standard, non-high capacity well. We have a 1000 gallon bulk tank parked on the cool concrete of the old dairy barn. Because the barn is at the high point on the farm, we can use gravity exclusively, if we so choose. For times when, for the sake of expediency or irrigating, we need high pressure, a standard jet pump is in series with the submersible, allowing either/both to operate.

So back to this sentiment about appreciating the clouds. Imagine you're standing there looking at this 1000 gallon tank, heavy with the weight of many hours pumping. Sure looks like we're going to make some grass grow now, huh? Fact is, this 1000 gallons is a drop in the bucket compared to Ma Nature, who, with 1" of rain, deposits 27,150 gallons of water ON ONE ACRE. Wow. Lets just paraphrase the obvious: In order to lay down just 1/10 of an inch on just one acre, we'll have to pump and empty that 1000 gallon tank 2.7 times. And how effective will that 1/10" be, with the relentless sun baking the fields for two months straight? As I observed with great disappointment, by 10:00 am, the sun had already baked and evaporated the previous evening's efforts. Now don't go saying "boy are you stupid. What made you think that setup was going to work"? Cut me some slack here because I never intended for this setup for irrigation. It was just dumb luck with priorities that this pumping project was already on the docket, regardless of the impending drought. Yes, this poor-boy irrigation did help to some degree, especially on the acreage behind the poultry shelters. Yes, our fields held onto their vitality longer than conventional pastures. What became apparent was that soil temperatures were so warm that, short of receiving an inch of cool rain, both the plants and soil microbes had shut down - a horrifying reality for a grass-based farm in mid July with several months grazing yet on the horizon.

As the reality set in that we would soon run out of feed, we simultaneously began clearing brush for a new fence line out back. Post holes augured four feet down in areas often wet came up bone dry. Yet amidst these record breaking drought conditions, I buried our heavier tractor, the Allis, in an unseen spring-fed sinkhole, three-eights of a mile back. The irony of this still haunts me. This episode had the potential for catastrophe given the forecast for storms that afternoon. This remote location was inaccessible to a heavy pulling vehicle. There were no paths cleared this far back - that's what I was doing with the tractor when it dropped down. Couple this with the fact that one good rain would render this area inaccessible again for perhaps years, and we were faced with the reality that we could loose the tractor indefinitely. All of this raced through my head as I ran through the brush, racing to get back up to the house to gather chains, cables, jacks and scores of wood blocking. Only moments before I had been pining for rain. Now all I could say to myself was pleeeeease don't rain until we get this thing out. Luckily, this happened on a Sunday morning when the whole family was available. We filled the pickup with all the gear we had. Our small 1953 Farmall had been on the fritz. (Did I mention it's a 1953 model?) The rest of the family went back with the truck, drove back as far as they could and proceeded to chainsaw closer access to the downed Goliath. I tore into the distributor on the Farmall, fixed the problem and drove it back, carefully backing down the narrow, freshly brushogged path through ten foot high woody scrub. We had a 100' cable which allowed us to avoid the wet spot, hooked up and even though the odds were knowingly against us, (the Farmall is less than half the weight and HP of the Allis), we tried pulling her out. (Yes, tractors are always "her's" - don't ask me why - I don't make the rules.) Of course, we had to try but it was in vain. The Farmall started to dig itself in while the Allis only dug itself in deeper. One thing a person learns the hard way is that, once the wheels start spinning, a rookie will

keep trying whereas a post-recovering rookie (!) knows that soon the belly of the tractor will also be in the mud. The last remaining hope was to use the hydraulics of the Allis loader. Unfortunately, I had taken the bucket off because it was so heavy on the front end. So I drove back up the the barn, chained the bucket to the Farmall and drug it back. We couldn't drive it directly to the sinkhole so the five of us pushed and pulled the 500 lb bucket into position under the Allis loader arms. With pry bars and long 2x4's we were able to manipulate it onto the loader mounts. The Farmall was backed down the narrow path and the cable hooked up. This loader trick only works in reverse so we were lucky to have the option. The technique is simple. Tilt the loader bucket so the bucket is in full dump position, apply down pressure to lift the tractor axle up out of the mud, retract the bucket angle back towards horizontal, and voila', the tractor moves backwards a couple feet each time. Repeat as often as necessary. What became clear was that the Allis alone could get itself to move backwards, BUT, it was moving itself off the brushhogged path back into wet thicket. The little Farmall saved the day by slightly pulling the Allis back onto the path (we were pulling on a curve). With mud flying and engines racing, the Allis was finally extracted from it's potentially final resting place.

(Que the Streisand.) Ah, the memories. But it's the laughter we'll remember, the way we were, on that hot Sunday morning in the summer of 2012.

New Farm!

Just a half mile to the NW as the crow flies, lies another 42 acres now owned and operated by our family. It is rare for farmland to be available this close to home so when the sign went up, we absolutely had to put a pencil to it. It's hard to summarize all the variables which led to the justification of this purchase but I'll give it a go.

Prior to 2006, we rented some hay ground at rates which were then cost effective for making hay. Beginning in 2006, farmland rental rates escalated in response to higher corn prices. We could no longer justify making hay and improving fertility on land we did not have a long-term commitment to at rates tethered to row crop farming. The availability of good quality purchased hay has diminished each year as more farmers plow up hayfields in favor of corn. Couple this with the need to improve beef weights as well as plans to expand the footprint we raise pigs on, we were feeling boxed in. The fact that money can be borrowed at rates unimaginable only a few years ago sealed the deal.

Something must be stated explicitly: There is absolutely no way that purchasing farmland at today's prices can be cost justified by farming alone. This topic has been covered in detail in previous newsletters. Like every other farmer purchasing new land, financial payback is justified partly by farm economics and partly by the rationalization tethered to the expectation that prices will continue to rise. I'm not saying I agree with this mentality but at the same time, we don't live on an island. It is what it is. Participate or stagnate.

I'm over the shock associated with being in debt. I doubt I'd have ever gotten over the "what if" shock, if we'd have let this pass. So numb yourself like I have and let's look at the fresh possibilities this new land presents.

First of all, it's accessed off of Territorial Drive to the north of us. It had been in the same family since the Civil War. There's a two acre triangle of land that is linked directly to the 40 acre section. The triangle contains the old farm buildings. There's one small barn directly against the road which is still usable. The old dairy barn burned down several decades ago. The pump house is salvageable. The chicken house was all but collapsed but I really liked it so it was hastily jacked up, straightened the best I could, and reroofed. We didn't close until mid October so time was limited. The land slopes and drops maybe 40 or 50 feet so it has a nice vista to the south and east. The old very wide dairy laneway on the north is overgrown in a pretty way, with a few mature oaks and a hickory at the bottom of the hill. Lots of rock and very old fencing on the fencelines. The laneway leads to the old heifer pasture which has always been kept as a natural pasture. It is 10 acres of low ground. Walking back up from the old heifer pasture crosses 15 acres of flat dark ground followed by 15 acres uphill, sloped to the east. A waterway with woody vegetation bisects these two areas for about half the length of the field. We spent many hours cutting back the box elder, buckthorn and willows along the property lines. The transit work is more or less done, now having lines projected inwards off the corner stakes. We'll need two full days yet on the north line and we'll be ready to start fencing. Because we plan to raise some hogs over there and because we need the peace-of-mind knowing livestock won't get through the fence, the perimeter will be woven wire and electric.

The seeding options have all been researched and purchased. These fields will be planted to a diverse perennial mix of Meadow Fescue, Timothy, Perennial Ryegrass, Festulolium, Alfalfa, Red Clover and Alsike Clover. Now that we have the new seeder, we also plan on interjecting some annuals.

Speaking of seed, an advertisement for some "naked oats" caught my eye. They come in two varieties: *Buff* and *Streaker.* (Don't look Ethyl!) I just had to check it out!

So I called the seed company, told 'em I saw their ad for naked oats. She said, *"yes, we have naked oats"*. I said, *"well, this field is visible from the road and the kids can see it from the school bus"... "so I need to ask straight up if this seed might actually be decent".* She paused, and said, *"Sir, I've seen this seed in a shower and I can assure you"* (she said suggestively) *"that this seed is EXCEPTIONALLY decent".* Now, to my ears, the innuendo overwhelmed the phoneline. I took the phone from my ear to check the digital readout...no, I hadn't dialed a 900 number again, err, I mean, by accident. I could feel my face begin to flush...I wasn't sure if she was flirting or just really took her seeds seriously? So I regained my composure, put the phone back to me ear and continued with my inquiry. I said *"just a minute ago you told me the seed was naked"... "and now you're telling me that, not only have you personally seen the seed in a shower, but when the seed was in a shower, the seed was really decent".* I said, *"which is it?", "because where I come from, it makes no sense to be decent in a shower".* I waited through a long and awkward silence...(long enough to conclude that maybe that wasn't innuendo after all). I finally broke the silence and said, *"ma'am, you'd think you could at least be decent enough to just give me the naked truth"?* Would you believe she hung up on me?

Sure not going to buy from them.

Sheesh - you know I had this same problem with the salad *dressing* people?

Anyway...where was I? Oh yes, the seeder. The new Brillion is the first new piece of equipment we've ever purchased. This decision was imminent regardless of the new land as our existing pastures on the home farm are desperate for rejuvenation. And what a can of worms this opens for an organic-minded farm.

Conventional seeding is most commonly done with a no-till drill. The success of no-till seeding is dependant upon weed suppression accomplished utilizing "burndown" with Roundup. Prior to no-till, the old-school seedbed prep was accomplished with the moldboard plow, disc harrow, spike tooth and finally seed drill. Lots of trips across the field, soil compaction and damage to soil biology. This was how we planted the home farm 20 years ago.

The new Brillion is a one-of-a-kind seeder which can best be described as a no-till broadcast seeder whereas only the top inch or so is tilled, seed distributed and cultipacked all in one pass. "If" this field prep/plant method can get the seed off to a good jump start over the weeds, we'll be successful utilizing a no-till type process without chemical week suppression. Having this tool in the toolbox will allow us to play offense by interjecting new life into our pastures consequently improving fertility, cattle performance and beef quality. I'm giddy with excitement over the potential this seeder presents.

Not so giddy about the infrastructure the new farm requires: Seed - $5000; Fencing - $6000; Well - $6000; Electric - $4000. Except for the well, all of the work will be done with our labor.

Drought - Effects on Costs & Pricing

There's been a lot of early inquiries this winter with many people asking about pricing. It's a reasonable question to ask. What worries me is the response I've been getting when I tell people of the difficulty we're having assessing costs for this season. There's a blank stare that accompanies this statement so I help to fill in the blank with "because of the drought" - which doesn't totally alleviate the puzzled look. After all, the drought is old news - life goes on, right? Yes, life went on. If it had life in it after the drought, yes it went on.

From a seasonal growing perspective, the consequences of the drought have had a much broader impact than the duration of the drought itself. Hay yields were half of normal. If we had not scrambled to fence a new brush pasture, (they ate foliage), we most certainly would have ran out of summer feed. Some farms had to feed the next winter's hay in August or sell livestock. Whatever hay has been available from areas of the country which did receive rain has been trucked in at prices three times the normal money. Grain yields were reduced but did prove to be surprisingly resilient. This resilience was not enough to squelch the fear-factor. Drought in the heartland, in concert with global market expectations caused grain prices to skyrocket into the clouds - where they remain still. These factors have moved our pricing up about 30 cents a pound just to avoid going backward. As prices go in the supermarket, these conditions are creating a lagging effect.

From the farmer's perspective, the market cannibalizes itself. Livestock farmers drowning in the expense of high feed costs begin to liquidate their herds or flocks. Packers, experiencing this temporary abundance of meat available for supermarkets, are able to maintain pricing. If this continues to play out, the consumer won't see price increases at the supermarket meat counter until this liquidation glut clears.

As the fog lifts, the new market will exist with more farmers selling their grains as lucrative commodities rather than the guaranteed opportunity loss which accompanies feeding these same grains to livestock.

Grain/Hay Prices Remain High? Good Thing/Bad Thing?
Here lies the triple-edged sword.

Consumers - bad thing. Most consumers will prefer lower retail prices regardless of external factors.
Commodity Farmers - good thing. Land & input costs are increasing. Historical sales prices had not kept pace with inflation.
Livestock Farmers - bad thing. As price-takers, conventional livestock producers cannot work their cost-to-sales price upwards. In other words, here is what it costs me for materials and overhead, here is my living wage, here is the cost for my purchased benefits package, here is the profit margin above all that for reinvesting in my sustainable business. At the end of that ledger column lies the necessary sales price to remain viable. Instead, these livestock producers have to work their ledger backwards in which case the externally-derived sales price forces cost concessions to whatever degree necessary. Expenses are eliminated in the order as follows: Profit; Fringe Benefits; Labor; Feed quality; Livestock liquidation; Farm liquidation.

I've attached a copy of the *Farmer's Share of Retail Food Dollar* published by Wisconsin's Farmers Union, to which we are members. I've also included a page titled *Creatures of Corn.* These attachments, as well as the small table below are pertinent to this topic so please take a look.

Costs/Inflation 1970-2012	Actual	Adjusted for Inflation	Actual	Inflation Variance
Item	**1970**	**2012**	**2012**	
Gasoline - Gallon	$0.35	$2.07	$3.70	178%
Milk - Gallon	$1.15	$6.80	$4.19	62%
Costs to Grow Corn per Acre				
Machinery	$29.75	$176.04	$144.98	82%
Seed, Chemicals, Fertilizer	$28.14	$166.51	$340.61	205%
Labor	$12.75	$75.45	$31.12	41%
Land	$37.50	$221.90	$258.00	116%
Total	$108.14	$639.90	$774.71	
Yield - Bushels per Acre	100		176	176%
Cost to Produce per Bushel	$1.08	$6.39	$4.39	69%
Selling Price per Bushel	$1.17	**$6.92**	$6.67	96%

If by chance, you're back from reading the attachments and you're still puzzled as to why a pasture-based farm is focusing so much on corn, I will paraphrase for the sake of simplicity.

Because of its sheer size, the volatile corn market is influencing all markets, niche and commodity. Hayfields and CRP land are being converted to corn. Fence lines are being clearcut to make room for more corn. The highly competitive rates for farmland, either rent or buy, are prohibitive for making hay or cow/calf. Amidst this, the Green Revolution has peaked. Bourlag's vision was ambitious and sincere but tragically myopic. Hybridized seeds have given way to expensive proprietary GMO seeds which are dependent upon expensive proprietary herbicides to which nature is rapidly developing resistance and creating new pathogens. Fertility input costs and yield curves no longer track together, with expensive fossil fuel fertility eclipsing yield improvements. For 70 years, as crop inputs increased at rates beyond inflation, prices received had, until only recently, been suppressed far below parity. This elixir of ingredients has been fodder for the spontaneous combustion which has recently occurred. Escalating farmland costs and the collateral damage induced by the boom and bust cycle of corn is inhibiting alternatives to Industrial Agriculture.

It's "bad" because of collateral damage. It's good because, adjusted for inflation, prices should be higher.

A strange phenomenon is occurring throughout the country. The demand for Farmers Markets is increasing while the number of full time farmers supplying this new demand is at best, stagnant. The market is established, the consumer demand is present yet the market coordinators must resort to allowing non-farm vendors and hobby farmers to fill the space and create an atmosphere.

As it turns out, Farmer's Markets, are in the market for farmers. The reason that supply is not rising to meet demand is simple economics - the grass remains greener on the corporate side of the fence.

To an increasing number of consumers, small is where it's at, local is what they want to support. But within this fresh demand exists just a small percentage willing/able to pay the prices necessary for a farmer's living wage. It is futile for farmers to even try to capture a parity wage instead relinquishing to whatever pricing strategy keeps them from hauling unsold product home to the compost pile.

The cold hard reality as recently reported is that, in too many cases, two partners working long hours are lucky to earn $30K to split between them. Health insurance for their family would consume half of this meager income. Consequently, those who farm these family-sized operations - meaning where family does most of the work - do so with no health insurance. Those who would like to start a farm either sit on the sidelines, or, split the partnership with one on-farm, the other working off-farm to obtain health insurance, dental, eyecare, vacation pay, FICA and 401K contributions. It doesn't take a PhD in economics for anyone running the numbers to recognize that the typical benefits package offered at off-farm employment is, in itself, worth more than can be earned on-farm by a single person.

We continue to beat these odds due to the hybrid approach we're using. Health insurance is obtained with Michelle working off the farm. Her hours spent off farm yield a much higher return than could have been gleaned on-farm, with her benefits package alone equal to more than $20K. (Her employer quantifies this each year with a personal report.) It's the no-brainer with the hefty consequence that available farm hours are immediately cut in half. This $20K hole, per partner, is where every business, farm or non-farm, must start their earnings ascent if a private business is to compete with corporate jobs.

Additionally, our prepaid solar/wind energy and conservation efforts, with 20 years of inertia behind it, have significantly reduced our living expenses and business operating costs. These variables allow us to reinvest my salary directly back into the business. Please keep in mind that non-farm businesses don't operate this way - the CEO doesn't donate their salary for the sake of capital improvements. (Quite the contrary with the average CEO extracting $35,000 per day for personal compensation.) This lifestyle, while not for everyone, is allowing this farm to advance. Those wishing to emulate this model will need to adjust their lifestyle to be one without new cars, fancy cell phones and vacations. The assessment is rather straight forward. 20 years of vacation costs can easily add up to $60K. Buying four new cars in 20 years vs three used cars can yield $80K or even more. With these avoided costs, we used the money to build a farm. If these things are not important whereas equal satisfaction is realized by investments in the business, this model will work for others. There's not enough for both personal external pleasures and farm improvements. Family-scale farming is not subsidized. We can both agree that it sucks to have to construct a business model around deprivation but as they say, it is what it is. For over 70 years, food prices have not kept pace with inflation. In other societies, food costs account for 30-40% of income. Here they are just 11%.

$20,000 - the parity cost of fringe benefits - is quite the hole to start from each year. Affordable health insurance would be a huge game-changer. This is the absolutely HUGE foundational flaw in the current policy on job creation - providing incentives for corporate jobs while at the same time disincentives for mom & pop job creation. Each time I've listened to opponents of the Affordable Care Act, I hear statements which are based on incomplete, misleading if not completely false information. The corporate spin continues to be enormously successful. Wherever your feet may be planted on this issue, rest assured that family-scale agriculture, as readers of this newsletter advocate, cannot and will not proliferate until affordable, non-catastrophic healthcare is available for the entire farm family. Yet at this very moment, thousands of Wisconsin farm family's are at risk of losing insurance because of cuts to Badgercare. Our governor responds: *I care too much about the people of this state not to empower them to control their own destiny.* Hold on to that thought.

The subject of healthcare is pivotal and especially revealing when queried against the elephant in the room, Industrial Agriculture, as represented by the Wisconsin Farm Bureau which has endorsed the Badgercare cuts. CAFO's (confinements) are the panacea of the WFB. The majority of employees in CAFO's are paid low wages with no health insurance. It is therefore logical to conclude that WFB policy is actually contributing to Badgercare and EMTALA costs.

(EMTALA is the Emergency Medical Treatment Act signed into law by Reagan. It is an unfunded mandate requiring hospitals to provide care to anyone needing emergency care regardless of citizenship, legal status or ability to pay. These escalating free-rider hospital costs are passed on through higher hospital and insurance costs. As large numbers of people lose or are denied insurance, these free-rider costs will soon drain all resources.)

The outgoing WFB president, frustrated with less federal money for his Farm Bill, minced no words reminding readers that SNAP, (Food Stamps), dominated Farm Bill appropriations - a *free lunch* in his words, contributing to deficit spending. Yet these sanctimonious words rolled off the lips of a man who has personally lobbied and accepted $762K in government aid for his own family farm. The WFB president unloaded both barrels as he left office, stating that organic and grass based farmers *are advocates for systems that would increase costs.* In his view, *consumers are illiterate.* We (organic) are *selfish elitists, narrow-minded and incapable of feeding the world*. He further stated that *the DATCP markets "our" (WFB) products and that here in WI, the debt, taxes and regulations are not standing in the way of us growing our farms.*

So it looks like *Tough Love* for family-scaled farms while *Subsidized Love* continues for industrial farms. And the beat goes on. The 2012 drought has pushed crop insurance payout's to almost $15 billion, with taxpayers picking up most of the tab. The payout for drought loss is even greater than the earnings of a typical non-drought season. Taxpayers pick up so much of a farmer's crop insurance premium that U.S. farmers could be claiming $3.85 for every dollar they paid to insure their 2012 crops. Adding insult to injury, unlike farm subsidies which are public record (www.ewg.org) the industrial farm groups have lobbied successfully for privacy - zero taxpayer transparency. Where is that tough love when you need it? (And exactly when, in the last 70 years, has industrial agriculture ever *controlled it's own destiny?*)

As a consumer, what is your gut reaction to being perceived as *illiterate*? Given the aggressive DATCP prosecution of farm-direct fresh milk sales, meager allowances for farm poultry processing and an outright ban on any on-farm beef or pork processing, it is clear to any farmer wishing to operate outside the industrial box, that the corporate-controlled DATCP is indeed the ONLY obstacle standing in the way of *the other "us"* growing *our* farms. We - as non industrial farmers, are in the cross hairs. Corporate interests have infiltrated the DATCP. Consequently, the DATCP presents to the non-industrial farmer, green-washed and sterilized potential. Warm and fuzzy programs sponsored by the state under the guise of assistance leave the farmer bound and chained almost exclusively to the risk elements of food production with only token access to the reward centers of processing and retail. Have you seen the attached *Farmers Share of Retail?*

Realistically, the high cost of low prices - the Walmart Effect - will continue as the primary influence of food policy. Most consumers won't learn or care about how fertilizer is produced or the impact that crop subsidies have had on the products in their cart. Most industrial farmers will remain indifferent or unaware of how their fertilizer is manufactured, mocking alternatives. *Fertilizer comes from the co-op, stupid.* The externalities that do not benefit the corporation will continue to be dumped onto society's tab allowing their product to present itself as the lowest cost. In this post-Citizens United world, out-shouting the corporate spin will be futile. The remaining ray of hope appears within the offensive marketing campaign which Industrial interests have implemented - the *Tell Our Story* campaign.

Industrial agriculture is beaming with pride. Great! If Red Green Agriculture - Red barns, Green pastures - is allegedly incapable of feeding the world - if confinements are the best thing since sliced bread - if they are so proud, why have we never EVER seen a picture of a confinement on a product label or billboard? We could call it the *Get-MY-Farm-Off-Your-Label* campaign. Imagine a farm calendar hanging in everyone's kitchen, not with red barns and pastoral scenes but with pics taken from the rafters of the confinement. A bulging manure lagoon epitomizing the springtime change of seasons for April would be especially appreciated in the kitchen. Are they ashamed of confinements? No. Are they willing to *Tell Their Story* in pictures on the actual product as a means of educating *illiterate* consumers? Should consumers have a right to know that their food was absolutely not produced in the advertised environment? Do we continue to allow posers of fiscal conservatism to discretely accept government assistance while at the same time listening to them loudly pass judgement on others?

Prior to 2008, when the economic reservoir was still full, lots of special interests dipped their buckets and went on their way. Abundance mitigated controversy. Now that the dam has crashed and the resulting economic climate produces inadequate precipitation, the reservoir remains inadequate. We humans, we're no different than the lions and gazelles as they're simultaneously drawn to the last water hole in a Serengeti drought. Predator and prey, approaching from opposite sides, uncomfortably close. During times of abundance, their watering paths never crossed.

The dam holding this reservoir of money known as our economy ruptured in 2008. The failure report lists three tremors which ultimately caused the crash: 1). 1982 Garn-St. Germain Act deregulating financial institutions. 2). 1999 Repeal of Glass-Steagall intermingles Commercial Banks with Investments. 3). 2001-2003 - EGTRRA & JGTRRA tax cuts reduce revenue while simultaneously accelerating spending for two unfunded wars.

Not everyone agrees with these tangible instigators. Instead, we're tangled in the pursuit of the *Taxed Enough* myth. Apparently few know that the original 1773 protest never actually induced a reduction in taxes. After defeating the British, citizens were not only taxed without representation, but at levels much higher than the British could ever have obtained. Samuel Adams, the loudest anti-tax leader, never put himself at risk, never firing a shot. Later, as Governor of Massachusetts, he threatened tax protestors stating *"the man who dares to rebel against the laws of the republic ought to suffer death."* Patrick Henry, as governor of Virginia, also taxed without consent. Yet some are now protesting and obstructing for a 240 year old concept that never actually produced results. It's romantic but mythical. Meanwhile, existing within our more modern oil-based economy exists a 1946-1962 blueprint revealing a proven tax structure governing the most robust period in our history.

In the bigger picture, the myths being promulgated by the fossil fuel industry will create problems for society which cannot be repaired by any level of taxation. Fox News recent broadcast of a segment titled *Green Going Bust* revealed itself as blatant corporate propaganda: *"The United States simply hasn't found out how to do solar effectively and cheaply".* Germany's solar success is *"because they have a lot more sun than we do".* (As facts go, Germany is actually cloudier than almost every state in the U.S.). Amidst all the alleged solar inadequacies, Fox praised the virtues of Natural Gas.

The "green" in Industrial Agriculture is made possible with copious volumes of Natural Gas. All of that lush greenery in acre after acre of corn and beans is drilled with the Hydraulic Fracturing process - a process in which we drill and pump a proprietary slurry of 750 chemicals through and under the water table, bringing the wastes back up through the water table to be stored on the surface above the water table. 10 million gallons of pure water are consumed for each well. The slurry mix brought back to the surface is permanently toxic. Are so many people accepting this because they don't know of the extreme potential for permanently contaminating vast underground aquifers, or, do they know but don't care, because it's not (currently) their water that's at risk? We pride ourselves on being the smartest species on the planet. We also give pigs the dubious distinction of being one of our smartest subordinates. Recognize that even pigs know better than to foul their own nests.

Unspinning Fox News, here in reality, solar panels are currently priced at 1/10th the price we paid in 1992. Yet even then, the payback was better than a lifetime of utility payments. Here we are today, with PV available at previously unimaginable prices. The fact that every available panel is not installed and earning payback on roofs throughout our neighborhoods is a testimony to what I have tried to present in this newsletter - if 70 cents a watt won't do it, nothing will. We have the means at our fingertips. We lack the willpower. We are no longer thinking for ourselves.

Square pegs fit in square holes, round pegs in round holes. Our society is further polarized through litmus tests which appraise all other ambiguities thus forcing otherwise irregular pegs into expected societal conformity. Divide----------Conquer - a psychological herd control technique recognized and utilized by oppressors and despots for millennia. In the academic sense, it might be referred to as *Engineering Human Behavior.* It's success over the ages is rudimentary - recognize the common weakness - exploit the weakness. Human beings, as individuals, are amazingly diverse. Our vulnerabilities are only revealed as a species. When faced with problems, we gravitate to the solution that we want to hear. We are also naturally tribal. Once we've become part of a group, we rationalize externalities based on perceived goodness for the group. Facts are immaterial - relevance is imperative.

Our corporations are exploiting this with impunity.

We'll be converting 40 more acres to perennial pastures this spring.
That's one less quarter section that will never again need fossil fuel fertility recklessly extracted from someone else's water table.
Cancel the orders for herbicides, pesticides and genetically modified seed.
Call the local Mom & Pop seed company and order some Meadow Fescue, some Timothy, Perennial Ryegrass, Festulolium and sweet Red Clover.
Then sing a song of joy for all the birds, insects and critters who will move in and thrive in this new evolving biological paradise.
Solar energy is back to power these new fields. Just an eight minute free ride from source to seed. Returns every day.
We've now lived and farmed with solar energy for over 20 years.
We produced over 15,000 kWh from solar and wind last year, most of these solar fusion electrons flowing onto the public grid.
They say it can't be done. They say it's impractical.
They're wrong.

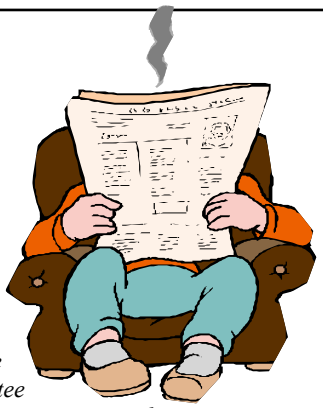
Thanks for reading. Thanks for supporting the integration of Organic Farming & Organic Energy!

Steve

We are here.

First they ignore you, then they ridicule you, then they fight you, then they imitate you, then you win.

In the NEWS



GMO Contamination Without Compensation *The AC21 advisory committee, also known as the Advisory Committee on Biotechnology and 21st Century Agriculture, released it's findings in November. After one year of study, the committee concluded that if genetically modified pollen contaminates the crops on organic farms, the source of the GM pollen trespasser is not to be held accountable. Furthermore, the committee advised that any financial loss incurred by the victim farm due to loss of organic market value be absorbed by the victim. The committee specifically stated that if the victim of GM pollen trespass wishes to mitigate potential marketing losses induced by the trespasser, that the victim is free to purchase crop insurance, if available, at the victims own expense.*
Note: Because of the lack of statistical data on specialty, non commodity, organic crops, there are few if any crop insurance policies available.

Ag Gag *Iowa Lawmakers approve a law to protect farms from animal rights infiltrators. This law makes it illegal for individuals to shoot video of inhumane treatment while presenting themselves as workers. They're calling it agricultural production facility fraud.*
Even though I know that most of these whistle-blowers are hell-bent on eliminating animal agriculture, the actions taken to disclose industrial abuse has revealed a world the public would never have seen otherwise. Instead of correcting the obvious, industrial ag is saying, we know what we're doing, trust us and stay out. Consequently, they are out of touch with the growing surge of consumers who want more information, not closed gates, no trespassing signs and gag orders.

Possible Case of FMD "Makes Case" for Animal ID *Three recent disease investigations have involved scrambling Lear jets to take samples to USDA labs. A case-in-point occurred when suspicious vesicles were found on slaughter pigs that came from Minnesota, crossing Wisconsin en route to slaughter. The Lear jet scramble to Plum Island New York produced negative test results. DATCP Secretary Brancel emphasized that protecting the marketplace for the states livestock producers was the true value of animal identification and premises registration.*
Federal funding for ID evaporated with the economy. Appears the DATCP is eager for a pretext to invigorate new funding. Recall that the DATCP deputized coordinator for Animal ID is WLIC, a consortium of corporate suppliers of animal identification equipment.

Dude - It's Beef! LFTB, lean finely textured beef, aka *Pink Slime,* has been aggressively defended by the industrial beef lobby with their marketing response being the slogan, *Dude - it's beef.* The beef lobby is speaking to consumers in a paternalistic manner, chastising both the media and consumers for failure to recognize that this product is just beef, plain and simple - shutup, eat and enjoy. What is LFTB and it's history as food? LFTB had it's origins in pet food and cooking oil, later being approved for limited human consumption. The raw materials consist of low grade beef trimmings procured from slaughter plants throughout the globe. These trimmings include cartilage, connective tissue and sinew to which scraps of tissue are mechanically separated within a heated centrifuge. The fat is liquefied separating the lean beef and by-products. This recovered material is treated with ammonia. The end product, resembling the pejorative of pink slime, is compressed into pellets, frozen and shipped to grinding facilities for use as filler in ground beef.
Dude - It's *Beef?????* Technically, I suppose they're right.

We Energies Eliminates Solar Incentives Effective Jan 1, 2013, new cogeneration accounts will operate at a new rate structure (CGS8). This rate structure of .04545/kWh on-peak, .03265/kWh off-peak, effectively eliminates all potential returns on investment required for justification of a grid-connected net metered photovoltaic system. Company documents indicate that We Energies attempted to eliminate all potential sales of solar energy onto the grid. This was to be accomplished by carrying forward any monthly net excess on a yearly basis, with all excess remaining at the end of the year forfeited by the customer. The PSC disallowed the forfeiture yet yielded to the utility the right to pay any net surplus at the ultra low Avoided Cost Rate. Note: The previous rate paid was .27284 kWh on-peak, .05253/kWh off-peak.

We Energies Increases Consumer Rates for Green Energy 74% The Energy For Tomorrow green pricing program is offered to all customers of We Energies. When a customer volunteers to sign up at either 25, 50 or 100% participation levels, We Energies in turn agrees to purchase or produce renewable energy to match the customers usage. The customer pays a higher rate because, as We Energies states in it's prospectus, renewable energy costs more to produce than energy generated from traditional sources. Reader: Please revisit the preceding We Energies news item.
(Please accept my apologies. This goes against my better judgement and I know it's inappropriate, but...*WTF?)*

Bee Colony Collapse Continues Scientists have documented about 150 chemical residues in pollen and wax gathered from beehives. In the scientist's own words: "Where do you start?" "When you have all these chemicals at a sublethal level, how do they react with each other? What are the consequences?" GMO's, herbicides, pesticides - no one knows. On the bright side, this has the potential to solve our unemployment problem. Imagine witnessing scores of people working in every field across the country, sunup to sundown, manually pollinating each and every plant.

UW-Madison Perpetuates Chemical Treadmill *As reported to farmers in Agriview, Staff at UWM Soil Science Department have updated farmers with FAQ's about liming. These soil scientists at the premier agricultural college in the country recommend that farmers lime to the neutral point, irregardless of calcium/magnesium levels in the soil or liming material.*

Background Summary: This issue represents the demarcation line between chemical and biological fertility. *Liming to the Neutral Point* has been integral to the NPK philosophy since the 19th century. Because NPK is not readily absorbed in acidic soils, modern agronomy adapts the soil environment to facilitate NPK transfer directly to the plant. With yield as our exclusive yardstick, it is amazing. But every farmer has two columns on the ledger. NPK/Liming-to-Neutral saddles the farmer with accelerating petro fertility input costs while at the same time creating a dysfunctional soil environment, incapable of providing the farmer with microbial-induced fertility. The farmer is trapped on the chemical treadmill. Understanding the role that calcium plays in respect to soil and microbe is the key to unlocking and growing your own fertility within the soil.

The supermarket offers the cheapest meats in the most convenient locations.

Yet some consumers spend more for locally-raised pastured meats.

This seems foolish. Why do some people do this?

Livestock Feed

The single largest expense in raising livestock is the feed. Consequently, by-products and slaughter house wastes are substituted to displace more costly natural feed components. Examples include blood meal, feather meal, bone meal, dried poultry manure, rendered offal, ground hooves, confectionary wastes. For some people, it's not just the fact that these by-products are fed but also the sourcing. By-products are a specialty industry in which slaughter house wastes are purchased from packing plants throughout the world, brought to one location, then mixed and processed for sale to livestock producers. This raises the concern that one diseased animal's by-products could unknowingly contaminate many thousands of pounds of feed. The process of feeding dried poultry manure to cattle raises the additional concern of cannibalization. Since the Mad Cow scare, it is illegal to feed rendered bovine products to bovines. However, it remains legal to feed rendered bovine in chicken feed. As selective eaters, the caged chickens push feed out of the feeder where it lands in the chicken manure. Chicken manure as a common bovine feed supplement effectively completes the cannibalism loop.

Livestock Medications/Hormones

Because consumers demand low prices, conventional livestock producers must maximize their housing and labor. Animals eating, drinking and defecating in high density, crowded confinements creates the ideal conduit for pathogen proliferation. Consequently, sub therapeutic antibiotics are administered with each daily feeding. Over time, producers recognized that this prophylactic use of antibiotics carried the added bonus of increasing feed efficiency. Because of the same consumer demand for low price, hormones (steroids) are implanted in beef cattle to increase both feed efficiency and accelerate weight gain. Arsenic is another concern, being routinely fed to poultry as an appetite stimulant. The antibiotic/hormone issue has two concerns for consumers. Some people are concerned that trace amounts of these substances remain in the meat. The larger issue rests with antibiotic resistance created by the ubiquitous utilization of the same classes of antibiotics as are used to treat humans.

Animal Environment/Animal Husbandry

In spite of advertising attempts depicting livestock reared in lush, sunny, green pastures, an increasing number of consumers are learning that these depictions are false. These consumers learned that the food they have been placing on their kitchen table was derived from animals forced to exist in densely populated confinements, breathing ammonia and fecal laden air while eating, drinking and sleeping directly above their own septic tank. Laying hens are caged their entire lives, 6-8 hens per cage, with an 8-½ x 11 sheet of paper being the equivalent floor space for two hens. Their cages are stacked. Manure and dust falls upon the cages below. Workers must wear respiratory protection to avoid burning their lungs with ammonia. Some consumers recognize that these conditions enter into the bodies of the livestock - the very place in which their future meat and eggs are metabolizing.

Butchering/Processing

Industrial processors repeatedly slaughter high volumes - 250,000 chickens/day, 120,000 hogs/day, 5000 cattle/day. This is compared to local butcher shops which typically process 40 beef and 60 hogs per WEEK. Because the kill floor is killing such high volumes 20 hours/day, every day, many consumers recognize the potential for cross contamination in which one pathogen-laden animal contaminates thousands. Poultry processing involves submerging hundreds of thousands of manure-caked carcasses into scald tanks for defeathering. Evisceration is accomplished with machinery which forcefully enters the body cavity to remove the organs and intestines. Because some intestinal breakage occurs, manure is spilled within the carcass as well as being transferred from carcass to carcass by repetitious machinery. Because this fecal contamination is persistent throughout the scald, eviscerate and chill processes, chlorine baths are required as a means of killing the pathogens. Industry recognizes that it is impossible to remove the pathogen from the meat, relying on chlorine or tri sodium phosphate to kill the pathogen so that the pathogenic material is safe to eat. The liquid and blood that drains from a supermarket chicken is in fact the liquid the meat absorbed while soaking in chlorine baths which contained this fecal-laden water. Most pork is now "enhanced" typically to 12% with a brine solution consisting of water, sodium tripolyphosphate, salt, sodium lactate, potassium lactate, sodium diacetate, preservatives and flavoring agents. Because industrial hogs are so lean and the hogs live a sedentary lifestyle in confinements, these watered salt solutions improve flavor and eliminate dryness. Consumers pay the going rate for pork to which 12% of the weight is pumped with these enhancement brines. Some consumers have learned of the process used to pump the meat with brine solution. This pumping process uses a series of injection needles which repeatedly probe and pump fluids into the pork as it moves on a conveyor. Excess fluid drains from the pork , is captured and recirculated. The process of probing and recirculating brine fluids on a conveyor belt system assures that pathogens normally found exclusively on the exterior will be pushed deeply into the meat as well as spread via the thousands of gallon of recirculating fluids. Grinding meat has become a specialty business in which trimmings are procured from slaughter plants throughout the world. The grinding plant dumps these collected trimmings into a grinder/mixer capable of processing thousands of pounds. It is in fact accurate to state that a single hamburger is comprised of and/or has come in direct contact with meat trimmings derived from thousands of animals sourced from throughout the globe. Some consumers recognize that one animal with e-coli or other hazardous health problems will in fact contaminate thousands. As is the case with poultry, industry recognizes the presence of pathogens and the vectors the industrial grinding process creates. The industry preference is to kill the pathogen on the carcass, rendering the dead pathogens as safe to eat.

Solar Harvest Farm

262-662-5278

2013 Harvest Schedule for Pastured Meats

Keep on your refrigerator for future reference!

Pastured Chicken Certified Organic Feed **Price**: Qty: 3-9 $3.99/lb Qty: **10-19 $3.89/lb** Qty: **20 + $3.79/lb**

Whole chickens typically 4.5-6 lbs dressed available fresh on the dates noted below in green. Here's how to obtain:

Volume Discount Chicken Pricing!

1). Choose a date in which you will be available to pickup your order.
2). Call us to reserve your order.
3). Mark it on your calendar! (If you forget, we need to add $0.20/lb for early/late pickup!)

Arrive on the designated date and time with ample cooler space and ice. To assure availability it is best to reserve your needs well in advance. However, because openings often occur at the last minute, feel free to call at any time. Due to folks stocking their freezers for winter, the fall dates usually fill the fastest.
Volume pricing requirements: Picked-up on time; Single payment per order. (The incentive for us = less transactions and a reduction in people who forget to come!)

Pastured Eggs Certified Organic Feed **Price:** $5.00/dz (Equates to approx $2.50lb) 2dz min order. Pickup Mon. thru Sat.

Grassfed Beef Rotationally-Grazed **Price:** Quarter Beef $4.89/lb Downpayment: $100/Qtr
Half/Whole Beef $4.69/lb*

Pig-Happy Pork Certified Organic Feed **Price:** Half Hog $3.49/lb Downpayment: $100/half
Whole Hog $3.19/lb*

Pork & Beef pricing is based on hanging wt. Processing costs are extra with estimates listed on the Yield page.

*The volume discounts are available provided that the order, downpayment and cutting instructions are under one name as well as the final payment being received at the time of pickup from that same person.

Our livestock do not receive hormones, medicated feed or rendered by-products. The feed provided to the chickens and hogs is certified organic by M.O.S.A. In addition, the chickens and pigs consume respectable amounts of our organic forage. Our grassfed beeves are raised on their mother's milk and pasture for the first 7-8 months before weaning onto a winter diet of hay, mineral and molasses. Starting in spring, the beeves are finished on our rotationally-grazed pastures. Our pastures are never sprayed or treated with anything which is not organic approved. Please note: Due to worldly events and the drought, hay is getting harder and harder to procure. Some hay is organic- most is not. The hay we have been using, like most all hay, is not sprayed with chemicals as row crops are. We are currently implementing plans to produce hay on our new acreage as well as stockpiling forage to reduce overwintering hay needs.

Our soil fertility is enhanced via direct animal impact as well as our own compost. Mineral consists of Icelantic Kelp, Redmond salt, rock mineral and microbials. We do not use diesel fuel nor toxic insecticides for fly control. Our pastures receive fertility from direct animal impact and compost.

Organic electrical energy is produced on site by utilizing farm-produced **Solar** and **Wind** power.

June Sun	Mon	Tues	Wed	Thurs	Fri	Sat
9	10	Chicken Pickup 4-6pm **11**	12	Chicken Pickup 4-6pm **13**	14	Chicken Pickup 1-3pm **15**

July Sun	Mon	Tues	Wed	Thurs	Fri	Sat
	Beef Pickup - Hansen's 1	Beef Pickup - Hansen's **2**	Beef Pickup - Hansen's **3**	Beef Pickup - Hansen's **4**	Beef Pickup - Hansen's **5**	Beef Pickup - Hansen's **6**

Aug Sun	Mon	Tues	Wed	Thurs	Fri	Sat
11	12	13	14	15	16	Chicken Pickup 1-3pm **17**
18	19	Chicken Pickup 4-6pm **20**	21	Chicken Pickup 4-6pm **22**	23	**24**

Sept Sun	Mon	Tues	Wed	Thurs	Fri	Sat
1	Labor Day 2	3	4	Pork Pickup - Hansen's **5**	Pork Pickup - Hansen's **6**	Pork Pickup - Hansen's **7**
15	16	17	18	19	20	**Beef & Pork** **10-Noon** **At Solar Harvest** **21**

Oct Sun	Mon	Tues	Wed	Thurs	Fri	Sat
		1	2	2	4	**Beef & Pork** **10-Noon** **At Solar Harvest** **5**
20		Pork Pickup - Hansen's **22**	Pork Pickup - Hansen's **23**	Pork Pickup - Hansen's **24**	Pork Pickup - Hansen's **25**	Pork Pickup - Hansen's **26**

Solar Harvest Farm

7432 Marsh Road Waterford WI 53185 **262-662-5278** solarharvestfarm@yahoo.com

Typical Costs for Half and Whole Pork — 2013

Item	Hanging Wt x $/lb	Meat $ To Farm	Processing $ to Butcher* Detjens - Hansens	Total Cost Estimate
Pork - Half Hog	90 lbs x $3.49	$314	$65 - $80	$379 - $394
Pork - Whole Hog	180 lbs x $3.19	$574	$126 - $159	$700 - $733

Typical Yield From Half Hog (Double for Whole Hog.)

Cut	Lbs
Ham	16
Shoulder Roast	10.7
Ground Pork	10.2
Chops	9.4
Bacon	6.5
Loin Roast	5
Pork Hocks w/meat	4.2
Spare & Baby Back Ribs	3
Neck Bones w/meat	2.5
Liver (for liversausage)	2

Please note that these listings for both pork and beef are but one of many ways the butcher can cut your order. If you have a preference, (and Mother Nature will provide it on the carcass) feel free to discuss your needs with the butcher.

Also: Ma Nature provides us with a variety. Hanging weights for pork halves range from 60 - 120 lbs. If you'd like more or less than the "typical" estimates provided, let us know!

There's two prices listed for processing because the two butchers we use have different pricing.

Take Home Weight - Half Hog > 69

Typical Costs for Quarter and Half Beef (Forecasting heavier weights this season.) — 2013

Item	Hanging Wt x $/lb	Meat $ To Farm	Processing $ to Butcher* Detjens - Hansens	Total Cost Estimate
Grassfed Beef - Quarter	135 lbs x $4.89	$660	$69 - $79	$729 - $739
Grassfed Beef - Half	270 lbs x $4.69	$1266	$133 - $158	$1399 - $1424

Typical Yield From Quarter Beef

Cut	Lbs
Ground Beef	31.3
Chuck Roast	18.8
Sirloin Steak	8.0
Round Steak	6.9
Soup Bones/Misc	6.5
Club Steak	6.2
Rump Roast	5.1
Sirloin Tip Roast	5.1
T-Bone Steak	4.3
Boneless Stew	3.1
Liver	2.5
Porterhouse Steak	1.8
Round Roast	1.5

Important Note!

The listed weights are typical for the Fall beef harvest.
July beef weights (and subsequent costs) will typically be 20-30% higher.
If you prefer a greater quantity, reserve your beef from the July harvest.

There's two prices listed for processing because the two butchers we use have different pricing. The Schedule page tells you which butcher is used for a specific harvest.

Take Home Weight - Qtr Beef> 100

Sticker shock? You are buying a year's worth of meat at one time! Even if you bought the lowest quality meats from the supermarket, the equivalent cuts would cost $1100 for a half of beef, $475 for a whole of pork. We can't and don't compete with mass-produced supermarket meats in just the same way that mass-produced meats cannot compete with our quality, nutrition and sustainability. However, if you were buying individual packages from the natural or organic meat case, our prices will save you money - and in almost all cases, provide you with a superior product!

*This includes the fees associated with slaughter, cutting and wrapping, as well as the smoking costs associated with ham and bacon. You will be able to have your order custom cut to your cutting instructions. You may instruct the butcher to provide additional services at your own added expense. Examples of these added services include sausage making, patties, additional slicing or smoking, deboning, cryovac etc. Double wrap is also available for a relatively small additional cost. (Cost vary slightly at different butchers.)

Please note that as in the past, the nature of making ham, bacon and some sausage involves the addition of curing agents, spices and flavorings that may or may not be to your satisfaction. For those concerned, there are several varieties of sausage available without MSG (Detjens only). If you are inclined, please make a point to ask the butcher the ingredients at the time you provide your cutting instructions. If you have questions you'd like answered before you place your order, please call or email us!

We have raised these animals to provide the finest and purest qualities available anywhere. Many people take their pork trimmings as pure ground pork and make their own sausage patties. It is easy and delicious and best of all, contains no additives other than spices. Penzeys offers many different sausage seasonings. Refer to www.penzeys.com for examples. If you prefer not to have your hams cured, you will receive the "fresh hams" in their pure form. These are pork roasts "to die for"in the crockpot, tender and juicy! Or simmer some with your favorite BBQ sauce, serve with rice or on a bun and the kids will love you - (even more)! Bacon is the exception. If you don't have it cured, it's called side pork which is quite different from the smoked and cured bacon. If you take the ground pork and fresh hams in their pure forms, you receive the pure meat from this farm while saving the expenses associated with smoking and sausage making, (typically sausage adds $1.50 per pound to whatever quantity you elect).

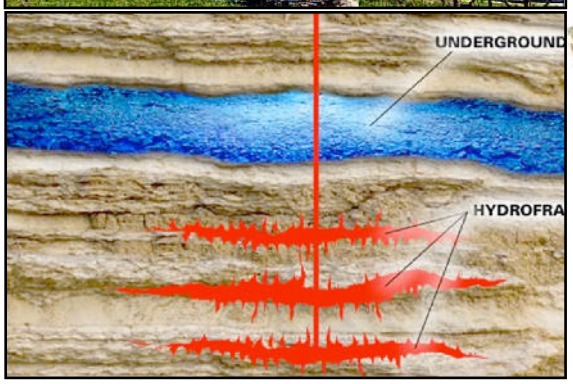
The weights and yields used in these examples are typical. Fall beef quarters can range from 90 - 150 lbs. (July beef 130-180 lbs) Pork halves can range from 60 - 120 lbs. Much of this depends upon the seasonal growing conditions. Let us know if you prefer more or less than the estimate. We will do our best to match your needs to the weights available.

Freezer Space Required: Quarter Beef: 2.5 - 3 cubic feet. Half Pork: 2.5 - 3 cubic feet Visualize this: Picture 3 to 4 full size paper grocery bags.

Industrial Agriculture
Mining the World to Feed the World
Sustainable?

Coal Mine - Wyoming

Frack Sand Mine - Wisconsin



Fracking Natural Gas - Pennsylvania

Coal Power Plant

Haber-Bosch Fertilizer Plant - Louisiana

Fossil Fuel Fertility

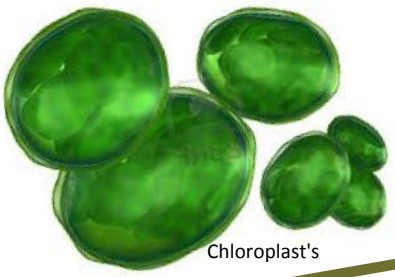
Corporations are selfish by design.
They are incapable of empathy.
They are indifferent to societal concerns.
Corporations are indeed sociopathic.

Society, not corporations, must drive social policy.
Society understands the meaning of sustainable.
Corporations are clearly demonstrating otherwise.

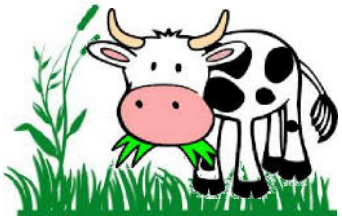
We cannot continue to allow corporations to strongarm society's food and energy policies.

The path we are currently on ends at a cliff.
Those who agree recognize the difference between finite and infinite.

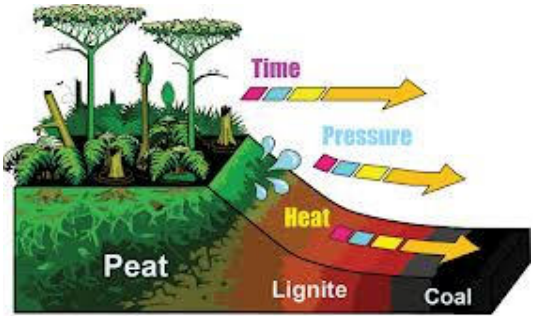
It's Not Easy - Being Green...



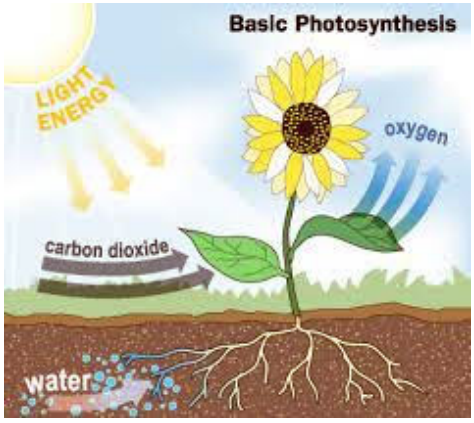
Chloroplast's



Managed Intensive Grazing
Graze energy from finite carbohydrate reserves (roots). Or...
Graze energy from an active photosynthesis process.
One method is sustainable. The other is not.



Mine energy from ancient finite carbohydrate reserves. Or...
"Graze" energy from an active photovoltaic process.
One method is sustainable. The other is not.



Do we really need a panel of scientists to grasp the importance?

Photosynthesis is a daily/seasonal cycle - a solar cycle. The photons that splash into the chlorophyll molecules in the greenery outside our windows are responsible for initiating the process which makes all life on earth possible. These photons left the sun just eight minutes prior, traveling 93 million miles to deliver their gift. In it's most basic form, we all understand that CO2 is taken in, the carbon is stripped away to become sugar, the O2 molecule is liberated into the atmosphere. The makeup - the balance of elements present in our atmosphere evolved from this daily/seasonal solar cycle. This delicately balanced elixir of atmospheric gases was maintained by ACTIVE photosynthesizers. 250 years ago we began burning the highly concentrated carbon byproducts of an ancient photosynthesis cycle. For the plants that ultimately became our fossil fuels, their last moment of active photosynthesis occurred the second before inundation - 100-400 million years ago. These vast amounts of concentrated carbon represent just half of an unfinished manufacturing process . At present rates of extraction, humanity will deplete these carbon deposits within 150 years - 400 million years of carbon depleted in 400 years. These vast amounts representing millions of years worth of concentrated carbon has been unearthed and burned - it's CO2 being injected into our atmosphere literally 1 million times accelerated. It is illogical, even for non-scientific minds, to suggest that the contemporary greenery outside our windows has the capacity to absorb and sequester the incredibly vast amounts of this ancient, concentrated carbon.

Who Cares?

While many people alive today will live to witness the worsening effects of anthropogenic climate change, the epic task associated with feeding and sheltering a chaotic, violent world will ultimately lie on the shoulders of the kids we now see frolicking on our playgrounds.

Yes, we have enough carbon fuels to live comfortably throughout OUR lives.

The climate change decision ultimately revolves around one sentiment... *Why should I care if I got mine?*

In 30 years, these kids won't care that the adults of early 21st century America couldn't come to grips with Al Gore's conflictive lifestyle, Climategate or the naivety of "*CO2 is a good thing*". Instead they will remain perplexed as to how an entire society could have recklessly gambled with the literal foundation of their existence.

What if the *Greenies* are wrong?

We will have been premature in transitioning to an inevitable clean energy alternative - proactive instead of reactive. Our water will be cleaner and more plentiful. Our health and sovereignty - locally and nationally - will improve. Our deficits will be diminished accordingly.

What if the *Doubters* are wrong?

Man-made climate change will induce worldwide instability threatening our existence as we know it. The carbon-based fuels will still reach depletion. A society lacking the means of cohesion will be unable to develop and implement alternatives.

Crisis or Consensus?

We make OUR choice.
Our Children suffer the irreversible consequences.

Solar Harvest Farm Waterford WI Special thanks to guest Kermit the Frog, Jim Henson Company with credit to Walt Disney, Kermit's current caretaker.

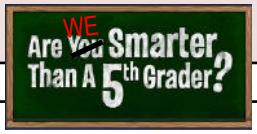
In 1900, a newborn joined a community of 1.7 billion.
The Earth provided from her low-hanging fruit.

In 2000, a newborn joined a community of 6 billion.
The Earth struggles to provide from her farthest branches.

In 2050, a newborn will join a community of 9 billion.

Imagine a hospital staging area in which society pre-delivered to each newborn, all these lifetime energy resources shown below. Is is rational to believe that each one of us has our names on all these trucks?

5th grade math skills are required for the calculations shown below.



Average Miles Driven per Year: 15,000 miles
Typical Sedan Combined MPG: 25 mpg
Fuel Burnt per Year: 15,000 / 25 mpg = 600 gal/yr
Fuel Burnt per Lifetime of Driving (60 yrs) = 36,000 gal

Number of Tankers per Lifetime: 4

Average Miles Driven per Year: 15,000 miles
Typical Pickup Combined MPG: 15 mpg
Fuel Burnt per Year: 15,000 / 15 mpg = 1000 gal/yr
Fuel Burnt per Lifetime of Driving (60 yrs) = 60,000 gal

Number of Tankers per Lifetime: 6.7

Tankers per 2 car Household - Lifetime: 10.7

Typical Electric Use: 10,950 kWh/yr
Coal burnt per kWh: .94 lbs
Coal burnt per year: 10,950 x .94 = 5.15 Tons
Coal Burnt per Adult Lifetime (60 yrs): 309 Tons

Quad Axle Dump Truck Loads: 12 +

Home heating is typically Natural Gas. Because gas is piped and thus, cannot be visualized, it's energy equivalent in coal is being used for this exercise.

Typical Natural Gas Use: 100 Mcf/yr
Conversion: 1Mcf gas = 83.33 lbs of Coal
Coal Equivalent Burnt/yr: 83.33 x 100 = 4.17 Tons
Burnt per Adult Lifetime (60 yrs): 250 Tons

Quad Axle Dump Truck Loads: 10

Commercial Flights - United States : 28,000/Day 10 Million/Yr
Commercial Flights - Worldwide: 93,000/Day 34 Million/Yr

Average miles flown per flight assumed at: 1000 miles
Boeing 757 miles per gallon: 0.33 mpg
Fuel consumed per typical 1000 mile flight: 1000 miles x .33mpg = 330 gallons

United States Jet Fuel Burnt per Day: 28,000 flights x 330 gal = 9.2 million gal.
United States Jet Fuel Burnt per Year: 10 million flights x 330 gal = 3.3 billion gal.
Worldwide Jet Fuel Burnt per Day: 93,000 flights x 330 gal = 30.7 million gallons
Worldwide Jet Fuel Burnt per Year: 34 million flights x 330 gal = 11.2 billion gal.
CO2 created by injecting 11.2 billion gal/yr into atmosphere: 224 billion lbs.

Worldwide Jet Fuel Burnt per Adult Lifetimes (60 yrs): 672 Billion Gallons

These figures are just for commercial flights transporting people. In addition, every day in the U.S. there are 27,000 general aviation, 25,000 air taxi, 5,300 military and 2,100 cargo. On any given day, 87,000 flights are in U.S. skies, with 5000 flights in the air at any given moment.

Resource list limited to transportation and home energy. Not included are the fossil fuel resources required to produce all lifetime food and materials.

The *Magic Tank* of Energy

Everybody knows what a regular ole tank of energy is - it's a treadmill. We fill the tank, we pay the bill, we consume the energy, we compulsively return for more. The process repeats indefinitely, or, we run out of money to feed the escalating meter prices.

Imagine that someone told you they offer an *Amplifying Tank of Energy* which builds - amplifies - equity for it's owner? For the sake of comparison, imagine you were told that this *Tank of Energy* was akin to purchasing a lifetime-built car with a magic fuel tank which amplifies every initial energy dollar such that after nine years, maybe less, you'd never have to fill the tank again yet the car would continue to function. You might listen to the sales pitch and conclude that it sounds too-good-to-be-true. Perhaps you'd paraphrase and interrogate the salesman: *Are you telling me that this energy device is akin to purchasing a car that will not only last a lifetime, but in that lifetime, I'll only have to put fuel in the tank for the first 9 years?* The salesman responds: Y*es, that is correct. After 9 years you won't be spending money, but rather, you'll be making money.*

Too-good-to-be-true? In fact, this technology has been available for decades.

The technology is called Photovoltaics. There are no moving parts and no emissions. Runs on sunshine.

In reality, photovoltaics could be applied to cars or heating systems but are far more effective as a home electrical energy source. Because we are a tank-oriented society, the car fuel tank analogy is more readily comprehensible. If the coal man still delivered coal to everyone's coal bin, a more direct analogy would have been effective. Every one of us uses coal every day yet too many of us have never seen it or held it in our hand even once. Coal is now out-of-sight-and-out-of-mind.

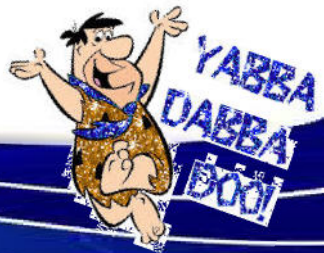
What's the Catch?

There's always a catch. The cost-effectiveness is commensurate to the energy efficiency and conservation measures implemented by the owner. Can you flip a switch off when something's not actually being used? If yes, you're already half way there.

Still More Magic?

It has been discovered that solar energy passes through glass and actually gets trapped by the glass. Imagine all that solar energy banging on the windows trying to get out, but it can't! What in the world could we do with all that free trapped solar heat?

With the technology available to us here in the 21st century, burning hydrocarbons is about as prehistoric and dated as the Fred-and-Barney-mobile - 'cepting one thing... Fred and Barney have good reason to smile...there's no filling stations necessary in Bedrock!



The Evolution Of Corporations

From ***Luddites*** to ***Lights-Out***

Luddites - Early 19th century artisans who destroyed the technological advancements which threatened their employment.
Lights-Out - Early 21st century process automated such that no lights are required because no employees are required.

"Why is it I always get the whole person when what I really want is a pair of hands"? --- Henry Ford

Oh, the complications...the needs...the emotions...the baggage that comes with employing the *whole person*.
Ford pined for workers who were mere mechanical hands, devoid of all human baggage, requiring only lubrication and electricity. This brooding - this industrial lust - has in the course of less than a century, metamorphosed into the ubiquitous industrial robot. Unbeknownst to Mr. Ford, his yearning was also a manifestation of something much more philosophical. Mr. Ford had unknowingly personified the difference between a person and a corporation. Ford had revealed an answer to a question which would not be Supremely opined for a century.

I type these words as I face an LCD screen of multi-colored microscopic pixels. Were it not for corporations, the words LCD and pixel might never have entered my lexicon. Of course, all around us exists the evidence that we all receive great benefit from corporate ambition - and most of us like it. Some people parse this simplistically - complicity or hypocrisy. This is a shallow response to one of society's most daunting concerns: Corporations now legally possess and freely utilize First Amendment Rights effectively overpowering human voice.

Corporations are charters - pieces of paper, drafted by human-beings thus creating a *Separate Legal Entity* allowing it rights to enter into contracts as a person might. In this context of contracts, it is understandable that a legal union of more than one person, like a marriage, would need the means of representation as one entity. Might there be other human-like tendencies that would fortify the case for corporations as a virtual equal to a whole person? Or, with further extrication, will we recognize that, like Ford's premonition, corporations only need us for our hands? We extract these answers by first asking: What is the primary legal concern of this paper-human-entity?

Corporate managers have a <u>legal</u> responsibility to provide value to their shareholders.

In 1919, Ford Motor Company shareholders sued Henry Ford for raising employee wages to $5/day.

Henry's rationale for doubling the wage was centered on the disruptively high cost of employee turnover. Prior to the change, workers received $2.50 for a 9 hour day, just 28 cents/hr. Adjusted for inflation, this equates to the main breadwinner earning poverty wages of $6.50/hr. Henry knew that the company was flush with $30 million in cash ($696 million in today's dollars) so with one stroke of his pen, induced an entire generation out of poverty and into middle class. We know that Ford's intentions were not altruistic. The company had lots of money. Henry knew that doubling wages would solve a nagging company problem. Shareholders successfully sued Ford, stipulating that the surplus cash should have been paid as dividends to shareholders.

To it's extreme, the ultimate objective, destination and legal obligation of every corporation is a "lights-out" process.

Business Expense: Materials; Capital; Labor; Taxes; Overhead. Anyone - put a number next to each one of these, place it on a spreadsheet and type the command instructing your company computer to sort by societal/human relevance. Of course, computers are not capable of *whole person*, societal concerns. The company's computer is programmed to analyze and prioritize numerical, empirical data. As these attributes are processed through the computer's electronic brain, no distinction exists between empirical expense and human expense. It's not that the computer recognizes the human flag yet is indifferent to the need - the computer is INCAPABLE of feelings - incapable of emotion - incapable of empathy.

Corporations are Sociopathic

Discovering this, it's both accurate and entertaining to draw a parallel to a specific scene in the old Mel Brooks movie, Young Frankenstein in which Dr. Frankenstein learns that the genius of his human creation has been undermined by Igor for having provided a brain from *Abby Normal*. Yet this is precisely what we've allowed with the Citizen's United ruling. We've created and now legalized, an artificial "person" of epic proportion. This creation is armed with resources and capabilities exponentially greater than a biological human. We've altered the balance of power such that the creation can now easily subdue the creator. The "brain" we've given our creation is indeed abnormal. Sociopathic behavior has become one of modern society's greatest fears as we grasp for the means of preventing tragedy by diseased minds, incapable of empathy. Yet this emotionless, diseased thought process has been installed in every corporation.

Think about this. We live amidst and promote abroad, a society in which all citizens are intended to have equal say in the decisions that effect their lives. Yet each day at the sound of the alarm, an ever expanding population of human-beings subordinates these liberties to an insentient corporate autocracy. The tail is wagging the dog - but it doesn't have to remain this way. We've created our own monster which is literally evolving within our society. It's evolutionary breakthrough occurred when we conceded to it a right of personhood. We now recognize the error in this decision. Our creation needs only our hands or our brains but never our whole body. Our creation is incapable of the thought processes of a whole person. Our creation- the corporation - should never have been given the rights of a person.

If this alien dude flew over the the USA, his logbook would include this entry:

Creatures of Corn

Corn is systemically imbedded in our culture.
Regardless of anyone's desires to circumnavigate the use of corn, the gravitational pull of the corn industry still warps our orbit.
The events of the past several years - increased world demand, ethanol, expansive droughts, escalating land prices -
have demonstrated with impunity that corn supply/demand/price/policy/politics influence all aspects of food production.

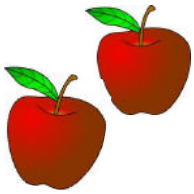
Academia focuses on raw economic data. I've interjected a human/societal/cultural/real world element which exposes and answers this question:
If the market limits profit to $_____ per acre, how many acres must a farm family have control of in order to earn the median income?

Study the yellow column. In 22 of the 42 years, it cost farmers more to produce than the selling price allowed. With the 640 acre farm used in this table, the worst case of $133/acre loss equates to a $85K annual loss. Subsidies converted some red ink to black. Consequently, a small minority of corporate corn processors procur the majority of the crop at below the cost of production - the true benefactor of these farm subsidies. In the remaining 20 years of positive returns/acre, the range of acreage required to earn the 2012 equivalent median income of $50K was a high of 10988 acres to a low of just 125 acres in 2012. How can a farm with fixed land assets respond and succeed with such volatility?

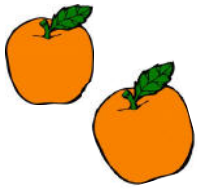
If we fail to resolve these extremes, the cyclical pressure variances of commodity corn will continue to inhibit alternatives.
(Know any young people able to start a farm when just 100 acres will cost them $1,000,000?)

Year	Production Cost/Bu	Sell/Bu	Profit (Loss) per Bu	Yield Bu/Acre	Profit (Loss) per Acre	Acres Required for Median Income	Median Income Adjusted as if $50K in 2012	Income (Loss) on 640 Acres	Income (Loss) on 640 Acres Expressed as 2012 Dollars
1970	$1.08	$1.17	$0.09	100	$9.00	944	$8,500	$5,760	$33,882
1972	$1.09	$1.11	$0.02	110	$2.20	4182	$9,200	$1,408	$7,652
1973	$1.18	$1.81	$0.63	110	$69.30	140	$9,700	$44,352	$228,619
1974	$1.57	$2.87	$1.30	110	$143.00	75	$10,750	$91,520	$425,674
1975	$2.00	$2.66	$0.66	125	$82.50	142	$11,750	$52,800	$224,681
1976	$2.04	$2.45	$0.41	110	$45.10	277	$12,500	$28,864	$115,456
1977	$2.21	$1.98	($0.23)	110	($25.30)	Lost $25.30/Acre	$13,250	($16,192)	($61,102)
1978	$2.30	$2.04	($0.26)	110	($28.60)	Lost $28.60/Acre	$14,250	($18,304)	($64,225)
1979	$2.43	$2.25	($0.18)	110	($19.80)	Lost $19.80/Acre	$16,000	($12,672)	($39,600)
1980	$2.64	$2.60	($0.04)	115	($4.60)	Lost $4.60/Acre	$18,000	($2,944)	($8,178)
1981	$2.70	$2.84	$0.14	115	$16.10	1242	$20,000	$10,304	$25,760
1982	$2.75	$2.29	($0.46)	115	($52.90)	Lost $52.90/Acre	$21,000	($33,856)	($80,610)
1983	$2.72	$2.92	$0.20	115	$23.00	946	$21,750	$14,720	$33,839
1984	$2.79	$2.97	$0.18	115	$20.70	1099	$22,750	$13,248	$29,116
1985	$2.81	$2.41	($0.40)	115	($46.00)	Lost $46.00/Acre	$23,500	($29,440)	($62,638)
1986	$2.45	$1.83	($0.62)	119	($73.78)	Lost $73.78/Acre	$24,000	($47,219)	($98,373)
1987	$2.16	$1.45	($0.71)	120	($85.20)	Lost $85.20/Acre	$24,750	($54,528)	($110,158)
1988	$2.12	$2.19	$0.07	125	$8.75	2971	$26,000	$5,600	$10,769
1989	$2.32	$2.34	$0.02	124	$2.48	10988	$27,250	$1,587	$2,912
1990	$2.31	$2.30	($0.01)	124	($1.24)	Lost $1.24/Acre	$28,500	($794)	($1,392)
1991	$2.40	$2.26	($0.14)	124	($17.36)	Lost $17.36/Acre	$29,750	($11,110)	($18,673)
1992	$2.26	$2.22	($0.04)	123	($4.92)	Lost $4.92/Acre	$30,750	($3,149)	($5,120)
1993	$2.25	$2.15	($0.10)	133	($13.30)	Lost $13.30/Acre	$31,500	($8,512)	($13,511)
1994	$2.24	$2.34	$0.10	134	$13.40	2425	$32,500	$8,576	$13,194
1995	$2.33	$2.47	$0.14	134	$18.76	1786	$33,500	$12,006	$17,920
1996	$2.38	$3.51	$1.13	134	$151.42	228	$34,500	$96,909	$140,448
1997	$2.47	$2.52	$0.05	134	$6.70	5224	$35,000	$4,288	$6,126
1998	$2.47	$2.13	($0.34)	135	($45.90)	Lost $45.90/Acre	$35,500	($29,376)	($41,375)
1999	$2.47	$1.80	($0.67)	135	($90.45)	Lost $90.45/Acre	$36,500	($57,888)	($79,299)
2000	$2.43	$1.78	($0.65)	135	($87.75)	Lost $87.75/Acre	$37,750	($56,160)	($74,384)
2001	$2.56	$1.81	($0.75)	135	($101.25)	Lost $101.25/Acre	$38,750	($64,800)	($83,613)
2002	$2.55	$2.05	($0.50)	135	($67.50)	Lost $67.50/Acre	$39,500	($43,200)	($54,684)
2003	$2.42	$2.18	($0.24)	150	($36.00)	Lost $36/Acre	$40,250	($23,040)	($28,621)
2004	$2.58	$2.41	($0.17)	150	($25.50)	Lost $25.50/Acre	$41,500	($16,320)	($19,663)
2005	$2.79	$1.90	($0.89)	149	($132.61)	Lost $132.61/Acre	$42,750	($84,870)	($99,264)
2006	$2.86	$2.22	($0.64)	154	($98.56)	Lost $98.56/Acre	$44,000	($63,078)	($71,680)
2007	$3.04	$3.37	$0.33	158	$52.14	868	$45,250	$33,370	$36,872
2008	$3.63	$4.78	$1.15	157	$180.55	260	$47,000	$115,552	$122,928
2009	$4.43	$3.81	($0.62)	158	($97.96)	Lost $97.96/Acre	$47,000	($62,694)	($66,696)
2010	$3.48	$3.86	$0.38	177	$67.26	710	$47,750	$43,046	$45,075
2011	$3.99	$5.96	$1.97	177	$348.69	141	$49,000	$223,162	$227,716
2012	$4.39	$6.67	$2.28	176	$401.28	125	$50,000	$256,819	$256,819
Average annual income over these 42 years (without subsidies) each year adjusted as 2012 dollars >									**$19,585.76**

#1 Question Lurking Within Every Inquiry About Photovoltaics:



How Much does a Photovoltaic System Cost?



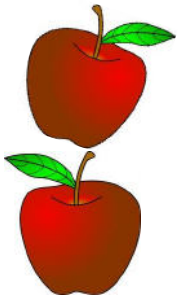
The #1 answer needs to first start out by answering a question with a question:

Compared to WHAT????????

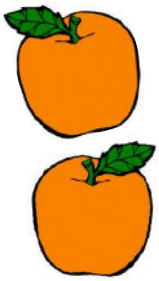
How can anyone assess that Apples might cost more Oranges without first knowing the cost of Oranges?

While most people know what their monthly electric bill is, almost no one has calculated their lifetime costs.
Photovoltaics are a once-per-lifetime investment.
In order to assess costs, lifetime-apples-to-lifetime-oranges, we need to understand how much we'll pay the utility over our lifetime.

From the top row of the table below, identify the amount which most closely matches your average electric bill.
Follow the column down as many years as you've been paying - and down further to as many years you expect to continue to pay.
The number in the box represents the cumulative expense from year to year.



The typical home is reported to consume 30 kWh's/day which at current rates amounts to $135/month.
At this rate, a young family starting out in their mid 20's and planning
to live a full life into their 90's will have paid the utility over $373,000.



"Experts" say:

Solar is too expensive.
Solar can't compete with oil, coal and natural gas.
Solar may be a sign of personal virtue, but it is not a sufficient basis for a sound, comprehensive energy policy.

With $373K lifetime costs, do you feel **YOUR** family energy policy is *sound and comprehensive?*

With this data now in hand, you are in an informed position to accurately absorb and assess
the costs associated with OWNING your energy as opposed to *renting* it monthly from the utility.

Table data based on We Energies 2013 Residential rate of $.13816/kWh, facilities charge of $.30/day. Rate increases calculated at 3% per year.
Doubt that rates will increase 3% utilizing a finite resource amidst a growing demand**?** Since the mid 80's, Wepco rates have in fact risen 247%.
Still not convinced: Looking backwards 70 years, the $1619/yr expense incurred in 2013 would have been just $122 in 1943. (13.3 x).
The table below looks forward 70 years, calculating that a $1619 expense in 2013 will cost $12,226 in 2083. (7.6 x).
Point made: By historical standards, the 3% rate increase projected within this table is extremely conservative - 57% of historical reality.

Cumulative Lifetime Utility Electric Costs

If your Monthly Electric Bill is >		$51	$93	$135	$177	$219	$261	$303	$345	$387	$429	$471	$513
Yr	Utility Cus-tomer Age	10 kWh/Day Cumm Yr to Yr	20 kWh/Day Cumm Yr to Yr	30 kWh/Day Cumm Yr to Yr	40 kWh/Day Cumm Yr to Yr	50 kWh/Day Cumm Yr to Yr	60 kWh/Day Cumm Yr to Yr	70 kWh/Day Cumm Yr to Yr	80 kWh/Day Cumm Yr to Yr	90 kWh/Day Cumm Yr to Yr	100 kWh/Day Cumm Yr to Yr	110 kWh/Day Cumm Yr to Yr	120 kWh/Day Cumm Yr to Yr
1	26	$612	$1,115	**$1,619**	$2,123	$2,626	$3,130	$3,634	$4,138	$4,641	$5,145	$5,649	$6,152
5	30	$3,248	$5,922	$8596	$11,270	$13,944	$16,619	$19,293	$21,967	$24,641	$27,316	$29,990	$32,664
10	35	$7,012	$12,787	$18,561	$24,336	$30,110	$35,884	$41,659	$47,433	$53,207	$58,982	$64,756	$70,530
15	40	$11,377	$20,745	$30,114	$39,482	$48,850	$58,218	$67,587	$76,955	$86,323	$95,691	$105,060	$114,428
20	45	$16,437	$29,971	$43,506	$57,040	$70,575	$84,110	$97,644	$111,179	$124,713	$138,248	$151,783	$165,317
25	50	$22,302	$40,667	$59,031	$77,396	$95,760	$114,125	$132,489	$150,854	$169,218	$187,583	$205,947	$224,312
30	55	$29,102	$53,066	$77,029	$100,993	$124,957	$148,921	$172,884	$196,848	$220,812	$244,776	$268,739	$292,703
35	60	$36,985	$67,439	$97,894	$128,349	$158,804	$189,258	$219,713	$250,168	$280,623	$311,077	$341,532	$371,987
40	65	$46,123	$84,103	$122,082	$160,062	$198,041	$236,021	$274,001	$311,980	$349,960	$387,939	$425,919	$463,899
45	70	$56,717	$103,420	$150,123	$196,826	$243,529	$290,232	$336,935	$383,638	$430,341	$477,044	$523,747	$570,450
50	75	$68,998	$125,814	$182,629	$239,445	$296,261	$353,077	$409,893	$466,708	$523,524	$580,340	$637,156	$693,971
55	80	$83,235	$151,774	$220,314	$288,853	$357,392	$425,931	$494,471	$563,010	$631,549	$700,088	$768,628	$837,167
60	85	$99,740	$181,870	$264,000	$346,130	$428,260	$510,390	$592,520	$674,650	$756,780	$838,910	$921,040	$1,003,170
65	90	$118,873	$216,759	$314,644	$412,530	$510,415	$608,300	$706,186	$804,071	$901,957	$999,842	$1,097,727	$1,195,613
70	95	$141,054	$257,205	**$373,355**	$489,505	$605,655	$721,806	$837,956	$954,106	$1,070,256	$1,186,406	$1,302,557	$1,418,707

Proceed to next page for actual photovoltaic system costs

Typical Lifetime Cumulative Electric Utility Cost - Age 25 - 95 ... $373,355

Write your Lifetime Cumulative Electric Utility Cost Here ... $_____
(Refer to the table on the previous page.)

Our first PV system was purchased in 1992, too long ago to have relevance to the current market.

What follows are the present day costs for our second PV system, purchased in 2010.

History - Photovoltaic $/watt: **1992 $7.00** **2010 $2.44** **2013 $0.70 - $1.00**

Component	Purpose	Description	Cost - 2013
Photovoltaic Panels	Converts Sunshine to DC (direct current) electricity	8200 Watts	$5740
Inverter	Converts DC to AC Synchronizes & interacts with utility	7000 watt 240VAC	$3000
PV Rack	Mounts Panels to Structure	256 ft of mounting rails, hardware	$2100
Balance of System	Connect components disconnects, misc.	Wire, conduit, disconnects, hardware, shipping etc.	$1000
Total Materials			**$11,840**

Notes

PV pricing of $0.70/watt based on an actual sale price from Go Green Solar which literally popped into my mailbox as I was writing this page. Non-sale pricing has typically been closer to $1/watt. Bargain shoppers will find the bargains. U.S.A made panels cost more but you get what you pay for. Helios is made right here in Milwaukee with high quality panels priced at roughly $1.25/watt.

Costs are for materials only. All installation labor was performed by me. I have no first hand data to provide labor estimates in the event you decide to have a system installed. Note that in 2010, the costs for the panels were 3 times the going rate in 2013*.
This is to suggest that, for the same money that we paid for self-installation of our system, you may come close to achieving the same overall cost even if you pay for professional installation. Individuals that possess basic construction skills, moderate electrical skills AND are willing to spend the time necessary studying the NEC and back-issues of Home Power Magazine can successfully install a system. If you have a nervous local inspector, you may not be successful, or, you may have to document each and every decision with it's corresponding NEC chapter and verse. A professional installer will get the job done in 1/3 the time, probably with less material costs, give confidence to the inspector AND if there are any Focus On Energy-type incentives still available, might be the only option. Do your homework.

*Why have panel prices fallen so drastically? One word: CHINA. Our 2010 panels were literally the last of the USA-made Evergreen panels. With the Chinese government subsidizing their factories, the USA producers had the floor pulled out from under them. Anyone willing/able to unplug the AM radio from their cranium easily recognized why the likes of Solyndra and Evergreen failed.

AM radio and Fox News tell us that solar is a scam, solar is impractical, solar can't compete, the "U.S. isn't as sunny as Germany".

The actual "scam" is what shows up every month in your mailbox.
Do your own math. Do your own thinking.
It's a game-changer...and they know it.

	Typical	Yours
Enter your cumulative lifetime utility cost here.	$373,355	
Enter the PV system material costs here.	$11,840	
Enter your lifetime savings here.	**$361,515**	

Know of any good retirement funds that can convert 12K into that kind of return?
Can you think of better things to spend $360K on rather than train cars of coal from Wyoming?

Wisconsin Farmers Union

UNITED TO GROW FAMILY AGRICULTURE

Farmer's Share of Retail Food Dollar

Did you know that farmers and ranchers receive only 15.8* cents of every food dollar that consumers spend on food at home and away from home?

According to USDA, off farm costs including marketing, processing, wholesaling, distribution and retailing account for more than 80 cents of every food dollar spent in the United States.

Bacon
1 Pound

Retail: $4.83
Farmer: $0.81

Top Sirloin Steak
1 Pound

Retail: $7.99
Farmer: $2.01

Bread
1 Pound

Retail: $2.99
Farmer: $0.18

Fresh Carrots
5 Pounds

Retail: $4.39
Farmer: $1.53

Beer
6-Pack Cans

Retail: $6.59
Farmer: $0.06

Cereal
18 Ounce Box

Retail: $5.49
Farmer: $0.12

Tomatoes
1 Pound

Retail: $2.99
Farmer: $0.58

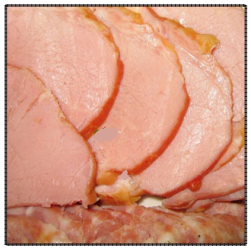
Eggs
1 Dozen

Retail: $2.99
Farmer: $1.05

Flour
5 Pounds

Retail: $3.09
Farmer: $0.91

Boneless Ham
Price per Pound



Retail: $3.99
Farmer: $0.81

Lettuce
1 Head (2 Pounds)

Retail: $2.79
Farmer: $1.03

Milk
1 Gallon, Fat Free

Retail: $3.89
Farmer: $1.71

Potato Chips
Lays Classic, 10.5 oz

Retail: $4.79
Farmer: $0.22**

Fresh Potatoes
Russet, 5 Pounds

Retail: $3.29
Farmer: $0.34**

Soda
Two Liter Bottle

Retail: $1.49
Farmer: $0.12

Farmer's share derived from USDA, NASS "Agricultural Prices," 2012.
Retail based on Safeway (SE) brand except where noted.
*Figure according to U.S. Department of Agriculture Economic Research Service
**Reflects February 2013 prices.

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March 31, 2013