"Your Car Matters"

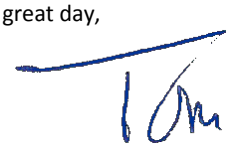
Tom Dwyer Automotive Services- Spring 2009 Newsletter

Tom's Tidbits

Spring fever may be in the air, but the financial rain continues to fall. This Spring's newsletter continues our attempt to help our clients through this challenging time. Drew's Kitchen tells you what to do when you just can't eat another bowl of Ramen noodles, our Client Profile tells you about one of our clients who decided that right now is the best time ever to start a new business, and our website has some stories on recession-proofing your job.

Kidding aside, we do actually think that the recession will eventually turn around, so looking to the future we examine where our power will come from as world energy demand triples. Finally, we'll tell you about a way to filter the internet down to just the stuff you actually need, and I'll give you a peek at the stuff on the web that I actually need. It may not get you out of the recession, but hopefully it will bring you a smile while you're here.

Make a great day,



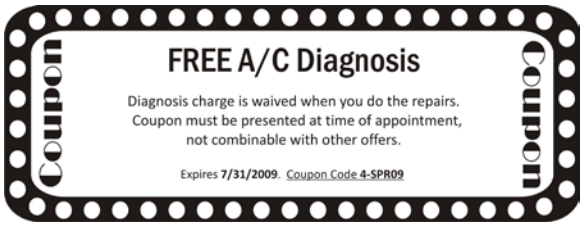
Quarterly Coupons

Birds are singing, flowers are blooming, and money's just falling from the sky!

WILDCARD- Any Coupon You Want!- Are you regretting not using that third coupon from Summer of 2004? Opportunity knocks again! Go to www.TomDwyer.com, click the "Newsletters" tab, click any newsletter, and use any coupon you find! Coupon must be presented at time of appointment, not combinable with other offers. Expires **7/31/2009**, Coupon Code **1-SPR09**

$25 off 3000-mile Interval Service with Tire Rotate and Balance- For domestic & Japanese passenger vehicles. (Up to 5 quarts standard oil; synthetic oil is extra) Coupon must be presented at time of appointment, not combinable with other offers. Expires **7/31/2009**, Coupon Code **2-SPR09**

15% Off Labor Costs- Up to $200 savings. On previously recommended services with service records on file prior to March 23, 2008. Coupon must be presented at time of appointment, not combinable with other offers. Expires **7/31/2009**, Coupon Code **3-SPR09**



Free A/C Diagnosis- Diagnosis charge is waived when you do the repairs. Coupon must be presented at time of appointment, not combinable with other offers. Expires **7/31/2009**, Coupon Code **4-SPR09**

Free 1-day Car Rental With Minimum Purchase of $275 service- Must schedule in advance. Coupon must be presented at time of appointment, not combinable with other offers. Expires **7/31/2009**, Coupon Code **5-SPR09**

Owning Your Own Personal Power Plant

Linus J. Niedermeyer is bringing personal windmills to Oregon



Wind power isn't just for 15-story windmills in the Gorge anymore. Little by little it's creeping into the backyards of people across the country and one of our clients, Linus J. Niedermeyer, Jr., is helping to put it there. He and his brother, Scott, are the first sales reps for a company called Turby-USA, a Netherlands-based manufacturer of vertical-axis wind turbines (VAWT) for urban environments. "The windmills most people think of, the big tall ones with the spinning propellers, are horizontal axis wind turbines (HAWT). They are usually more efficient than a vertical windmill when it comes to pure electricity production", said Linus. "But that type of windmill takes up too much space to be practical in most downtowns. A vertical-axis windmill uses wind coming from any direction without having to be re-oriented, and it has a much smaller footprint than one of the big ones."

Linus says that the technology in the Turby is a great leap forward for these small-scale wind turbines. "The hub (the central point where the rotating shaft meets the electrical generation turbine) has been the big failure point for these devices for a long time. The Delft University of Technology in the Netherlands has been working on the problem for a long time, and now they're able to offer a 20 year guarantee on the turbine. A typical return-on-investment time is about 5 to 15 years depending on tax incentives and wind speed, so people can buy a unit with a reasonable assurance that the unit will last long enough for them to pay back their investment."

Linus is excited about the potential for this type of distributed power production, but it's not for everyone. I asked him how useful they would be in the Portland area. "If you live in a regular neighborhood in Southeast Portland, it probably won't be very helpful. You need an average wind speed of about 6 meters/second to have the unit deliver the 3kw it's rated for, and you don't get that in urban Portland. It's best placed in areas like the Gorge, or on bridges or unobstructed high points." That doesn't seem much of a drawback for one of the greenest cities in America. Turby's are slated to appear on the planned "SmartTower" downtown, and the Portland City Storage building to be built on the Willamette. The first Turby erected in Oregon is planned to be in Cannon Beach on a private beach home, and should be producing electricity by late summer. If you want to see one up close, Linus is building a unit on a demonstration trailer that will travel the region.

If you do have a spot that has sufficient wind, then more Turbys are better. "One project we currently have is in Maui, where a 400 unit condo development is planning to install 54 Turbys, which should almost completely cover their power usage. They currently use diesel to create electricity, so this will be a good change all around. Another commercial project, in Cannon Beach, is looking at buying 21 units to help cover their electrical needs." As more emphasis is placed on renewable power, especially under the Obama Stimulus Package, there's more support available from state and federal governments to offset the cost of the units. "Things are changing on almost a monthly basis, but depending where you are the state and feds can combine to offset as much as 80% of the total cost of the unit. On a $25,000 unit (installed) that can be a huge chunk, even if you don't get the full 80%."

With prices of the technology coming down, desire for the product going up, and rebates and subsidies getting larger, the future is looking bright for this type of off-grid distributed power production. If you'd like to talk with Linus about his Turbys, whether for your home or business, you can reach him at LJNTurby@aol.com, or at 503-349-2007.

How To Drink From A Firehose Without Choking

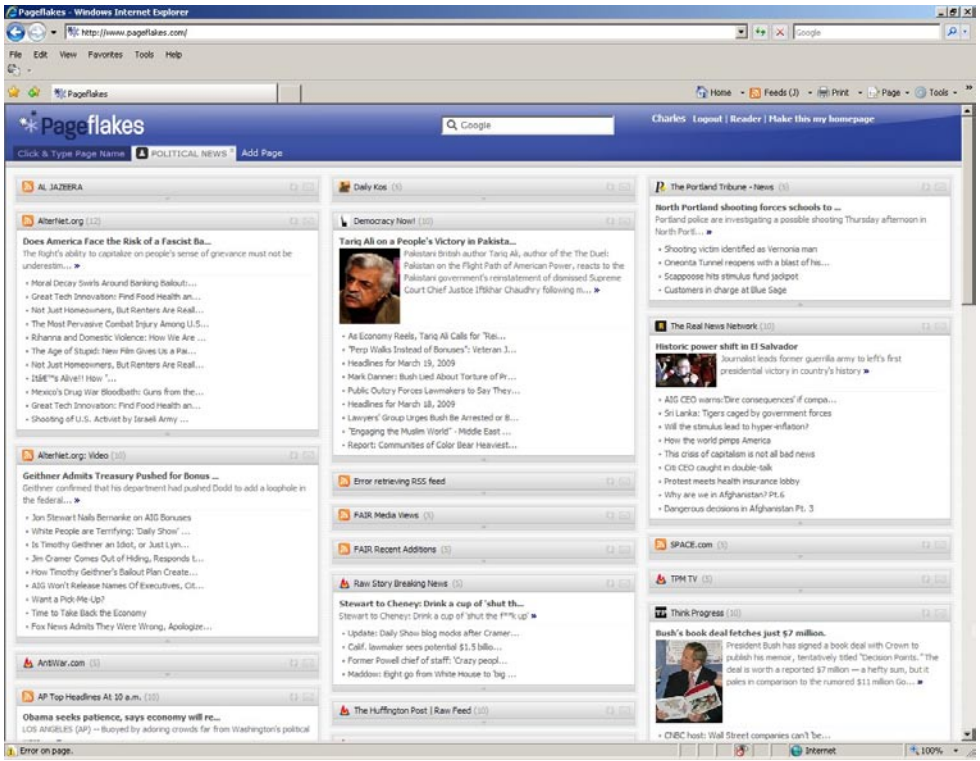
RSS feeds give you just the internet you care about

Here's a quick and simple article full of news you can use... What's the deal with RSS feeds? Seems like just about every website you go to, there's a little group of buttons that pops up about "Digging" or "RSS Feeds" or a bunch of little things. What the heck are they talking about? What are they asking you to do, do you want to do it, how do you do it if you do want to do it, and will you regret it if you do do it? Ummm... here's a quick primer.

RSS stands for Really Simple Syndication, but that doesn't tell you anything. An RSS feed is a way for you to get updates from your favorite websites or newsgroups delivered to your desktop, forming your own "personal newspaper" on your computer. Every time a new story is posted to a website you're linked to, a summary line appears on your desktop and you can go look at the article if you're interested. This enables a concept called "broadcatching", in which you can sort through all the blizzard of data out there and just pay attention to the stuff you're interested in.

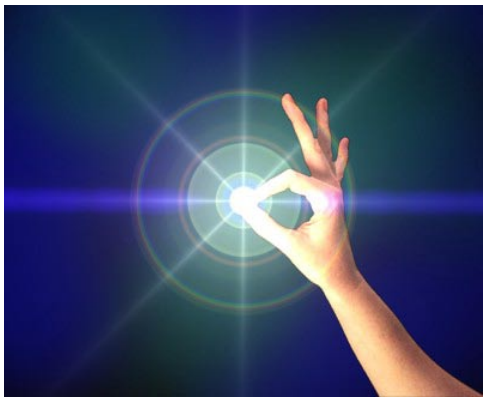
If you're ready to take the leap and start receiving RSS Feeds, you need a piece of software called a "feed reader" or "news aggregator". There are several different flavors available, like OmeaReader, NewzCrawler, FeedDemon, GoogleReader, Bloglines, NewsGator, and others. Some cost a little money and others are free for download, but they're all pretty reasonable. If you go to http://email.about.com/od/rssreaderswin/tp/top_rss_windows.htm, you'll find a list of the top 10 Windows RSS Feed Readers.

RSS feeds can be a HUGE timesaver, especially if you check a lot of websites on a daily basis. But remember, you get every update. Every teeny-tiny little update. Every single time they update. 24 hours a day, 7 days a week, 365 days a year. And it's only from sources you're interested in. The time you save in surfing may be replaced by the time you spend propped in front of your computer at 4am with a cold cup of coffee and dark circles under your eyes, compulsively waiting for your Aggregator to refresh and feed your newest addiction.
Are you curious about what a RSS feed program looks like? Tom has posted the desktop from his feedreader, PageFlakes, for you to look at. Go to http://www.pageflakes.com/hadiesay/. When you follow the link, you'll get a good feel for how an RSS feed can make your net life simpler.

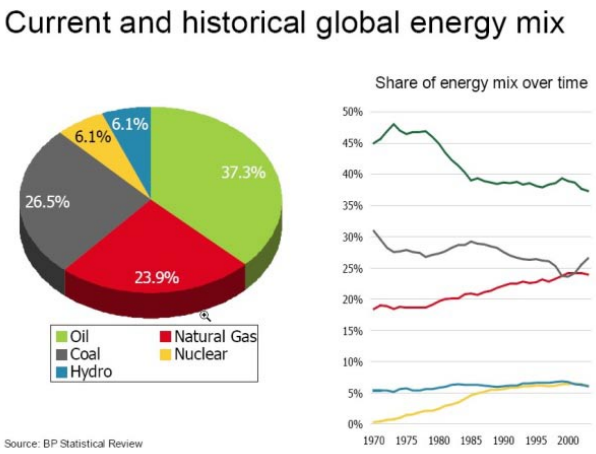


Where Will The Power Of The Future Come From?

What will power our X-boxes when fossil fuels go away?



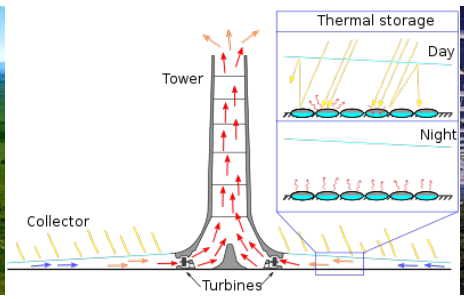
The entire human race currently uses about 400 quads of energy each year, one "quad" being a *quadrillion BTUs* of energy, or 293,071,083,330 kilowatt hours. Despite efforts at conservation, energy use is only on the way up as societies modernize. One estimate says that global energy use could triple within the next century. Our current energy mix is dominated by fossil fuels, with coal, oil, and natural gas making up 87.7% of all energy sources and hydroelectric and nuclear filling in the rest. However, we all know the problems with fossil fuels- first, they're running out, second, they are heavily polluting. We have to have something new to replace them, but does that just mean increasing the hydro/nuclear share of the pie?

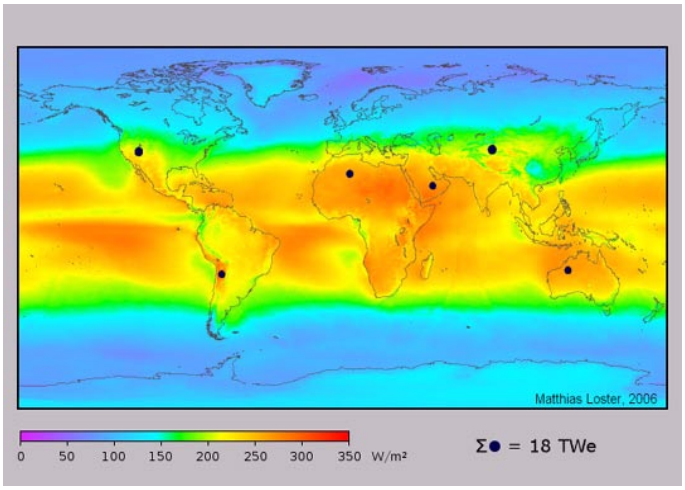


Some politicians believe the task of developing the new energy technologies should be left to market forces, but there can be problems with just waiting to see what the market comes up with. A totally free market has a strong incentive to squeeze every dime from the energy status quo before moving on to new technologies regardless of any perceived or real societal good. Developing the infrastructure and demand for new energy systems can be astronomically expensive, and because there's no guarantee of success there's little incentive for private business to take the possibly suicidal risk. Finally, it's not just that new technology can be an expensive gamble as it starts up, but that government can take risks that private enterprise can't or won't. Jets, satellites, integrated circuits, and computers were all nurtured in government labs before the market got hold of them. The Internet spent 30 years at DARPA before becoming the omnidirectional sludge pump we all know and love today.

If we look at all the competing energy sources and ask "Which one?" the answer is almost certainly "No." Our future energy needs will not be supplied by any one technology, but a mix of several to meet the many needs we'll have. There is the question of stationary versus mobile users, or the cities versus the cars. Then, just within the stationary users is a spectrum covering the concentrated needs of giant urban centers through individual cabins in the woods. Industrial versus agrarian, distributed versus concentrated, constant versus fluctuating, renewable versus consumable... each competing demand helps shape the energy mix of the future.

Solar





The map above is of global energy resources from the sun. The colors show the average available energy from the sun on the Earth's surface during 1991 to 1993. The scale is in watts per square meter. For comparison, the dark disks represent the land area required to supply the primary energy demand in the year 2010, using currently available technology.

If the planet's energy requirements are projected to approach *1200 quads per year*, can anything really meet that voracious demand? Well, in full sun, about 100 watts of solar energy fall on every square foot of the planet. Assuming 12 hours of sun per day and 197 million square miles of earth's surface (including the oceans) you'll get a staggering 8.2 million quads of energy per year available from solar energy alone. We obviously have enough solar energy to cover a measly 1200 quads, IF we can capture and convert it into a usable form. There are several basic ways to harness solar energy.

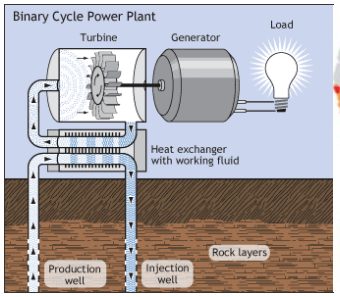
First, it can be used to create electricity directly by using photovoltaic cells, where sunlight falling on a layer of semiconductor jostles electrons to make a current. In this method, the cost of the electricity is completely dependent on the cost, lifetime, and efficiency of the cells. At present levels of efficiency, it would take about 10,000 square miles of solar panels—an area bigger than Vermont—to satisfy all of the United States' electricity needs. But all those panels could fit on less than a quarter of the roof and pavement space in cities and suburbs. The cost of the cells was once astronomically high, but like most things electronic solar power has been getting cheaper. Instead of cutting the cells from slabs of silicon, it's becoming possible to paint the particles onto a foil-like material and create electricity for about 50 cents a watt. At that price solar begins to be competitive with existing power production methods.

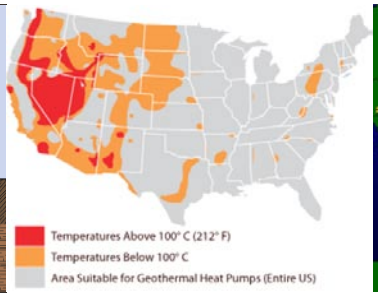
Alternatively, the sun's heat can be used to drive secondary generators that actually create the electricity. Just a few examples show the dynamic range of possibilities that fall in this area. In Arizona, a company is developing a field of solar dishes that focus sunlight onto Stirling Engines, which heating a gas that drives pistons to create energy. In Australia, a system called a solar chimney heats the air in a vast greenhouse. The heated air is vented through a massive chimney that is ringed with turbines that create the electricity. As near as your house, it's possible to set up a system of water-filled hoses on your roof that heat up and share some of the load with your hot-water heater.

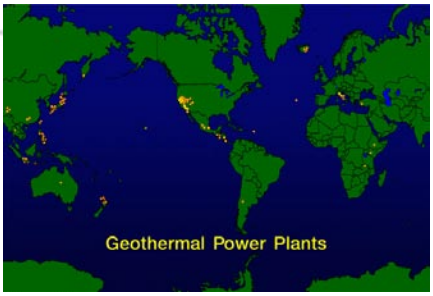
Finally, passive solar techniques don't require building any equipment at all. Just keeping in mind the way the sun behaves can reduce the need for heating or air conditioning, or increase a building's usable space for gardening. These types of methods include orienting a building toward the Sun, selecting materials with favorable thermal mass or light dispersing properties, and designing spaces that naturally circulate air.

Drawbacks of solar energy include high initial cost for some types of systems, and the need for large spaces for others. Also, for most solar energy alternatives, productivity is subject to the whims of air pollution and weather, which can block sunlight. However, in some parts of the world these drawbacks are massively outweighed by the needs of the situation. For example, because solar energy generators can be placed directly at the point of use, solar has huge advantages in African communities that don't have the infrastructure of power lines and generators, and won't have the money to invest in them anytime soon.

Geothermal







Geothermal power is energy generated from volcanic processes or from heat stored deep in the earth. Geothermal energy production is very straightforward. In most cases, a well is sunk to the underground heat source which heats steam to drive an electricity-producing turbine.

Geothermal has the significant advantages of low cost, round-the-clock consistency, low greenhouse gas production, and no high-tech infrastructure necessary to implement it. However, it is only available at a relatively few points in the world where volcanic processes rise close enough to the earth's surface to make tapping them logical.

As of 2008, geothermal power supplies less than 1% of the world's energy. The Philippines and Iceland are the only countries to generate a significant percentage of their electricity from geothermal sources; in both countries 15-20% of power comes from geothermal plants.

Wind

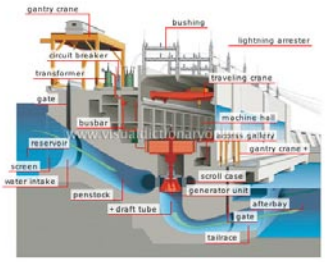
Wind power is the conversion of wind energy into electricity by wind turbines. Wind energy has many advantages as an alternative to fossil fuels in power generation- it is plentiful, renewable, widely distributed, clean, and produces almost negligible CO2 emissions. The downsides of wind farms include their visual impact and environmental effects such as habitat disruption. Although wind produces only about 1.5% of worldwide electricity, it has doubled in the three years between 2005 and 2008. Europe leads the world in wind power with almost 35,000 megawatts (equivalent to 35 coal-fired power plants) while North America, even with its huge capacity for wind energy, remains a distant second with just over 7,000 megawatts.

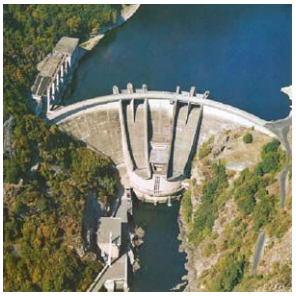
Large scale wind farms are typically connected to the local electric power transmission network, with smaller turbines providing electricity in isolated locations. The unpredictability of wind can become a problem when it is counted on for the bulk of an energy supply. Other energy sources such as fossil-fuel power plants have to be on stand-by for the calm times, and they are not as easy to turn off when the supply ramps back up. Excess power can be stored in flywheels or large-scale batteries, but this technology won't be economically feasible on a large scale for several decades.

Wind can also provide "distributed energy" by making power on a small scale near the need. You can't have a private coal plant, but you can have your own windmill. The more houses or communities have their own wind power, the less demand for big and expensive central power plants and transmission lines. In this type of small scale, distributed production, the intermittency of wind seldom creates problems because the costs of battery storage or other backup systems can be very reasonable. Most utility companies are required to buy back surplus electricity produced by small domestic turbines, so anyone in a relatively breezy place could pop up turbine in their yard, use the power when it's needed, and feed it back into the grid when it's not. Except for the peak times, this setup could reduce a home's annual power bill to near zero.

As wind power becomes more popular, more places are being explored for wind farm sites. Offshore areas frequently have steadier winds than onshore and as one wind expert puts it, "the seagulls don't vote" so the visual drawbacks of wind farms aren't a problem. In addition, construction costs of large underwater foundations can be cheaper per megawatt than smaller foundations on land. Another possibility is airborne windmills, in which kite-like structures float turbines into the jet stream where the wind blows constantly and strongly, and power is fed back to the ground by the tether lines.

Hydroelectric





Hydroelectricity is the production of power through the gravitational force of falling or flowing water through mechanisms such as dams or waterwheels. It is the most widely used form of renewable energy worldwide, supplying approximately 19% of the world's electricity in 2005 (up from 16% in 2003), and accounted for over 63% of electricity from renewable sources. Once a hydroelectric complex is built, it produces no direct waste, and has a much different output level of the greenhouse gas carbon dioxide (CO_2) than fossil-fuel-powered energy plants.

Until recently, hydroelectric power was seen as an abundant natural resource that needed no additional fuel and produced no pollution. Now, some jurisdictions don't consider large hydro projects to be a sustainable energy source when the human, economic and environmental impacts of dam construction and maintenance are included. For example, hydroelectric dams can produce significant amounts of carbon dioxide and methane by releasing CO_2 that had been trapped in decaying underwater plant material.

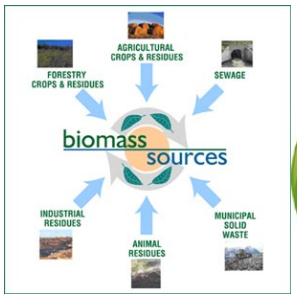
Another drawback of dams is the relocation of people and the loss of resources. In the case of the soon-to-be-completed Three Gorges Dams Project in China, 1.9 million people have been moved, millions of acres of land will be flooded, and countless historical sites will be lost.

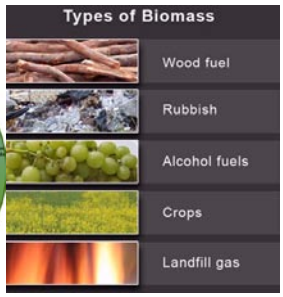
Tidal

Tidal power is a form of hydropower that converts the energy of tides into electricity. Like wind power, tidal power's history reaches back to the Middle Ages or even Roman times. Like both wind and solar, it is extracting electricity from existing natural forces there is no problem of waste from generation feedstock. However, unlike either wind or solar power the ocean's tides are almost completely predictable, a significant advantage in generation.

In most tidal power systems, the motion of the water is what is converted into electricity through turbines, buoyant tanks, or other systems. Ocean Thermal Energy Conversion, or OTEC, is a different approach. It utilizes the temperature difference between the sun-warmed top layers of the ocean and its near-freezing depths to create electricity. Some types of OTEC plants can even double as fresh water sources and the nutrient-rich seawater drawn from ocean depths can be used to grow marine plants.

Biomass



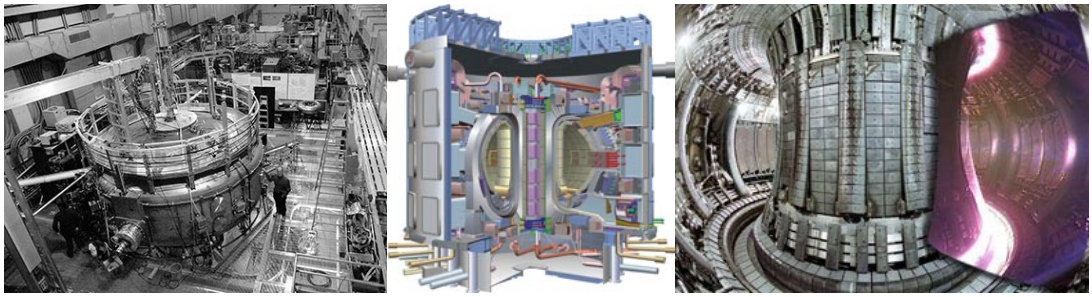


Biomass energy involves releasing the chemical energy of organic matter such as wood, crops, or bio waste. Biomass can either be burned directly to produce heat or power, such as people have done with campfires for thousands of years, or refined and distilled to create biofuels like ethanol, biogas, and biodiesel—fuels as easy to burn as oil or gas, but made from plants. While biomass can be grown specifically for the conversion into fuel, it can also be harvested from waste through a process called thermal conversion (TCP). Proponents claim TCP can convert practically any type of organic matter into high quality petroleum with water as the only byproduct.

Germany uses about 450 million gallons (1,700 million liters) of biodiesel a year, about 3 percent of its total diesel consumption. Ethanol produced from corn goes into gasoline blends in the U.S.; ethanol sales surpassed gasoline sales for automobile fuel in Brazil for the first time in 2008.

What limits biomass is land. Photosynthesis, the process that captures the sun's energy in plants, is far less efficient per square foot than solar panels, so catching energy in plants gobbles up even more land. Estimates suggest that powering the entire world's vehicles with biofuels would mean doubling the amount of land devoted to farming. One way around that is to switch the plants used for the biomass. For instance, in our Fall 2008 newsletter we reported on the fact that ethanol estimates in the US center around Corn as a feedstock, which produces only 200 gallons per acre. Other plants such as switchgrass, sweet sorghum, or cattails can produce up to 10,000g per acre, and without corn's ravenous appetite for water, prime farmland, or fertilizer. If we increase automobile efficiency to the level of a hybrid and go with a switchgrass crop mix, we could meet two-thirds of the U.S. transportation fuel demand with no additional land.

Fusion



There are two types of nuclear power, fission and fusion. Fission power comes from splitting atoms, fusion comes from combining atoms. We've had fission in both controlled and uncontrolled forms since the 1940's, and it's the type of nuclear plants we have around the world today. We're familiar with the ups and downs of fission, but fusion power, if it could be achieved, would be an ideal way to power our cities and non-mobile electrical grid. The power would be cheap and clean, without the radioactive waste of fission, and the by-products of fusion can't be turned into nuclear weapons. Why aren't we using it now?

Remember the grade-school paradox "If you had an acid that could eat through anything, what would you keep it in?" Fusion fuel has to be heated

to a hundred million degrees Celsius before the atoms start fusing, but at those temperatures the hydrogen forms a semi-liquid-semi-gas ball of electrically charged particles called plasma and we don't have any solid materials that can hold plasma that hot. Scientists think the answer is to use something non-solid instead...a doughnut-shaped magnetic field called a tokomak.

A six-billion-dollar test reactor called ITER, currently under construction in Southern France, will hopefully be able to sustain a plasma tokomak. The next step would be a demonstration plant to actually generate power, followed by commercial plants in 50 years or so.

Spring Cartoon

Weird Science

Drew's Kitchen

Recession Buster Soup

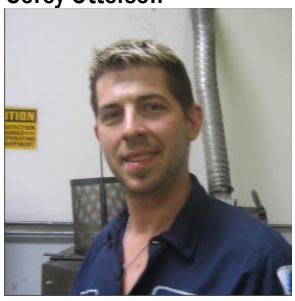
If you're trying to stretch your food budget in these recessionary times then you're probably eating a lot of Ramen noodles. Much as we all love the college memories they bring back, Ramen can still get pretty old unless you get creative with it. Here's just one example to get you started...

1 package Chicken Top Ramen Soup Mix
1/2 cup Sauted Mushrooms
1/2 cup Snap Peas
1 Egg
½ cup Cauliflower
1 tsp Teriyaki

Saute mushrooms in a little butter. Don't overcook the mushrooms. Transfer to small bowl and set aside. Cut cauliflower into bite-size pieces and set aside. Scramble egg and set aside. Boil water, add Ramen noodles and cook until almost done. Add ½ packet of soup mix and stir. Add mushrooms, cauliflower, snap peas, teriyaki sauce, and egg. Cook for about another 90 seconds and serve.
(Sometimes, I'll add in some leftover chicken or pork cut into bite-size pieces as well!)

Technician Spotlight

Corey Otterson



It's not easy to get an interview with Corey. We looked for free time for a couple weeks before deciding to just talk while he worked, so when I finally caught up with him he was up to his elbows in a Toyota Highlander. This isn't unusual; as an ASE Master Technician, Toyota Master Technician, and a Lexus Certified Technician, Corey usually stays busy handling the needs of most of our Toyota clients. I asked if that meant he was qualified on other types of cars as well. "Absolutely," he said. "A vehicle is a vehicle, and once you understand the basic principles they apply across the board. If you specialize in a particular make, it just means you're more familiar with the arrangement of parts and the way the computer systems work. That familiarity sure makes the job go quicker, though." Corey's had plenty of time to develop that familiarity, working over 12 years with a Toyota dealership and another 3 with Lexus before coming to Tom Dwyer Automotive 3 years ago. "I got my start as a technician in my hometown of Naselle, Washington. I was hanging around a garage where my friend worked and annoying the manager by asking too many questions. When my friend quit a couple months later, they hired me in his place." Naselle, a town about 15 miles inland from Long Beach, is so small that two counties had to band together to make up Corey's high school graduating class of 24. It might have been a nice place to grow up, but not nice enough to tempt him to stay. "I was working at one job when my boss said to go to college so I could help run the business. College gave me a sniff of city life, and I haven't looked back." Now that he's safely in the big city he says work keeps him busy most of the time, but Corey does find time to play softball in Hillsboro. He also plays on two teams in a downtown pool league, so take a good look at his picture and don't take any bets on a friendly game.

Importance of Scheduling

It may not be interesting, but it really matters

Well, it looks like spring on the way again. Soon, weekends won't be just for depression and microbrews; there's every possibility that we will be seeing the lush and green Oregon we all love. Don't let your plans to get out get derailed- make sure your car's maintenance gets its proper place on your schedule. No, wait, don't skip ahead to the next article! Of all the articles in this newsletter, THIS ONE IS THE MOST IMPORTANT FOR YOU, PERSONALLY, to get the most from your vehicle and your experience as a Tom Dwyer client.

Regular scheduling of your vehicle's maintenance is critical for success! When we take on a person as a client, we're doing more than just saying we'll fix that particular problem. We're making a commitment to do everything we can to keep your vehicles "...safe, breakdown-free, and operating at their best." We can't do that as effectively if we only see the car when something is smoking or sparking. Bringing it in on a regular, consistent basis lets us see when oil is starting to seep under a gasket long before the gasket fails. It lets us check the battery's charge long before the car dies in a parking lot. It lets us check the pH of your fluids long before they break down and corrode the inside of your engine.
Putting your maintenance on a regular schedule makes your life easier as well. It helps reduce the number of unplanned, catastrophic breakdowns that leave you without a car while yours is in the shop. It allows you to see what repairs are likely in the future and to put aside a little money each month instead of having to come up with a huge hunk all at once. Finally, it allows you to keep an eye on problems that don't demand repair right away but will get worse over time, so when the time comes that it actually does have to be fixed you'll know it. Here's another bit of behind-the-scenes info to make your life easier... like most businesses, we have busy times and slow times. We're heaviest in the Summer (June, July, and August) and lightest in the Fall (October, November, and December). That means it will be easier for us to do short-notice appointments in the Fall, but you'll probably have to schedule farther in advance in the Summer.

We like to see your vehicles about every 3 to 4 months in most cases. If we see them more often there isn't much time for the vehicle's status to change, but if we wait longer we run the risk of something cropping up unexpectedly. Also, please realize that we mean bringing the vehicle to US for OUR TECHS to look it over. Running to a QuickyLube is better for your vehicle than nothing at all, but if you do that then we haven't seen the vehicle, and we've all missed a chance to catch a problem before it starts.
So, please, pay attention to the dates on those oil change window stickers. It may not be at the top of your list, but bring in your vehicle when the sticker says to. Don't wait until the vehicle itself leaves you no choice.

CNP Update

Doings over at Bonneville

Many people have asked how we're doing since we broke the million-pound mark on carbon reduction. We're proud to announce that as of the date of this newsletter, the TDASI Carbon Neutral Program has offset 1,230,900 pounds of carbon from the environment. Congratulations to the many members who have contributed to the success of the program so far, and thank you for the difference you've made for the world.

Most of the CNP Update this quarter involves the Bonneville Environmental Foundation (BEF), our partners in the CNP. They've been making changes in product names, certifications, branding, website, and business marketing tools, all to better support renewable energy development, protect and restore watersheds, and educate communities about the benefits of sustainable energy. And now, without further ado, a few words from Patrick Nye, VP of the Climate Business Group at Bonneville Environmental Foundation...

"You may have noticed that we have moved away from calling our renewable energy product "Green Tags." Instead, we've expanded our products to include both BEF Renewable Energy Certificates (RECs) and BEF Carbon Offsets. We made these changes in order to keep up with industry standards and our growing portfolio of projects. All BEF projects are posted online at www.b-e-f.org.

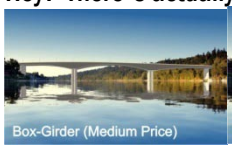
BEF became the first non-profit to join the Center for Resource Solutions' (CRS) Green-e Climate certification program. Expanded from the basic Green-e Certification, CRS offers Green-e Energy for green power and Green-e Climate for carbon offsets. BEF offers both certified products within its portfolio of projects. Additionally, we have begun to offer offsets certified by The Gold Standard, Voluntary Carbon Standard, and California Climate Action Reserve. Rest assured that your organization's dollars are still going toward the same high quality projects-- which help to clean up our nation's electricity grid and keep carbon out of the atmosphere.

Inspired by BEF's approach to creating entrepreneurial solutions to environmental challenges, the folks at Tequila/TBWA/Chiat/Day in Los Angeles (the creative advertising agency behind the Apple, Visa and Nissan marketing campaigns) generously offered to donate their strategic and creative services to help BEF further its mission. In an effort to create a consistent, differentiated design look, tone, and feel for BEF and convey a sense of our credibility and innovative approach to developing solutions, they created a new brand identity system for us. The new logo is a natural evolution of the foundation's original logo expanded to be more dynamic and match our Pacific Northwest roots and appeal to new partners across North America.

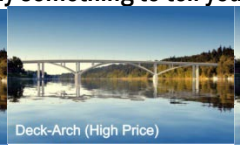
Our new web site will go live on Friday, March 27th. The new website has elements that will appeal to all types of visitors through new items such as interactive energy efficiency games and an enhanced carbon calculator. Our goal is to empower people to learn about what they can do to support the transition to renewable energy. Additionally, this new website will help us to better convey the range of work that you have helped us to support. From long-term watershed restoration, to our Solar 4R Schools program, to our renewable energy development projects, our goal is to build from the foundation you've helped us to set and continue to empower individuals to solve environmental issues."

Sellwood Bridge Update

Hey! There's actually something to tell you!



selbridge6.jpg



selbridge2.jpg

selbridge3.jpg

We'd like to thank everyone who has expressed their concern for our intrepid little company's welfare during the rumored bridge construction. Our concern from the beginning has been that the policy groups stay away from the options that called for complete closure of the bridge; we felt that this would have meant death not just for us but for the entire Sellwood neighborhood. Thankfully, it looks like that won't be an issue because the selected plan keeps the bridge open throughout its multi-year construction phase.

In February, the Policy Advisory Group (the PAG, or the governmental body) voted to accept the recommendation of the Community Task Force (the CTF, or the neighborhood body) for a "Skinny D" alternative. This keeps the position of the new bridge about where it currently is, just offset about 15' to the south so they can keep the bridge open during construction. At the narrowest point of the bridge there will be two car lanes, two bike lanes, and two sidewalks. There will be a traffic light at the east end of the bridge and a signalized looping interchange on the west. The next question is what design it will be. Teams will be looking at two moderately priced options (the delta frame and the concrete box girder) and a higher priced option (deck arch).

We still face the possible inconvenience of the construction and shop access through the construction time, but we're looking for ways to mitigate the damage. You may have gotten a questionnaire from us asking about your attitudes and concerns during the construction, and if you were one of the many people who responded then thank you very much. If not, then you should know that we are looking into a wide range of options to relieve any inconvenience to our clients and friends. If you have any suggestions, we'd love to hear them!

We've been asked many times if the bridge would be helped by Obama's stimulus package. Unfortunately, it still has to go through engineering and additional studies before a funding plan can be established, and the stimulus package is looking for "shovel-ready" projects. No one is jumping forward with money in the meantime, and Clackamas and Multnomah counties are still fighting among themselves about who will fund it.

Websurfing With Tom

Our picks of the web


websurfing.jpg

In this issue's Websurfing section, you'll find everything from flying cars to advanced plasma physics. As always, we offer our standard disclaimer:
"We can't guarantee that everything will be interesting to you, but we can guarantee that it was all interesting to us, and that we looked at each link personally and none of them were pornographic at the time of posting."
What, you say? Not interesting enough for you? Please, SEND US YOUR MOST INTERESTING LINKS and we'll post them in our upcoming issues!

It's a car, it's a plane... http://www.terrafugia.com/

News to Make You Furious, Exxon Valdez Anniversary- www.gregpalast.com

To the Brain, God's just another guy- http://www.npr.org/templates/story/story.php?storyId=101617951

Our Friends at Bright Neighbor- http://www.brightneighbor.tv/

Great interactive site on windmills- http://environment.nationalgeographic.com/environment/global-warming/wind-power-interactive.html

Time-lapse video of ice field destruction- http://www.extremeicesurvey.org/

Customizable historical timelines- http://www.sbrowning.com/whowhatwhen/

Bypass those nasty phone trees- http://gethuman.com/

Kind of a Eurotrash version of Powerpoint- www.prezi.com

Boring video about fascinating subject- http://www.niemanlab.org/2009/03/introducing-media-cloud/

Great truth sifter for politicians- http://www.politifact.com/truth-o-meter/

How Stuff Works (Just like it sounds)- http://www.howstuffworks.com/

Interesting link about all kinds of journalism- http://www.niemanlab.org/2009/03/introducing-media-cloud/

Superhero registry- http://worldsuperheroregistry.com/world_superhero_registry_gallery.htm

Personal Windmills- http://www.youtube.com/watch?v=Hzz609KMtvE

Fantastic no-frills video on RSS Feeds- http://www.youtube.com/watch?v=0klgLsSxGsU

Hoofy & Boo- Financial news and opinions by a cartoon bull and bear. Imagine "Daily Show" crossed with "Yogi Bear". Many vids available, but to pick one at random goto- http://www.youtube.com/watch?v=6b2Vf5gWuVs

True Cost to Own- Actual cost of owning a car, broken down by type. http://www.edmunds.com/apps/cto/intro.do

House that will blow your mind- http://www.ultimatehouse.tv/article.php?id=5

Sellwood Bridge- http://www.kgw.com/video/?z=y&nvid=329725

NASA Barriers to Innovation- http://www.youtube.com/watch?v=_424YskAfew&eurl=http://www.msnbc.msn.com/id/29107346/

Cloth BMW- http://www.yankodesign.com/2008/06/10/bmw-no-more-dents-and-dings/

Electric airplane- http://www.youtube.com/watch?v=wOAjpzfFYBQ&eurl=http://www.electraflyer.com/&feature=player_embedded

Helical Windmills- http://images.google.com/imgres?imgurl=http://www.instablogsimages.com/images/2008/02/18/space-age-windmills-1_7071.jpg&imgrefurl=http://www.ecofriend.org/entry/space-age-wind-turbines-to-adorn-your-green-

roofs/&usg=__bOYTCVwwcuvP7xSKFLvubt6W6_s=&h=413&w=550&sz=37&hl=en&start=15&um=1&tbnid=9gd0tXx3P7LAdM:&tbnh=100&tbnw=133&prev=/images%3Fq%3Dwindmills%26um%3D1%26hl%3Den%26rls%3Dcom.microsoft:en-us

Startech Environmental- Power from garbage- http://www.startech.net/

LowTech Magazine- www.lowtechmagazine.com

Top 10 new power- http://www.livescience.com/environment/top10_power_21stcentury.html

Storing power on the grid- http://arstechnica.com/tech-policy/news/2009/01/storing-power-on-the-future-electric-grid.ars

Retro Future- http://davidszondy.com

Personal Solar Thermal vid- http://www.youtube.com/watch?v=7_Ctw3zA2F4

DIY Solar- http://www.youtube.com/watch?v=0_P9XDKQP34&feature=related

Sun melts brick- http://www.youtube.com/watch?v=9RUF_g9nrTY

Future Design- http://www.tuvie.com/

Car design, including leaks and rumors- http://www.themotorreport.com.au/

Town of Alopath- http://www.youtube.com/watch?v=R4NEQzZlSDE

Solar energy programs in Oregon- http://www.solarnoworegon.org/

Oregon Department of Energy- http://www.oregon.gov/ENERGY/

Green Microgym- http://thegreenmicrogym.com/

Newspaper Generator- http://www.fodey.com/generators/newspaper/snippet.asp

Petaminx- 12-sided rubix cube http://www.youtube.com/watch?v=ZLyFqm4D9tI

100x100x100 Rubix- http://www.youtube.com/watch?v=CruqZhN_5D8&NR=1

Iter newsline- Up-to-dateness in the world of fusion- http://www.iter.org/newsline/issues/current/ITERnewsline

Solar Tower COmpany- http://www.enviromission.com.au/IRM/content/home.html

All about Solar Towers- http://infranetlab.org/blog/2009/01/from-ego-to-energy-towers-of-power-revisited/

Solar tower video- http://www.youtube.com/watch?v=EW1na2HAy48

A Different type of solar tower- http://www.youtube.com/watch?v=Q9vkkFNkE44&NR=1

Heliostat Solar generation- http://www.youtube.com/watch?v=4h9FLvj2ZJM&NR=1

Skyscraper timelapse-
http://www.youtube.com/watch?v=laPU0bS8JOc&eurl=http://mytechvision.wordpress.com/category/cities/&feature=player_embedded

Hoover Dam Construction Timelapse- http://www.youtube.com/watch?v=GCi4-Lj-3j8&feature=related

One man can build stonehenge without tools. http://www.youtube.com/watch?v=lRRDzFROMx0

Earth- Hi-density data- http://www.theglobaleducationproject.org/earth/index.php

Forest Gump- One minute, one take- http://www.youtube.com/watch?v=nOvgJ0TxdfI

WorldBuilder- http://www.youtube.com/watch?v=VzFpg271sm8

Sesame Street Layoffs- http://www.funnyordie.com/videos/a5dae65d21/sesame-street-layoffs

Stirling Engine-Based Solar Power- http://www.stirlingenergy.com/default.asp

Geothermal project in California, including a great video- http://www.geysers.com/

How to destroy civilization with nanotechnology- http://www.youtube.com/watch?v=_0dYPnui3rM

Famous last words- http://www.youtube.com/watch?v=I-LtW7_PV6E&feature=related

Drunk History- http://current.com/items/89181144/cewebrity_profile_drunk_history.htm

May not agree with everything on it, but challenging and intelligent- http://reason.tv/

Princetion Plasma Physics Lab- http://www.pppl.gov/polGallery.cfm?Doc_Id=11&StartRow=1&Keyword_Desc=All&Size_Code=Large

Nanosolar- Printed solar cells- http://www.youtube.com/watch?v=ClLKVs9oSxE&eurl=http://oil-n-gas.blogspot.com/&feature=player_embedded

Biomass Energy- http://aq48.dnrag.state.ia.us/prairie/Biomass_En.htm

Stephen Colbert on Ayn Rand- http://www.huffingtonpost.com/2009/03/12/stephen-colbert-loves-ayn_n_174204.html

Kids Energy Page- http://www.eia.doe.gov/kids/energyfacts/sources/renewable/biomass.html

Denmark's Biomass Page-
http://www.ambbeijing.um.dk/en/menu/InfoAboutDenmark/EducationAndScience/Science/MordenScience/RenewableEnergy/GrowthWithoutIncreasedEnergyConsumption/

World of Energy (Australia)- http://www.worldofenergy.com.au/index.html

Why is your 401k dead? Do the math. http://www.wired.com/techbiz/it/magazine/17-03/wp_quant?currentPage=all

Cramer and Stewart on Daily Show- http://www.huffingtonpost.com/2009/03/12/jim-cramer-on-daily-show-_n_174503.html

News To Make You Furious

20th anniversary of the Exxon Valdez (Lifted entirely from www.gregpalast.com)

WARNING: Contains rude yet completely appropriate language that may be offensive to some readers. Sorry.

STICK YOUR DAMN HAND IN IT
20th Birthday of the Exxon Valdez Lie
by Greg Palast
March 23, 2009

"Gail, Please! Stick your hand in it!" The petite Eskimo-Chugach woman gave me that you-dumb-ass-white-boy look. "Gail, Gail. STICK YOUR DAMN HAND IN IT!" She stuck it in, under the gravel of the beach at Sleepy Bay, her village's fishing ground. Gail's hand came up dripping with black, sickening goo. It could make you vomit. Oil from the Exxon Valdez. It was already two years after the spill and Exxon had crowed that Mother Nature had happily cleaned up their stinking oil mess for them. It was a lie. But the media wouldn't question the bald-faced bullshit. And who the hell was going to investigate Exxon's claim way out in some godforsaken Native village in the Prince William Sound? So I convinced the Natives to fly the lazy-ass reporters out to Sleepy Bay on rented float planes to see the oil that Exxon said wasn't there. The reporters looked, but didn't see it, because it was three inches under their feet, under the shingle rock of the icy beach. Gail pulled out her hand and now the whole place smelled like a gas station. The network crews wanted to puke. And now, with their eyes open, they saw the oil, the vile feces-colored smear across the glaciated ridge faces, the poisonous "bathtub ring" that ran for miles and miles at the high tide level. And it's still there. Less for sure. But twenty years later, IT'S STILL THERE, GODDAMNIT. And I want YOU, dear reader, to stick your hand in it. I want YOU, President Obama, to stick your hand in it before you blithely fulfill your Palin-esque campaign promise for a little more offshore drilling.

Tuesday marks the 20th Anniversary of the Exxon Valdez grounding and the smearing of 1,200 miles of Alaska's coastline with its oil. It also marks the 20th Anniversary of a lie. Lots of lies: catalogued in a four-volume investigation of the disaster; four volumes you'll never see. I wrote that report, with my team of investigators working with the Natives preparing fraud and racketeering charges against Exxon. You'll never see the report because Exxon lawyers threatened the Natives, "Mention the f-word [fraud] and you'll never get a dime" of compensation to clean up the villages. The Natives agreed to drop the fraud charge -- and Exxon stiffed them on the money. You're surprised, right? Doubtless, for the 20th Anniversary of the Great Spill, the media will schlep out that old story that the tanker ran aground because its captain was drunk at the wheel. Bullshit. Yes, the captain was "three sheets to the wind" -- but sleeping it off below-decks. The ship was in the hands of the third mate who was driving blind. That is, the Exxon Valdez' Raycas radar system was turned off; turned off because it was busted and had been busted since its maiden voyage. Exxon didn't want to spend the cash to fix it. So the man at the helm, electronically blindfolded, drove it up onto the reef.

So why the story of the drunken skipper? Because it lets Exxon off the hook: Calling it a case of "drunk driving" turns the disaster into a case of human error, not corporate penny-pinching Indeed, the "human error" tale was the hook used by the Bush-stacked Supreme Court to slash the punitive damages awarded against Exxon by 90%, from $5 billion, to half a billion for 30,000 Natives and fishermen. Chief Justice John Roberts erased almost all of the payment due with the la-dee-dah comment, *"What more can a corporation do?"* Well, here's what they could have done: Besides fix the radar, Exxon could have set out equipment to contain the spill. Containing a spill is actually quite simple. Stick a rubber skirt around the oil slick and suck it back up. The law requires it and Exxon promised it. So, when the tanker hit, where was the rubber skirt and where was the sucker? Answer: The rubber skirt, called "boom" -- was a fiction. Exxon promised to have it sitting right there near the Native village at Bligh Reef. The oil company fulfilled that promised the cheap way: they lied.

And the lie was engineered at the very top. After the spill, we got our hands on a series of memos describing a secret meeting of chief executives of Exxon and its oil company partners, including ARCO, a unit of British Petroleum. In a meeting of these oil chieftains held in April 1988, ten months *before* the spill, Exxon rejected a plea from T.L. Polasek, the Vice-President of its Alaska shipping operations, to provide the oil spill containment equipment required by law. Polasek warned the CEOs it was "not possible" to contain a spill in the mid-Sound without the emergency set-up. Exxon angrily vetoed ARCO's suggestion that the oil companies supply the rubber skirts and other materiel that would have prevented the spill from spreading, virtually eliminating the spill's damage. Regulations state that no tanker may leave the Alaska port of Valdez without the "sucker" equipment, called a "containment barge," at the ready. Exxon signed off on the barge's readiness. But, that night twenty years ago, the barge was in dry-dock with its pumps locked up under arctic ice. By the time it arrived at the tanker, half a day after the spill, the oil was well along its thousand-mile killing path. Natives watched as the now-unstoppable oil overwhelmed their islands. Eyak Native elder Henry Makarka saw an otter rip out its own eyes burning from oil residue. Henry, pointing down a waterside dead-zone, told me, in a mix of Alutiiq and English, "If I had a machine gun, I'd shoot every one of those white sons-of-bitches."

Exxon promised -- *promised* -- to pay the Natives and other fisherman for all their losses. The Chief of the Natives at Nanwalek lost his boat to bankruptcy. His village, like other villages, Native and non-Native, decayed into alcoholism. The Mayor of fishing port Cordova killed himself, citing

Exxon in his suicide note. On the island village of Chenega, Gail Evanoff's uncle Paul Kompkoff was hungry. Until the spill, he had lived on seal meat, razor clams and salmon Chenegans would catch, and on deer they hunted. The clams and salmon were declared deadly and the deer, not able to read the government warning signs, ate the poisoned vegetation and died. The President of Exxon, Lee Raymond, helicoptered into Chenega for a photo op. He promised to compensate the Natives and all fishermen for their losses, and Exxon would thoroughly clean the beaches. Uncle Paul told the Exxon chief of his hunger. The oil company, sensing PR disaster, shipped in seal meat to the isolated village. The cans were marked, "NOT FIT FOR HUMAN CONSUMPTION." Uncle Paul said, "Zoo food." Paul didn't want a seal in a can. He wanted a boat to go fishing, to bring the village back to life. Two years after the spill, Otto Harrison, General Manager of Exxon USA, told Evanoff and me to forget about a fishing boat for Uncle Paul. Exxon was immortal and Natives were not. The company would litigate for 20 years. They did. Only now, two decades on, Exxon has finally begun its payout of the court award -- but only ten cents on the dollar. And Uncle Paul's boat? No matter. Paul's dead. So are a third of the fishermen owed the money.

Lee Raymond, President of Exxon at the time of the spill -- and its President when the company made the secret decision to do without oil spill equipment, retired in April 2006. The company awarded him a $400 million retirement bonus, more than double the bonuses received by all AIG executives combined. Gail's oily hand never made it to national television. The networks were distracted with another oil story. After sailing back to Chenega from Sleepy Bay, I sat with Uncle Paul, watching the smart bombs explode over Baghdad. Gulf War I had begun. Uncle Paul was silent a long time. The generals on CNN pointed to the burning oil fields near Basra. Paul said, "I guess were all some kind of Native now."

Recession Proof Jobs For Grads 2008 - 2020

Read the whole article at- http://www.askmen.com/money/career_250/253_recession-proof-your-job.html

Reports coming from various sources say that employers are offering signing bonuses and higher starting salaries from 2008 onward than in the past two decades and will continue to do so in several occupations, despite economic recessions. These occupations are high demand jobs suitable to graduates that are specializing in the career fields of Business, Finance, and Information Technology and earning related academic degrees. The Millennial Generation (b. ~ 1980 - 2000) is nearly as large as the Baby Boom Generation. This means that not only will Millennials require additional and longer-term Health/Medical care and wellness services, as have the Boomers, but that they require additional years of Financial Planning, because they will live longer in the advent of increasing medical advances. They may even work greater numbers of years and own more businesses or own them for longer periods of time. Until 2100 AD or so, Millennials will continue to be top consumers of Information Technology advances, comptuers, and gadgets and they will be tracked in additional new databases globally. They will be employees, business owners, and consumers of products and services made available in by the expanding worlds of Engineering of all kinds. Many will join the ranks of engineering-degreed Private Space Explorers, working for major corporations. Increasingly, they will also work in and consume the services and products of Green Industries. The industries doing the most hiring and expecting the highest percentages of job growth in high demand occupations nationwide through 2020 are arranged below by salary:

Marketing Managers
College Major: Advertising or Journalism
Median salary: $98,720; Forecasted job growth: HIGH
Financial Managers
College Major: Finance
Median salary: $90,970; Forecasted job growth: HIGH
Computer Systems Software Engineers
College Major: Computer Information Science [CIS]
Median salary: $85,370; Forecasted job growth: VERY HIGH
Chemical Engineers
College Major: Engineering
Median salary: $78,860; Forecasted Job growth: Moderate
Electrical Engineers
College Major: Engineering
Median salary: $75,930; New Jobs Forecast: 10,000+
Mechanical Engineers
College Major: Engineering
Median salary: $69,850; New Jobs Forecast: 10,000+
Civil Engineers
College Major: Engineering
Median salary: $68,600; Forecasted job growth: HIGH
Financial analyst
College Major: Business Administration
Median salary: $66,590; Forecasted job growth: HIGHEST of the Top 10.
Accountants
College Major: Accounting
Median salary: $54,630; Forecasted job growth: HIGH

Additional Recession-Proof Occupations-

Education. This includes Certified Teachers, as well as Teacher's Assistants & Aides that do not all require degrees. Adult Education Instructors and self-improvement teachers may or may not require a degree.
Energy & Environment
Energy provides occupations that require anything form a high school diploma to a PhD in engineering. It should be the most productive and expansive of national industries in 21st century America.
Health Care
Educational required can vary from a high school diploma or GED to a PhD, MD, or other professional degree. This field is wide open for jobs and opportunities for advancement. Not only human health care, but veterinary health care is growing. Psychiatric and psychological services are also fast growing job opportunity fields within Health Care.
Security
Security work can require a high school diploma/GED or higher education level. Security is a growing industry with unlimited potential, not because of Homeland Security requirements, but because of COMPUTER INFORMATION. Computer information security will continue to increase with the expansion of Information Technology applications and inventions.
Service Industries
The abundance of service related positions may wax and wane a bit within the economic climate created by each additional US presidential administration and its policies in America, but the US has trended more and more toward a service based economy since the 1980s. In the 21st century, this is becoming more evident as well and will continue to do so.

16 Recession-Proof Metropolitan Areas

Read the whole story at- http://www.careerhubblog.com/main/2009/02/16-recessionproof-cities-metropolitan-areas-.html

In 2008 there were more than 70 metropolitan areas in the United States that were apparently recession-proof because total employment had not declined during the last three recessions. Now, as our current recession deepens, there are only 16, and some of these are about to fall off the list:

Bakersfield, CA
Grand Junction, CO
Alexandria, LA
Baton Rouge, LA
Lake Charles, LA
Monroe, LA
Columbia, MO
Bismarck, ND
Brownsville-Harlingen, TX
Houston-Sugar Land-Baytown, TX
Killeen-Temple-Fort Hood, TX
Laredo, TX
Odessa, TX
Tyler, TX
Harrisonburg, VA
Olympia, WA

This list was compiled from Bureau of Labor Statistics Metropolitan Area Employment data through December 2008 that was released on February 3, 2009. For a complete list of the employment trends and the number of new jobs in 350+ metropolitan areas, go to http://jobbait.com/a/rpa.htm.

10 Tips to Recession-Proof Your Career

Read the whole story at- http://www.careerhubblog.com/main/2008/10/top-10-tips-to.html

Theodore Roosevelt once said "Whenever you are asked if you can do a job, tell 'em, 'Certainly I can!' Then get busy and find out how to do it." Now is the time to take on extra responsibilities on the job and move out of your comfort zone. Here are 10 tips to help you recession-proof your career:

1. Speak up at the next staff meeting. Make a positive contribution to the conversation and share your ideas. Don't wait until something happens and then say, "Gee, that was MY idea." How would anyone have known?
2. Schedule a review with your boss. Make them aware of your valuable contributions to the organization. It's not bragging if it's true AND your boss may not be aware of all you do. Track your achievements now. Go back into your emails and see how many customers praised your work. Create a "me file." Want more tips about this? Check out my article here: Revealing Your Personal Power in the Workplace.
3. Anticipate the needs of your coworkers -- and other departments. You might be in product development, but you just read a good marketing article that's on target for your company's goals. Send it to your colleague in marketing with a brief note, "Saw this and thought you might find it helpful. Thanks for the hard work on the launch of the X project!"
4. Build bridges to other departments. When I worked in the newspaper industry there was a disconnect between advertising, production, and editing (reporting). I created a bridge simply by asking questions and learning more about the other departments. Cross train if your company has a program.
5. Provide genuine compliments. "Nice shoes" is OK, but "Wanda, your help on the gizmo project was invaluable. The fact that you were able to land coverage in *Wired* magazine, WOW!" is better. Good compliments are specific -- and genuine.
6. Mentor the newbie. What tips can you provide that will help this person succeed in your organization?
7. Take a class and build your skills. But then you won't have your MBA until you're 40 you say? Yes, but you'll still be 40... Why not have the degree?
8. Become a thought leader in your industry. Start a blog. Write a whitepaper. Speak at your next industry conference.
9. Network inside and outside the company. Take an active role on employee improvement teams, volunteer groups, and professional organizations.
10. Shake things up. Think of at least one thing you can do right now that would save your department money, streamline operations or improve morale. And just do it! "But it's always been done like that" is old thinking. "How can I improve this" is new thinking.
Bonus: Build your brand! Increase your visibility the right way to attract opportunities to you. Now more than ever, you've got to be noticed. (And I don't mean that picture of you dancing on the table on MySpace.) Google yourself now to see where you stand.

Thanks for your business

Thank you to all of our clients and friends who have graciously supported and referred TDASI over the years. Our business is built upon the positive comments and referrals from people like you. Recommending us to others is the highest compliment we can receive. Referrals are critical to our survival and long term growth.
We strive for 100% client satisfaction, so please take the time to complete the survey left in your vehicle after each visit. This information is helpful for us to improve and continue to provide impeccable automotive service. Thank you for your trust and continued support!