

OBERLIN
COMICBOOK



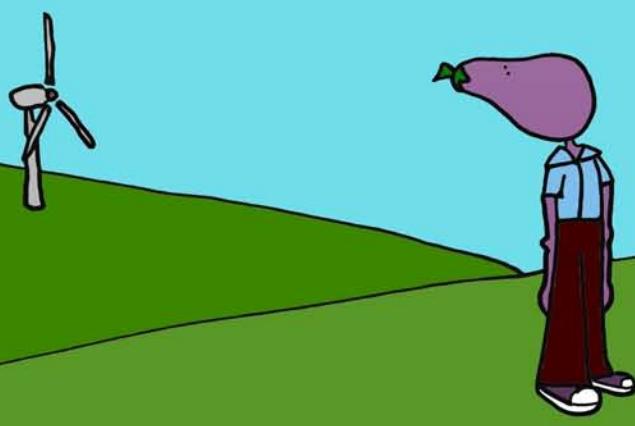
AUTHORITY

IT AIN'T EASY BEING

GREEN



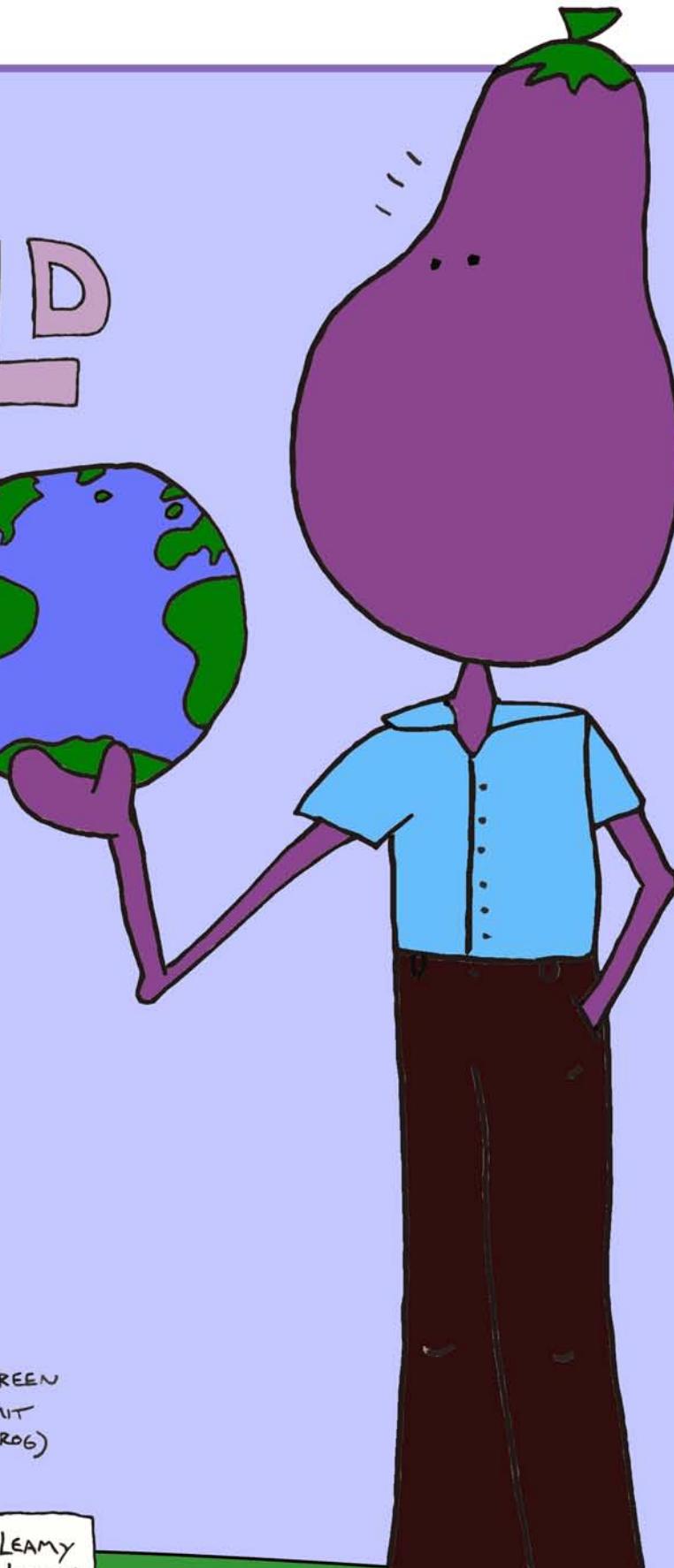
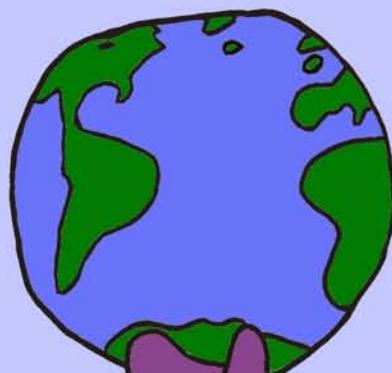
FREE
(YOUR MIND!) **ISSUE #1** MAY 2005



to love
(wherever it hides)

US AGAINST THE

WORLD

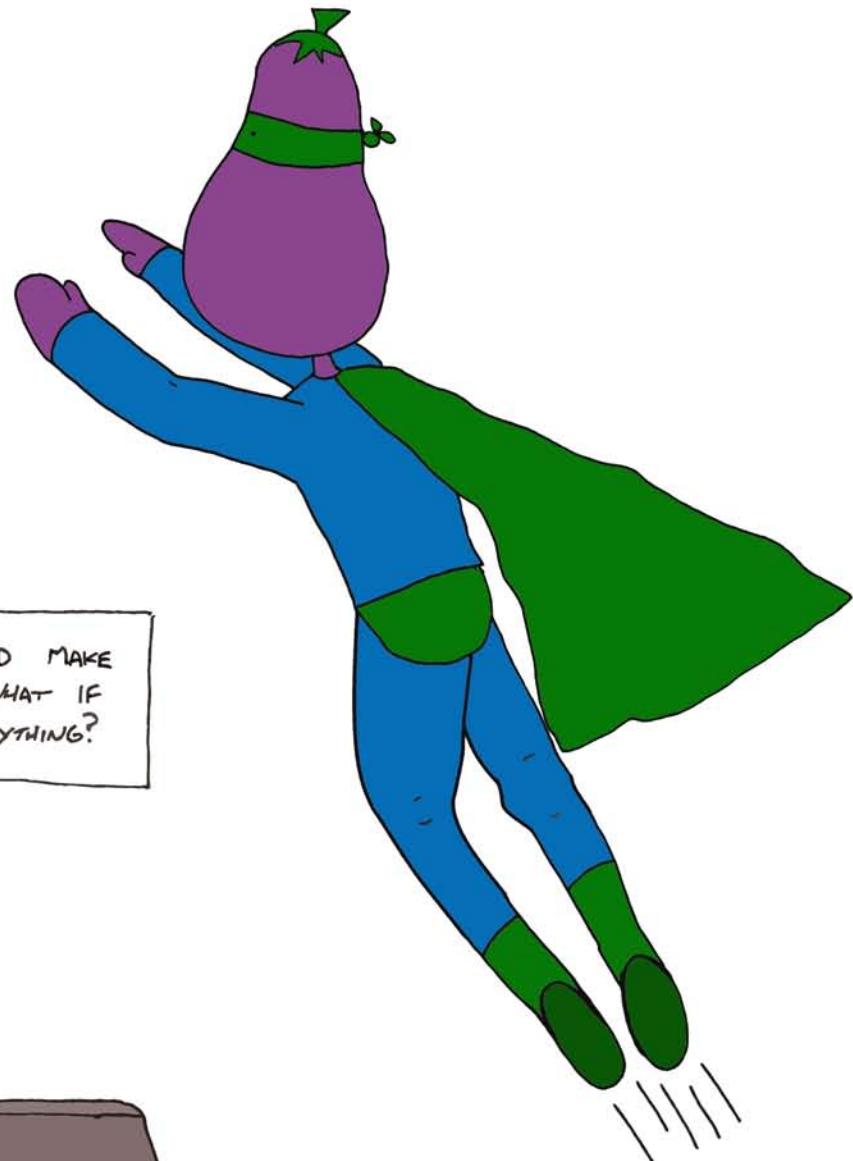


IT AIN'T EASY BEING GREEN
—KERMIT
(THE FROG)

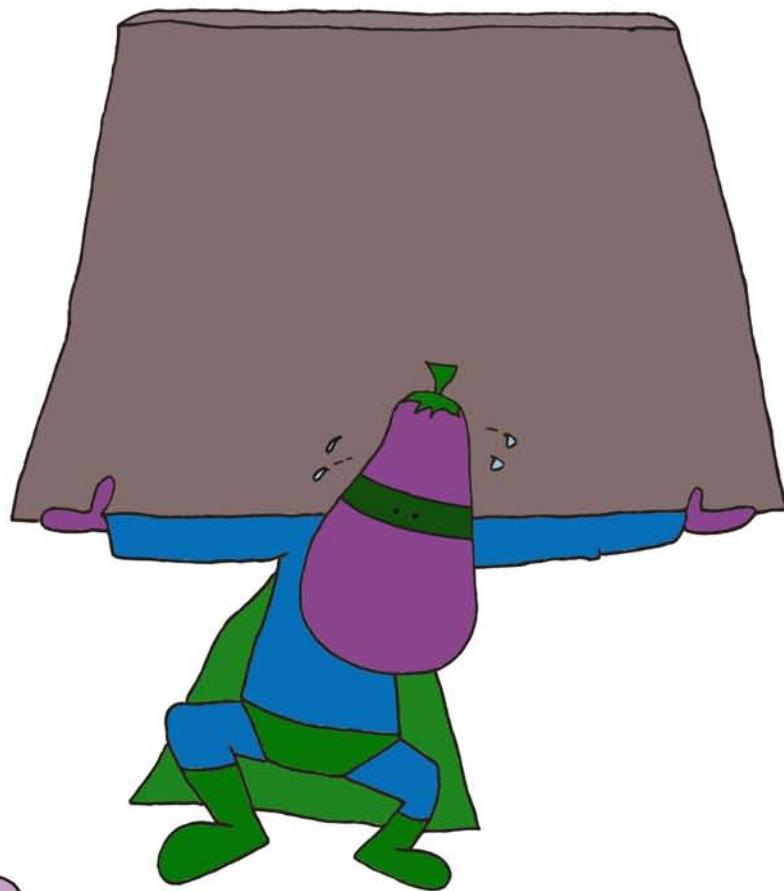
SCRIPT NATHAN LEAMY
ART NATHAN LEAMY
INKING NATHAN LEAMY
LETTERING NATHAN LEAMY
DIGITAL PROCESSING NATHAN LEAMY

EVERYONE WANTS TO SAVE THE WORLD. SOME LITTLE PART OF YOU THINKS:

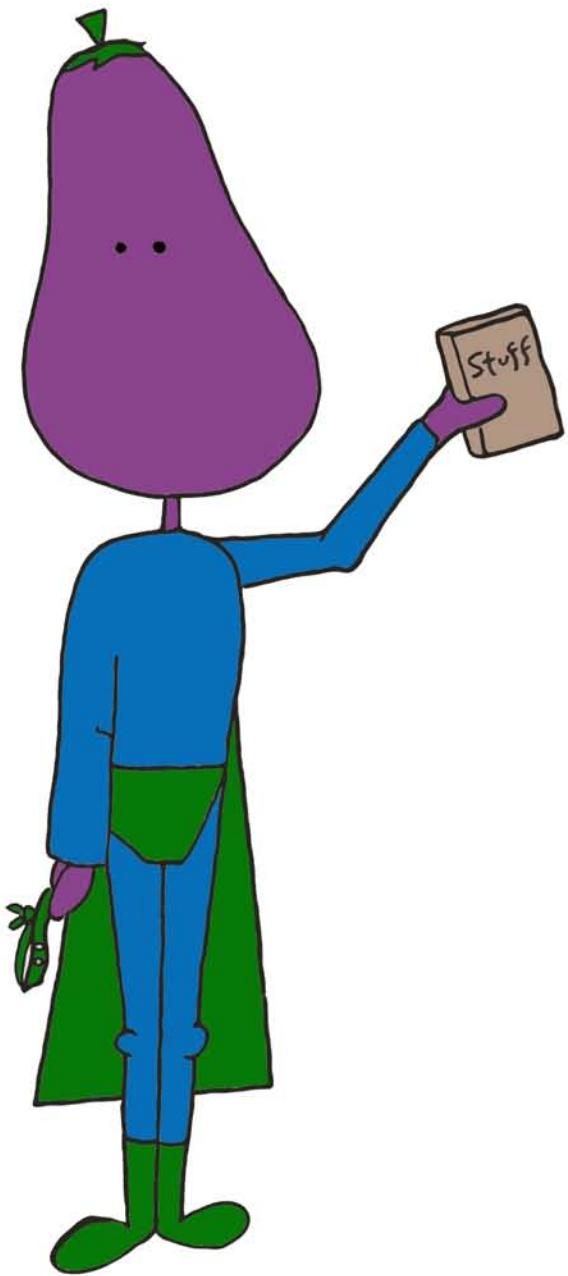
WHAT IF I COULD MAKE EVERYTHING RIGHT? WHAT IF I COULD CHANGE EVERYTHING?



I'LL ADMIT IT.
I CAN'T FLY.
I DON'T HAVE
SUPER STRENGTH.



BUT I TOO
WANT TO SAVE
THE WORLD.



I AM JUST A GUY. A GUY WHO KNOWS A BUNCH OF STUFF. NOTHING ALL TOO INTERESTING.

AND I HAVE MY IDEAS ON HOW TO SAVE THE WORLD. WE ALL DO. SOME SAY THAT WE ALL NEED TO FIND GOD OR STOP EATING MEAT OR WHATEVER. BUT I COULDN'T SAY ANYTHING REAL SOLID ABOUT WHAT EXACTLY IT IS WHICH WILL TIP THE SCALES AND SAVE US FROM OURSELVES.

SO ONE DAY I GET THIS PAMPHLET IN THE MAIL AND I BECAME A BIT INTRIGUED.



BEFORE I GET STARED, I JUST GOTTA SAY, I REALLY LIKE LOVE. I KNOW, I KNOW, NOT THE MOST DECISIVE OF STATEMENTS, BUT IT'S JUST THAT IN GENERAL, I AM A BIG FAN OF THE NOTION OF HUMAN DEVOTION.

YOU SEE, I WAS IN LOVE ONCE. I MEAN, I GUESS I STILL AM.

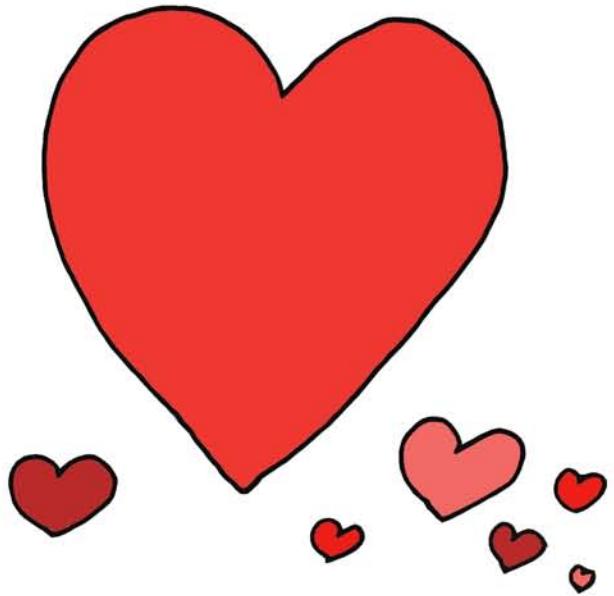
SHE'S JUST REAL FAR AWAY.

DO YOU EVER REALLY FALL OUT OF LOVE... OR DOES A SMALL PART OF IT STICK WITH YOU FOREVER?



I DUNNO. BUT I LIKE LOVE. IT'S A WORD THAT MEANS A LOT TO ME. I USE IT WITH GREAT CARE.

AS DO I USE THE WORD 'HATE.'



SO WHEN I GET THIS PAMPHLET IN THE MAIL WHICH LAYS OUT THE WORLD IN DIAMETRIC OPPOSITION, I GET A BIT INTRIGUED. IT'S FROM GREENPEACE. IT SEEMS TO EQUATE JOINING THEIR ORGANIZATION WITH HELPING TO SAVE THE WORLD...

NOW, I WOULD CONSIDER MYSELF TO SOMEONE WHO IS FAIRLY LIBERAL IN MOST EVERY ASPECT. I'VE GOT ALL THE MERIT BADGES OF AN AMERICAN LIBERAL. I WAS THE PRESIDENT OF MY HIGH SCHOOL ENVIRONMENTAL CLUB, I'VE DABBLED WITH VEGETARIANISM, I VOTE FOR DEMOCRATS, WISHING THERE WAS SOMETHING BETTER, AND I TRY MY HARDEST TO LOVE MY FELLOW MAN...

BUT I'M NOT A PARTY LINE LIBERAL. I LIKE TO KNOW WHAT I AM TALKING ABOUT. SO, WHEN IT COMES TO NUCLEAR POWER, I AM NOT SURE IF I CAN JUMP ON THE GREEN BANDWAGON AND CRY OUT THAT THE SKY IS FALLING.

SO, I HAVE TO WONDER: WHY DOES GREENPEACE HATE NUCLEAR POWER SO MUCH?



I FIGURE, BEST WAY TO START THIS SEARCH, AND FIND OUT, WILL BE GO STRAIGHT TO THOSE WHO ARE THROWING AROUND THIS HATE TALK.

I HAD FOUND THE ADDRESS OF GREENPEACE'S LONDON HEADQUARTERS ONLINE, AND WENT TO PAY THE OFFICE A VISIT. IT WAS A LARGE, NEW LOOKING BUILDING IN NE LONDON.



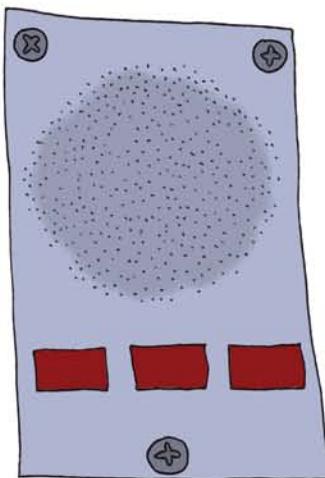
yo.

I DON'T KNOW WHAT I EXPECTED TO SEE WHEN I FIRST SHOWED UP AT GREENPEACE, PROBABLY A LOT OF REAL CRUNCHIE TYPES: JOHN LENNON GLASSES, LONG HAIR, THE WORKS.

THE DOOR WAS LOCKED WITH A BUZZER BESIDE IT. I GENTLY PRESSED THE BUTTON WITH MY INDEX FINGER.

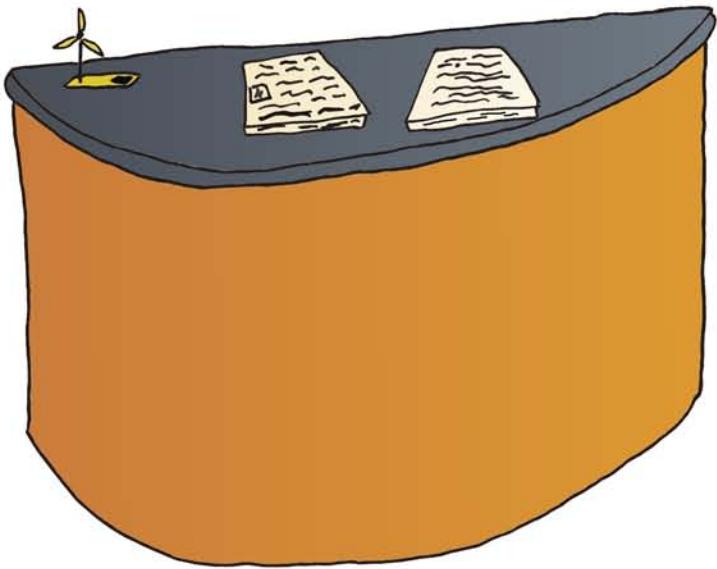
YES?

IT CRACKLED.



I WAS HOPING TO GET SOME PAMPHLETS...?

THE DOOR CLICKED OPEN AND I WALKED IN.



IT WAS A PRETTY STANDARD OFFICE EXCEPTING THE PLETHORA OF DOLPHIN PICTURES ON THE WALLS. I LOOK AROUND BEFORE WALKING UP TO THE LARGE WOODEN FRONT DESK.

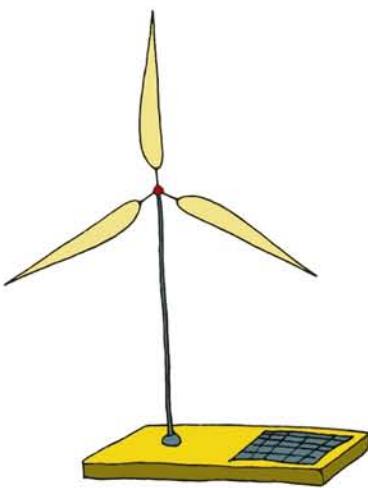
H, THERE. I'M LOOKING FOR SOME INFORMATION ABOUT GREENPEACE, ALTERNATIVE ENERGY, AND NUCLEAR POWER.

SHE DIRECTS ME TO THE PILES OF INFORMATION STACKED ON THE DESKS AROUND HER AND GETS SOMEONE ELSE TO COLLECT SOME BROCHURES FOR ME. SHORTLY LATER, A WOMAN NAMED JOE GIVES ME ANOTHER HANDFUL OF PAMPHLETS BEFORE WE HAVE A RATHER AWKWARD INTERACTION.

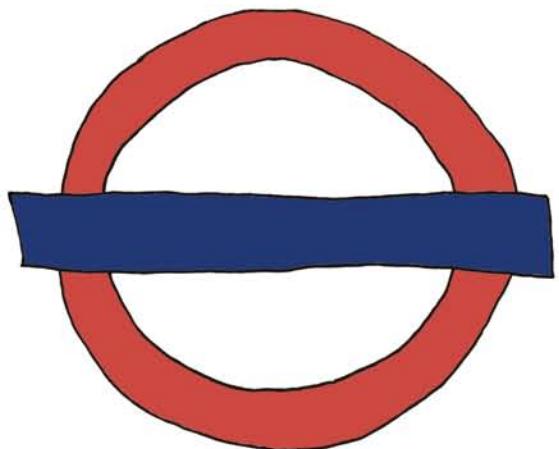
BEFORE LEAVING I TAKE ONE LAST LOOK AROUND AND NOTICE A SMALL MODEL OF A WIND TURBINE ATTACHED TO A SOLAR PANEL. THE PANEL IS OBVIOUSLY MEANT TO BE RUNNING THE MODEL TURBINE, BUT IT SITS STILL ON THE DESK.

THE CYNIC IN ME LAUGHS INWARDLY AT THE UNINTENTIONAL METAPHOR THEY HAVE CHOSEN AS A TABLE DECORATION.

Heh.



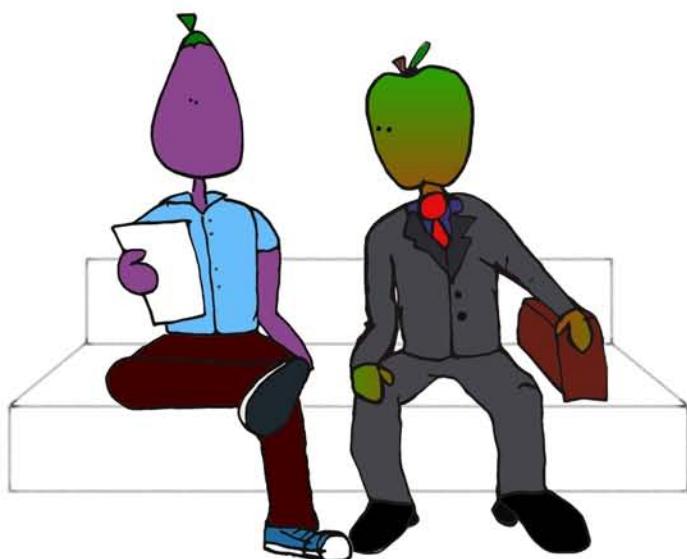
CLUTCHING my HANDFUL OF PAMPHLETS, I HEAD BACK ONTO THE LONDON UNDERGROUND. AS I BEGIN TO LEAF THROUGH THEM, I NOTICE THE BUSINESSMAN BESIDE ME LOOKING OVER MY SHOULDER. I WATCH HIS ALMOST CARICATURED EXPRESSION AS HE READS ALONG WITH ME. HE LAUGHS ALOUD AND SHAKES HIS HEAD AT THE DRY EXPLANATION OF NUCLEAR ENERGY IN ENGLAND.



IF BUSINESSMEN ARE THIS EAGER TO READ ABOUT NUCLEAR POWER, IT MUST BE SOMETHING NOTEWORTHY.

OVER THE NEXT FEW WEEKS, I WORK MY WAY THROUGH THE PAMPHLETS OF GREENPEACE, THE WEBSITES OF A NUMBER OF GREEN ORGANIZATIONS, AND THE OPPOSING VIEWPOINTS OF PRO-NUCLEAR POWER ADVOCATES BOTH IN INDUSTRY AND IN THE ENVIRONMENTAL MOVEMENT.

AND I SEE A PATTERN BEGIN TO FORM.



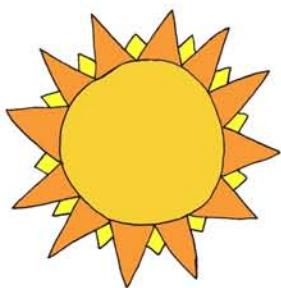
SEE, IN ENGLAND, PEOPLE ARE CONCERNED ABOUT GREENHOUSE GASES. UNLIKE MY HOMELAND, THE UNITED STATES, THE UK HAS ENTERED INTO THE KYOTO PROTOCOL, SO THEY ARE OBLIGATED TO REDUCE THE GREENHOUSE EMISSIONS FROM THEIR POWER PLANTS BY 10% IN THE NEXT FIVE YEARS. FOR A LONG TIME, THE UK HAS BEEN USING COAL, OIL, AND NATURAL GAS TO PRODUCE POWER BUT THESE THREE FUELS PRODUCE LARGE AMOUNTS OF THESE GREENHOUSE GASES, AND NOW THEY KNOW IT, AND THEY KNOW THEY NEED TO CHANGE.

MANY OF THE NUCLEAR PLANTS WHICH HAVE BEEN MADE IN THE PAST HALF CENTURY ARE GOING TO GO OFFLINE, MEANING A POTENTIAL OPPORTUNITY FOR CHANGE WITH THIS LARGE TURNOVER IN HOW ELECTRICITY IS BEING PRODUCED. SO, AS THE OCEANS WARM AND DEADLINES LOOM, IT IS BECOMING MORE AND MORE OBVIOUS THAT THE GOVERNMENT IS GOING TO HAVE TO START MAKING SOME SUBSTANTIVE CHANGES TO THE SUBSIDIZATION AND REGULATION OF POWER - AND THERE ARE ONLY A LIMITED NUMBER OF PATHWAYS ONE CAN TAKE WHICH WILL HELP THIS PROBLEM.

THE LINE-UP INCLUDES:



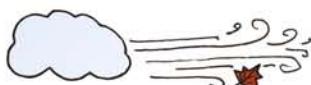
WATER



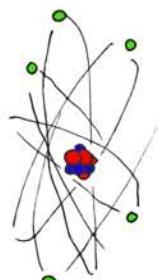
SOLAR



GEOTHERMAL

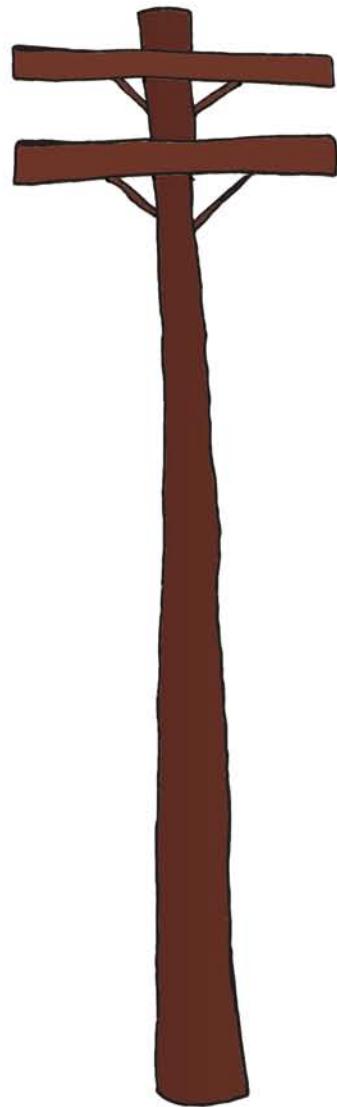


WIND



AND
NUCLEAR

SURE, THERE ARE TALKS OF MASSIVE COAL FILTERS AND CRAZY IDEAS OF HYDROGEN FARMING, BUT THE WAY THINGS LOOK, THOSE ARE ONLY DREAMS, EXPENSIVE DREAMS. BOTH IN TERMS OF INTERNATIONAL TREATIES AND THE ENVIRONMENT, SOMETHING NEEDS TO HAPPEN NOW, AND THIS IS WHAT WE HAVE TO WORK ON IN A MASSIVE SCALE.

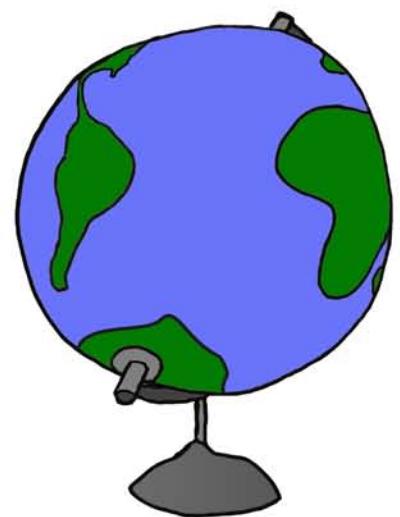


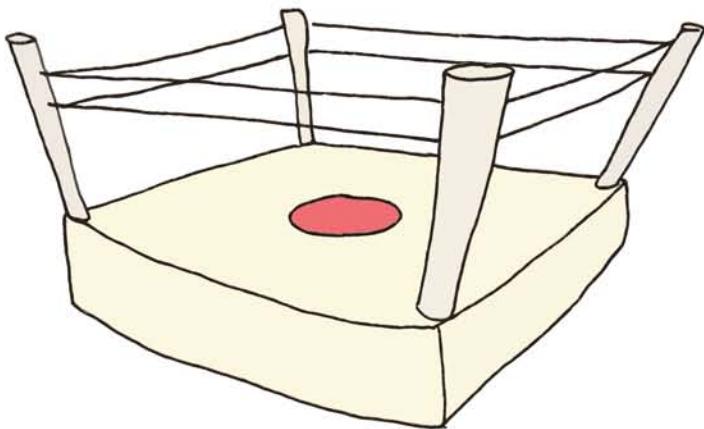
BUT EVEN WITH THESE FIVE OPTIONS... READING THE LITERATURE AND LISTENING TO LECTURES, THERE ISN'T MUCH THAT IS VIABLE.

ALL SORTS OF WATER DRIVEN ENERGIES ARE AWKWARD. TIDAL AND WAVE ENERGY ARE CONSTRUCTED IN BAYS AND RIVER MOUTHS -AN UNPOPULAR OPTION. LARGE SCALE HYDROELECTRIC KILLS FISH, PLUS ISN'T REALLY VIABLE ON AN ISLAND WITHOUT SUBSTANTIAL RIVERS. GENERALLY THERE IS A STRONG PUBLIC OPPOSITION TO THEIR CONSTRUCTION OF NEW WATER DRIVEN POWER PLANTS.

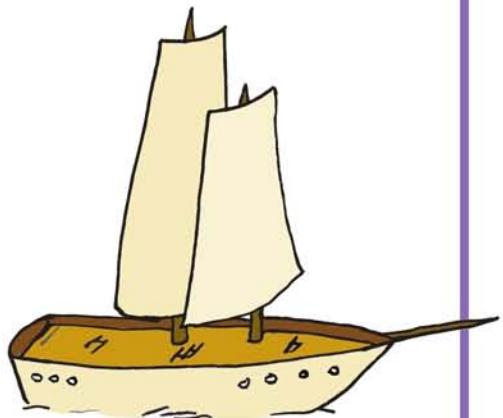
GEOHERMAL ENERGY IS RELIANT, BUT LOCATION, LOCATION, LOCATION IS SO IMPORTANT TO VIABILITY. GEOTHERMAL HAS LIMITED PROSPECTS ON A LARGE SCALE, ESPECIALLY IN ENVIRONMENTS WHERE THERE ARE LIMITED NATURAL ACCUMULATIONS OF SUBTERRANEAN GASES OR HOT SPOTS.

SOLAR ENERGY IS THE TEMPTRESS OF THE CLEAN ENERGY MOVEMENT. THE SUN! IT'S SO OBVIOUS! BUT THE ENORMOUS ARRAYS WHICH WOULD BE NECESSARY FOR PRODUCING ELECTRICITY ON A NATIONAL SCALE ARE OBSCENE. SOME SUGGEST THAT SOLAR PANELS BE USED FOR MORE INDIVIDUAL USE, BUT THAT IS ONLY POSSIBLE FOR RICH INDIVIDUALS OR WITH THE HELP OF MASSIVE GOVERNMENT SUBSIDIES. ON TOP OF IT, THE CONSTRUCTION OF PHOTOVOLTAIC PANELS POLLUTES QUITE A BIT.



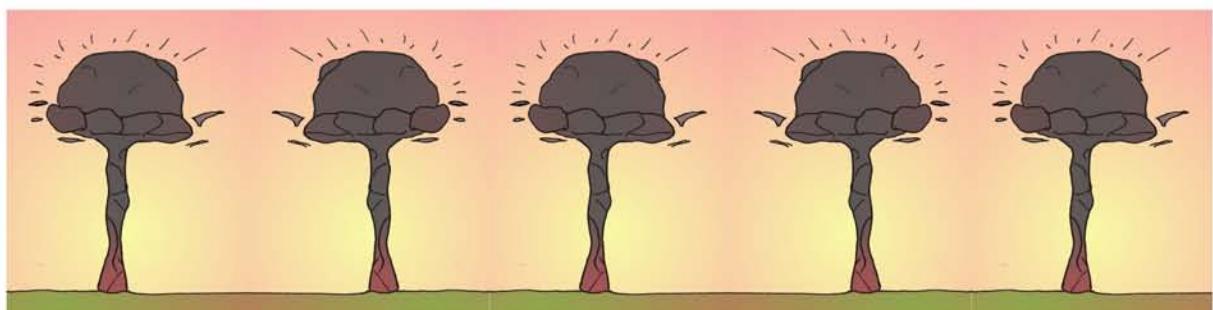


So that leaves us with wind and nuclear power. Just as Greenpeace had framed the terms of the debate, I find the same match up repeated again and again... two very different power sources, matched in a head-to-head battle competing for the hearts and minds of energy consumers and government officials.



Greenpeace is an organization which was founded in 1971 explicitly to fight against nuclear proliferation. A bunch of anti-war protesters piled on a boat and got in the way of some U.S. nuclear testing in hopes of sending a message to the American government and the world. It worked, so the organization grew. More boats, more passive resistance, and eventually a whole movement followed, committing in their mission statement to use "non-violent, creative confrontation to expose global environmental problems and their causes."

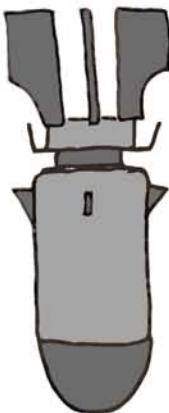
So, Greenpeace has become one of the largest environmental organizations in the world... and it is at the forefront of the issue of climate change... yet I have to wonder... how do they justify being so opposed to one of the two reasonable ways to create electricity without greenhouse gases?





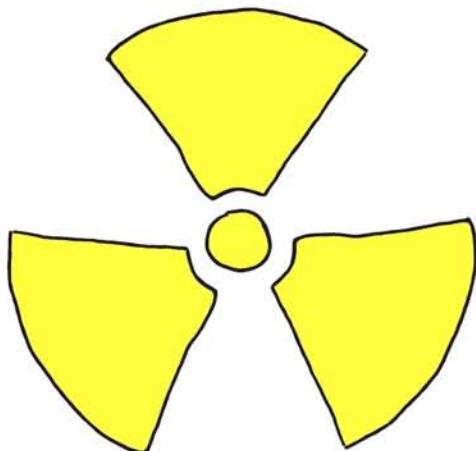
FIRST TO UNDERSTAND THE TWO FIGHTERS A BIT BETTER. NUCLEAR IS BIG AND CONFUSING. I MEAN, EVERYONE HAS HEARD OF CHERNOBYL AND THREE MILE ISLAND. FRANCE LOVES NUCLEAR ENERGY AND THE AMERICAN GOVERNMENT IS TRYING TO STICK NEVADA WITH ALL THE WASTE FROM THEIR NUCLEAR PLANTS.

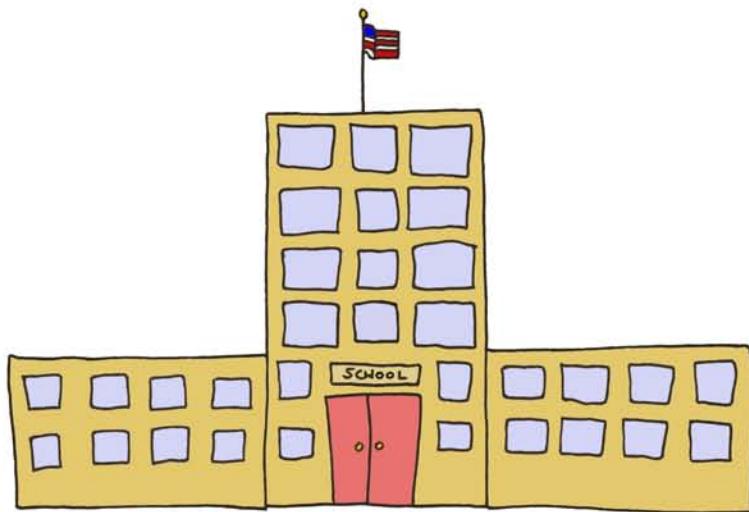
We've all seen The Simpsons, continually nervously laughing at Homer as he bumbles along, narrowly averting disaster.



EVERYONE HAS THIS SENSE OF FEAR AND INTRIGUE FOR THE MANHATTAN PROJECT, AND AMERICANS HAVE A CERTAIN PRIDE, IN THE FACT THAT THE US WAS THE FIRST (AND ONLY, THANK GOD) IN DROPPING A NUCLEAR BOMB.

BUT I STILL DON'T REALLY KNOW THE POLITICS OF NUCLEAR ENERGY... I DON'T REALLY UNDERSTAND THE SCIENCE OF NUCLEAR ENERGY... LIKE MOST PEOPLE OUT THERE, I DON'T REALLY UNDERSTAND NUCLEAR ENERGY.





I'VE HEARD THE BASICS
OF NUCLEAR ENERGY PLENTY
OF TIMES, BUT THANKS TO
THE AMERICAN STYLE OF
EDUCATION, IN ONE EAR,
OUT THE OTHER, I CAN'T
RECALL IT ALL AT ONCE.
IT'S SOMETHING ABOUT
ATOMS SPLITTING OR
COMING TOGETHER...
OR BOTH?

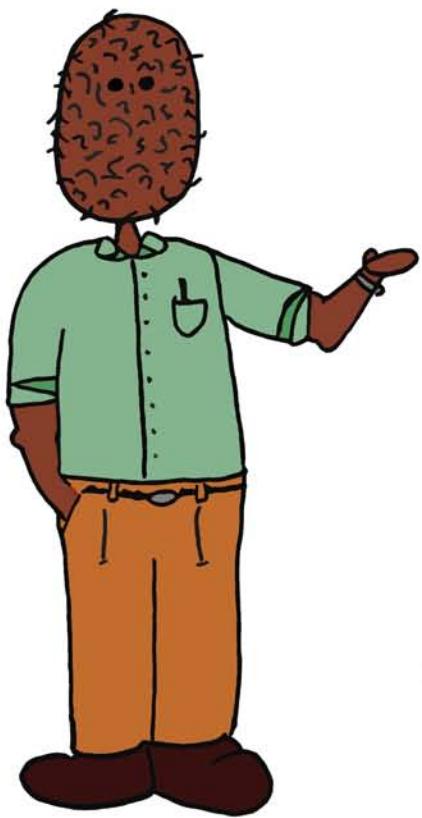
So one day in class my professor,
Steve explains the whole thing one
more time for our edification.

AND THIS TIME
I LISTEN.

I EVEN TAKE NOTES.

MOST OF THESE
NOTES ARE EVEN
ABOUT THE LECTURE.

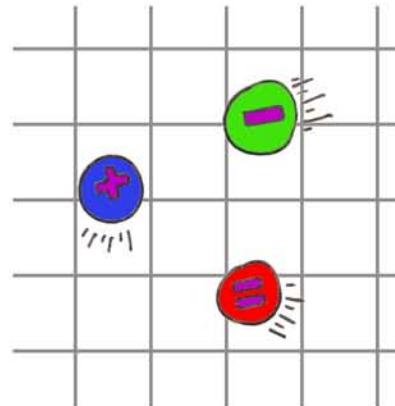




STEVIE EXPLAINS IT ALL SO MUCH MORE ELOQUENTLY THAN I, BUT THE BASICS OF NUCLEAR ENERGY MAKES US LOOK AT REAL SMALL THINGS.

We are made of stuff, and that stuff is made of even smaller stuff, and that even smaller stuff, perhaps forever but as far as what matters here, the things you interact with on a regular basis: your chair, a flower, your pet cat; are made of elements. Elements are just a bunch of atoms with similar properties and the same number of protons.

SEE, ALL ATOMS ARE MADE OF THESE THREE BASIC BUILDING BLOCKS: ELECTRONS, PROTONS AND NEUTRONS. THE COMBINATION OF THESE THREE BUILDING BLOCKS WILL DETERMINE THE CHARGE, THE PROPERTIES, AND JUST ABOUT EVERYTHING ABOUT WHAT AN ATOM IS.



So, nuclear power takes advantage of all this small stuff going on. This all takes more physics than one really needs to know, but basically atoms like being how they are, but when put under the right circumstances, they can be motivated to change from one thing to another, and in the process, release some energy.

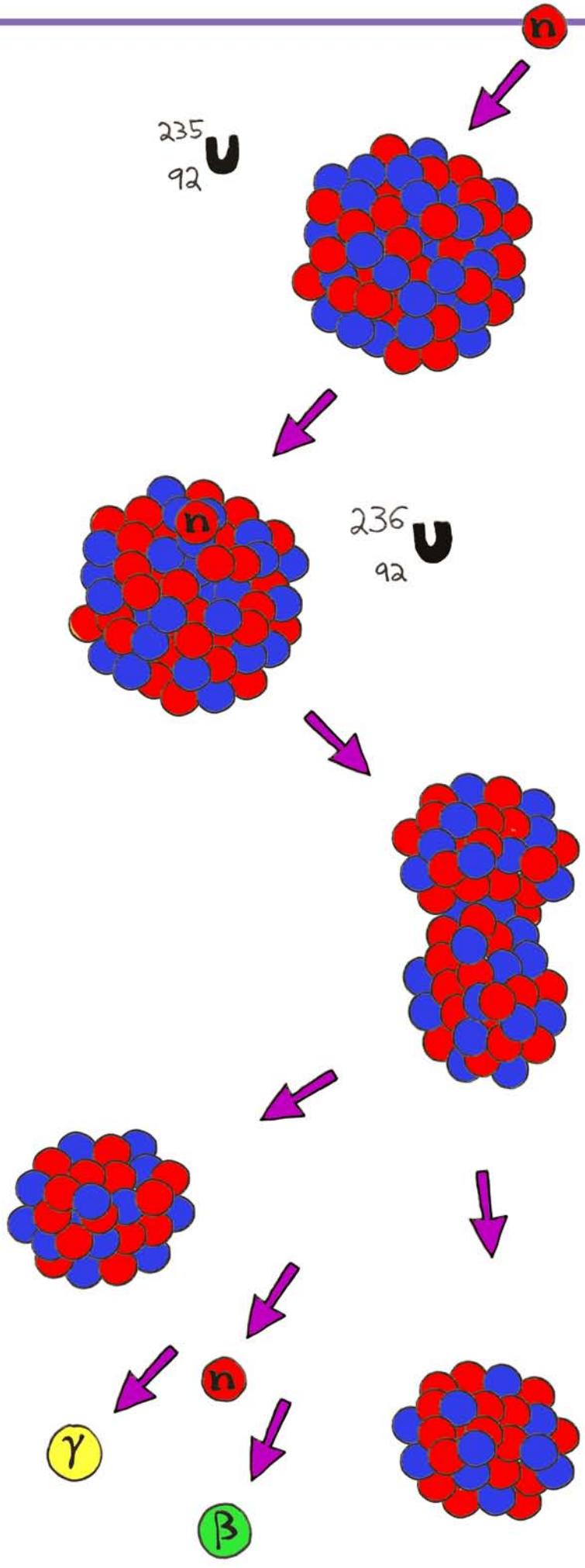
There's this element, uranium. It's found in the natural environment in rocks and water and all sorts of stuff. Uranium is a pretty big molecule, it has 92 protons, but it has a number of different variants, called isotopes, of how many neutrons it has in it.

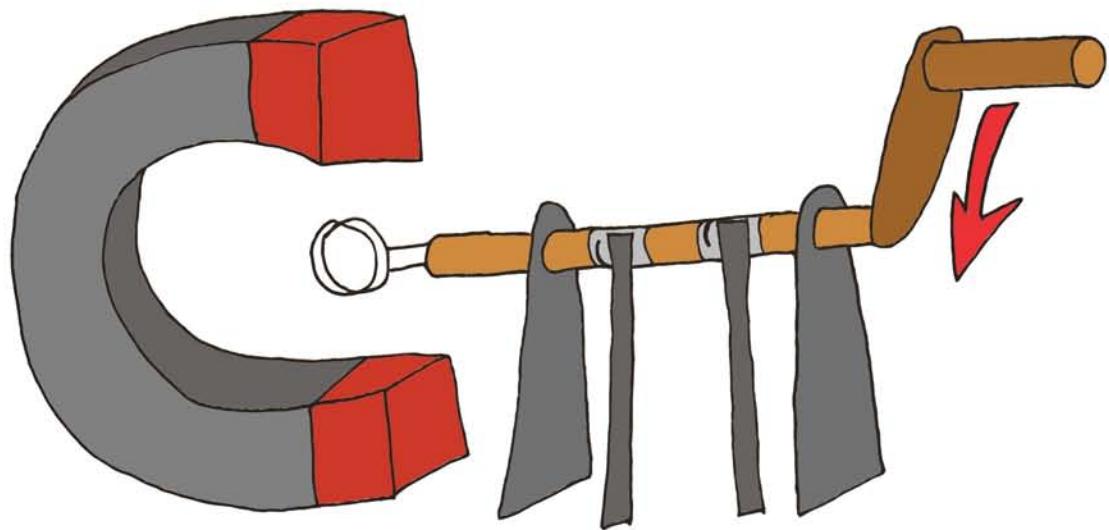
One particular isotope, called uranium 235, is particularly useful for creating nuclear energy. See, you add an extra neutron to U-235 and it becomes U-236. This isotope of uranium is highly unstable, so it just falls apart. The atom splits in half, producing two smaller atoms, as well as some radiation and some neutrons.

The neutrons hit other U-235 molecules and keep the chain of dominos going (controlled by some human intervention).

AND THE RADIATION?

IT'S PURE, UNBRIDLED ENERGY.



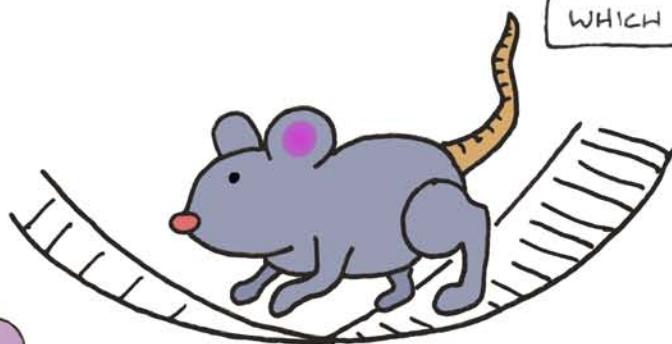


THEY CAN'T JUST TAKE THIS ENERGY AND HAND IT OUT LIKE CANDY. THE ENERGY IS COMING OUT AS HEAT, WHICH ISN'T ALL THAT EFFICIENT TO MOVE AROUND, SO IT GETS CONVERTED INTO ELECTRICITY.

I'LL SPARE YOU THE DETAIL, BUT ESSENTIALLY THERE IS THIS RELATIONSHIP BETWEEN THE FORCE OF MAGNETISM AND ELECTRICITY SUCH THAT IF ONE IS TO TAKE A WIRE AND SPIN IT THROUGH A MAGNETIC FIELD, A CURRENT WILL BE CREATED IN THE WIRE.

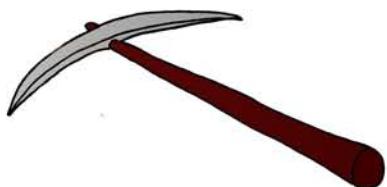
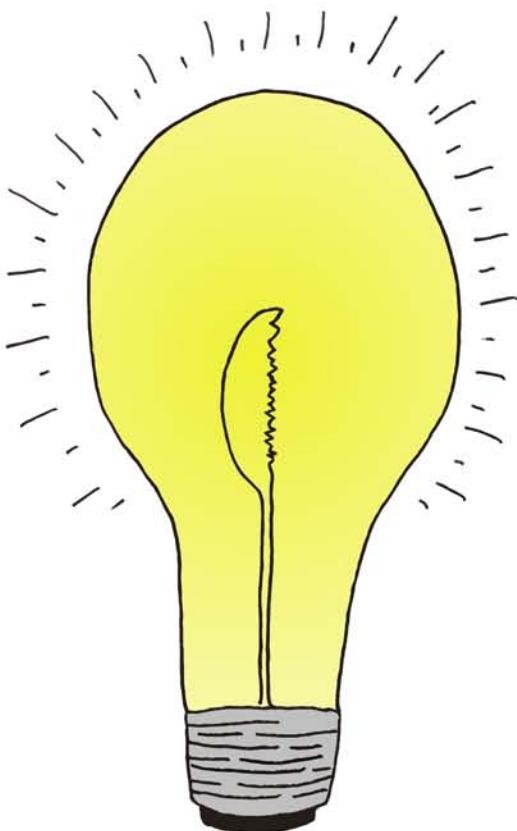
SO, USING THIS BASIC IDEA, WE GET ALL SORTS OF DIFFERENT TYPES OF GENERATORS. FROM MICE RUNNING ON WHEELS TO HYDRO-ELECTRIC DAMS, ALL THAT IS NEEDED IS SOMETHING WHICH WILL SPIN SOME TIGHTLY BOUND WIRES IN CIRCLES.

THE METHOD IS THE SAME IN THE CASE OF NUCLEAR POWER, AS WELL AS COAL, GAS, AND OIL. HEAT PRODUCED BY FUEL WILL TURN WATER INTO STEAM. THAT STEAM PUSHES TURBINES, WHICH SPINS THE COILS, WHICH CREATES ELECTRICITY.



THIS ALL SOUNDS PRETTY AMAZING TO ME. I'M NO SCIENTIST, BUT THIS IDEA THAT I CAN TURN ON MY LIGHTS BECAUSE SOMEONE IS CUTTING ATOMS IN HALF? PRETTY SWEET.

SO WHAT'S THE TROUBLE THEN? WELL, THE FIRST PROBLEM IS, URANIUM ISN'T NICE STUFF. FROM START TO FINISH IT'S TROUBLE. WHEN URANIUM IS MINED, THERE'S LOTS OF RADIOACTIVE DUST TO INHALE. THEN, WORKERS IN NUCLEAR PLANTS ARE EXPOSED TO LOW LEVELS OF RADIATION. AND AFTER BEING USED, URANIUM CONTINUES TO EMIT PLENTY OF AWFUL PARTICLES — SOME FOR THOUSANDS OF YEARS.



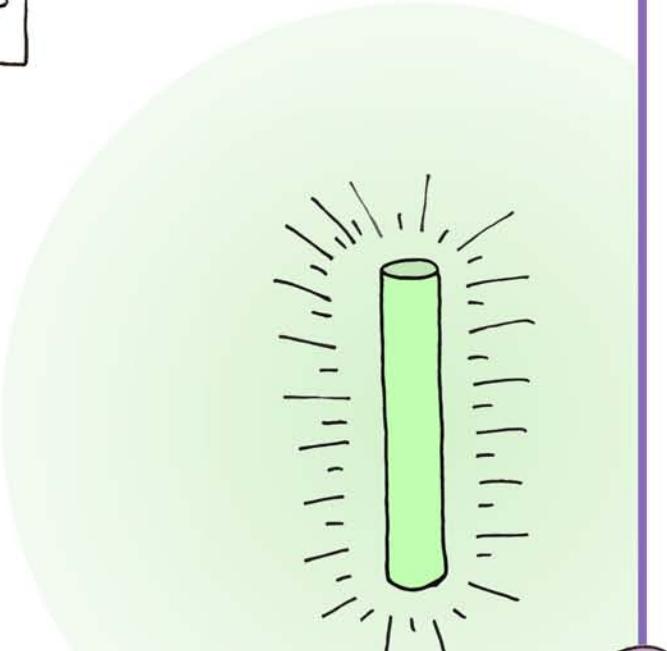
THOSE PARTICLES CAUSE VARIOUS CANCERS, DESTROY THE THYROID GLAND, BRING ABOUT INFERTILITY... THE LIST GOES ON...

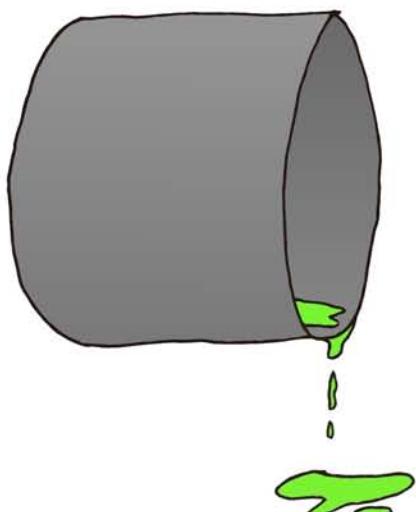
BUT IF ONE WERE TO PROPERLY STORE, HANDLE, AND MANAGE URANIUM, IT WOULD BE FINE. NO HARM, NO FOUL.

IT'S JUST REALLY HARD TO DO EVERYTHING RIGHT ALL THE TIME.

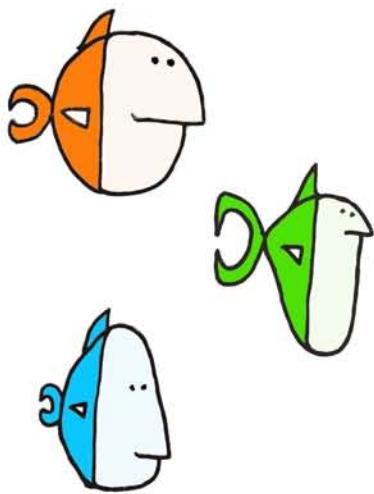
AND IN THIS CASE, DOING EVERYTHING RIGHT IS REAL IMPORTANT.

BUT IF IT IS DONE RIGHT... THERE'S SO MUCH POTENTIAL.

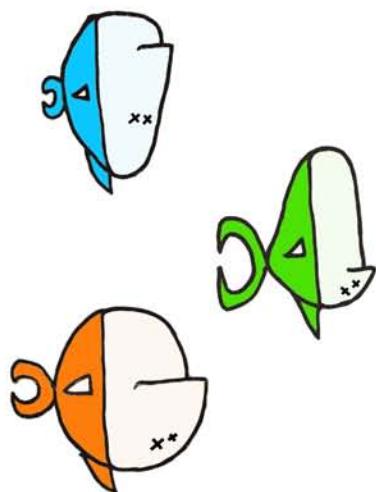




SEE, GREENPEACE AND I RECOGNIZE THAT THE ONLY TWO SORTS OF ENERGY WHICH ARE BEING SERIOUSLY TALKED ABOUT IN THIS DEBATE ARE NUCLEAR AND WIND POWER. WHILE I STILL WONDER WHERE WE SHOULD GO WITH ALL OF THIS, IT IS PLAIN TO SEE WHERE THEY STAND.



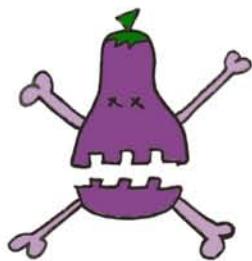
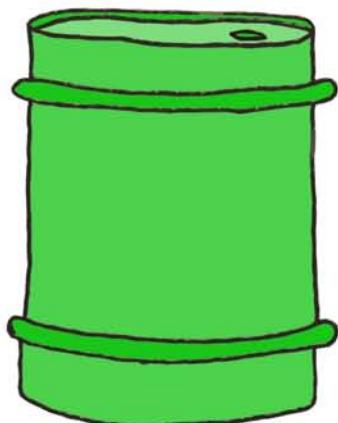
GREENPEACE TAKES A HARD-LINE STANCE THAT THERE IS NO WAY TO PRODUCE NUCLEAR POWER WITHOUT CAUSING TROUBLE.



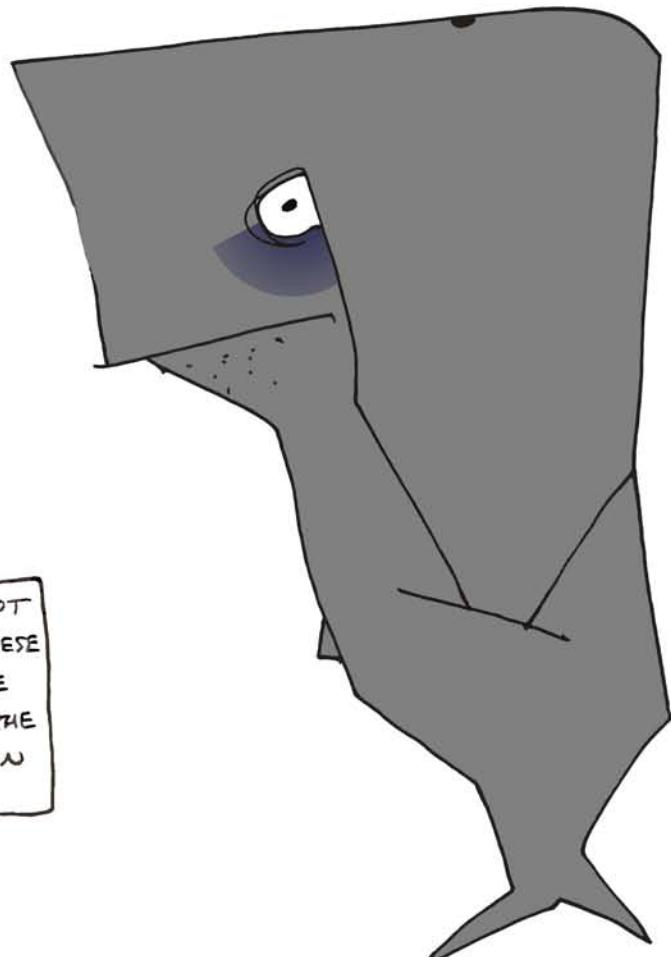
THE REPROCESSING OF URANIUM CREATES A LARGE MOUNT OF WASTE BYPRODUCTS WHICH HARM THE WORLD. LOOKING THROUGH THEIR LITERATURE ON THE SUBJECT, AGAIN AND AGAIN WE SEE MISMANAGEMENT AND BLATANT DISREGARD FOR THE ENVIRONMENT BY VARIOUS GOVERNMENTS AND PRIVATE COMPANIES.

THE REPROCESSING OF URANIUM CREATES A LARGE AMOUNT OF WASTE BYPRODUCTS WHICH HARM THE WORLD. LOOKING THROUGH THEIR LITERATURE ON THE SUBJECT, AGAIN AND AGAIN WE SEE MISMANAGEMENT AND BLATANT DISREGARD FOR THE ENVIRONMENT BY VARIOUS GOVERNMENTS AND PRIVATE COMPANIES.

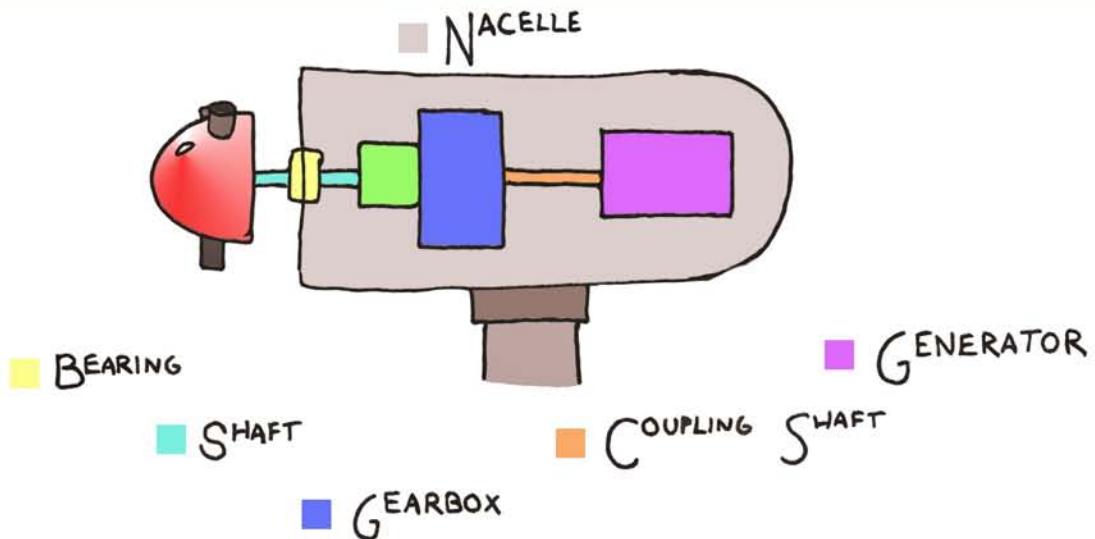
UP UNTIL THE SEVENTIES, THERE WAS DUMPING OF NUCLEAR WASTE DIRECTLY INTO THE OCEANS. AFTER FINDING THAT RADIOACTIVE BARRELS WERE LEAKING ALL OVER THE PLACE, THINGS WERE EVENTUALLY CHANGED...



NUCLEAR WASTE IS DANGEROUS FOR THOUSANDS OF YEARS. WHERE DO YOU PUT SOMETHING THAT WILL BE SAFE FOR THOUSANDS OF YEARS? NO CONTINUOUS GOVERNMENT HAS LASTED MORE THAN A FEW HUNDRED YEARS. HOW CAN WE EXPECT ANYONE TO LOOK AFTER SOMETHING THIS BIG FOR THIS LONG?



NUCLEAR POWER HAS A LOT OF PROBLEMS. WOW. AND THESE ARE JUST THE ONES WE KNOW ABOUT. NO WONDER THE SAVE-THE-WHALES FACTION IS SO ANGRY.



IF WE BELIEVE GREENPEACE'S ARGUMENTS AND REFUSE NUCLEAR ENERGY AS A POTENTIAL ENERGY SOURCE, THAT JUST LEAVES US WITH WIND POWER AS A SOLUTION...

SO IS WIND SOME SAINTLY SOURCE OF CLEAN, SOLID ELECTRICITY?

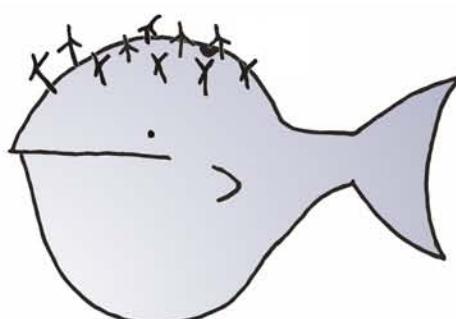
WELL, THE WAY WIND WORKS IS PRETTY BASIC. MUCH LESS COMPLEX THAN NUCLEAR.

IT'S THE SAME SORT OF TURBINE you SEE JUST ABOUT EVERYWHERE, BUT HERE IT'S TURNED BY WIND. TO A POINT, THE FASTER THE WIND, THE MORE POWER PRODUCED.

NO WIND, NO ELECTRICITY. REAL SIMPLE.

ONE TURBINE WON'T MAKE THAT MUCH ELECTRICITY. IT TAKES A LOT OF TURBINES TO MAKE A REASONABLE AMOUNT OF ENERGY. WHILE YOU CAN GET PERSONAL TURBINES FOR YOUR HOUSE, WIND FARMS GENERALLY HAVE DOZENS.

TURBINES HAVE TO BE PLACED IN LOCALES WHICH HAVE STRONG, CONSISTENT WIND... AND THEY TAKE UP A LOT OF SPACE... SO YOU SEE THESE FARMS POPPING UP ON TOP OF HILLS IN THE COUNTRYSIDE. WALES IS CRAWLING WITH THEM.

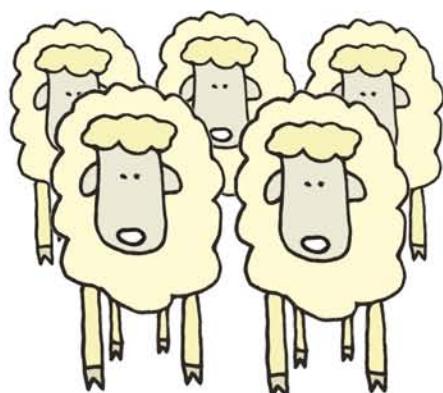




BUT SOUNDS GOOD, RIGHT? WELL, THERE ARE PLENTY OF ORGANIZATIONS THAT ARE BEGGING TO TELL ME ALL ABOUT HOW BAD WIND POWER IS.

THE FIRST PROBLEM YOU HEAR ABOUT ALL THE TIME IS THAT OF BIRDS. THESE FIELDS OF TURBINES ARE BASICALLY HUGE BIRD BLENDERS JUST WAITING TO CHOP UP ANY FLOCK WHICH FLIES PAST.

SECOND, THERE'S THE TROUBLE OF BIG TURBINES MAKING BIG NOISE. NOISE DISTURBS NOT ONLY PEOPLE, BUT ALSO ANIMALS. AND NO ONE WANTS TO BE RESPONSIBLE FOR KEEPING OUR FURRY FRIENDS AWAKE ALL NIGHT.



AND THESE THINGS ARE BIG. DOWNRIGHT HUGE. SOME OF THE BIGGER TURBINES BEING MADE ARE THE SIZE OF AN AMERICAN FOOTBALL FIELD SPINNING ON ITS AXIS. THAT WOULDN'T BE SO BAD IF YOU COULD TUCK THEM AWAY IN A CLOSET SOMEWHERE, BUT THEY HAVE TO BE WHERE IT'S WINDY... WHICH NORMALLY IS GOING TO MEAN THE TOPS OF HILLS OR ON COASTLINES... WHICH MEANS THEY RUIN VIEWS.

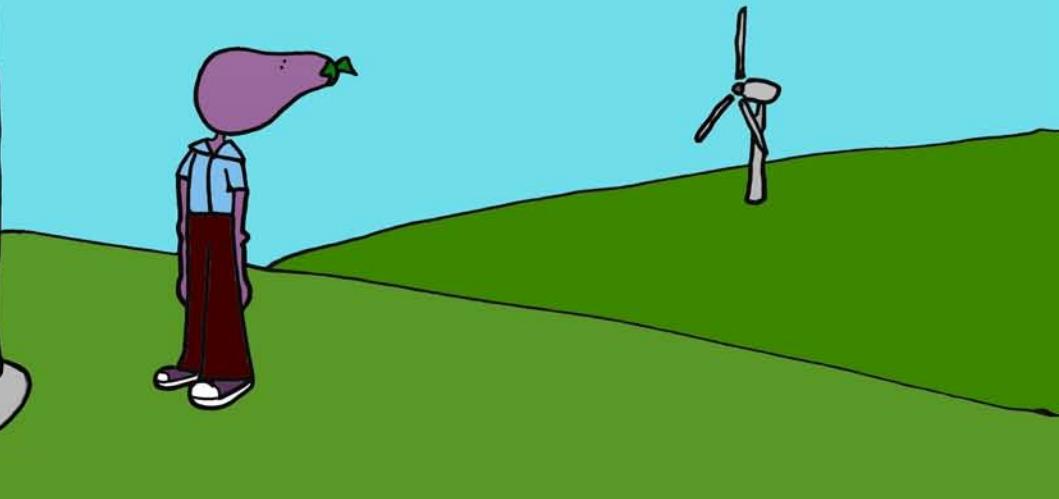
AND FINALLY, COST. SUBSIDIES ARE COMPLICATED. AND ELECTRICITY IS NO EXCEPTION. THE SUBSIDIES COME FROM DIFFERENT PLACES TO FUND DIFFERENT THINGS FOR ALL SORTS OF ELECTRICITY, BUT ARE CERTAINLY THERE FOR WIND ENERGY.

THESE CHARGES ARE PRETTY ROUGH. BUT LUCKILY I GET TO VISIT A WIND FARM, HEAR THE OPPOSITE PROPAGANDA, AND EVEN LOOK AROUND SO I COULD FIGURE A FEW THINGS OUT FOR MYSELF.

FIRST OF ALL, THE BIRD CLAIM SEEMS TO BE ALL WRONG. WHILE BIRDS DO HIT TURBINES FROM TIME TO TIME... THESE PROPELLERS ARE BIG, AND PRETTY OBVIOUSLY NOT SOMETHING A BIRD WOULD BE INTERESTED IN TANGLING WITH. ON TOP OF THAT, BEFORE A NEW WIND FARM IS CREATED, THERE ARE A BUNCH OF ENVIRONMENTAL IMPACT STUDIES WHICH ARE DONE TO CONFIRM THAT THE LOCATION ISN'T IN THE MIDDLE OF A MIGRATION FLIGHT PATH.

SURPRISINGLY, THE TURBINES DON'T MAKE THAT MUCH NOISE, ONLY A DULL HUM. GRANTED, THE DAY I VISITED WASN'T INCREDIBLY BLUSTERY, BUT I COULDN'T IMAGINE THEM MAKING NOISE YOU COULD HEAR REAL FAR AWAY. AND HECK, THE TURBINES I SAW WERE IN THE MIDDLE OF A FIELD OF SHEEP, AND THEY DIDN'T SEEM TO CARE A BIT.

THE ASSERTION THAT THEY'RE BIG? IT'S AN UNDERSTATEMENT. THEY ARE HUGE. AND WHILE SOME MAY FIND THE PLEASING TO LOOK AT, THEY ARE STILL MAN MADE, AND SOON THEY WILL LOSE THEIR NOVELTY, AND THEY WILL BE JUST ANOTHER INDUSTRIAL EYESORE IN A PRETTY PLACE.



AND AS FAR AS COST, THINGS ARE PRETTY UNCLEAR. I DON'T BELIEVE ANYONE WITH NUMBERS. ENERGY COSTS BIG MONEY, BUT WHERE THAT COST IS PUT IS ALL A MATTER OF PREFERENCE. SOME FORMS OF ENERGY ARE SUBSIDIZED IN CONSTRUCTION, SOME GET THEIR DECOMMISSIONING PAID FOR, SOME JUST GET ELECTRICITY PRICES LOWERED. SO, LOOKING AT WIND POWER OVERALL, IT'S GOOD, IF NOT BETTER, AND PERHAPS IMPROVING.

SO, FOR THE MOST PART, ALL OF THE ATTACKS ON WIND POWER ARE PRETTY UNWARRANTED. I MEAN, THERE'S A BIT OF TROUBLE, BUT EVERYTHING IS A BIT OF TROUBLE.

SO WHY AREN'T WIND TURBINES THE ANSWER TO ALL OF OUR TROUBLES? WHAT'S GREENPEACE'S PROBLEM?

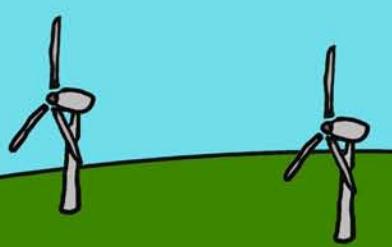
IT ALL COMES DOWN TO ONE LITTLE DETAIL. WIND POWER IS WHAT IS KNOWN IN THE INDUSTRY AS A "VARIABLE SOURCE," SIMPLY MEANING THAT THE ENERGY ISN'T CONSTANT. ONLY ABOUT 20% OF OUR ELECTRICITY CAN BE PROVIDED BY VARIABLE SOURCES. ANY MORE THAN THAT AND THE SYSTEM BECOMES UNSTABLE. IF THE WIND WERE TO STOP, THERE WOULD BE HUGE BROWNOUTS.

SO THAT MAKES IT SO THAT WE CAN HAVE 20% OF THE POWER IN THE UK COMING FROM WIND ENERGY - WHICH IS BETTER THAN NOTHING, RIGHT?

RIGHT.

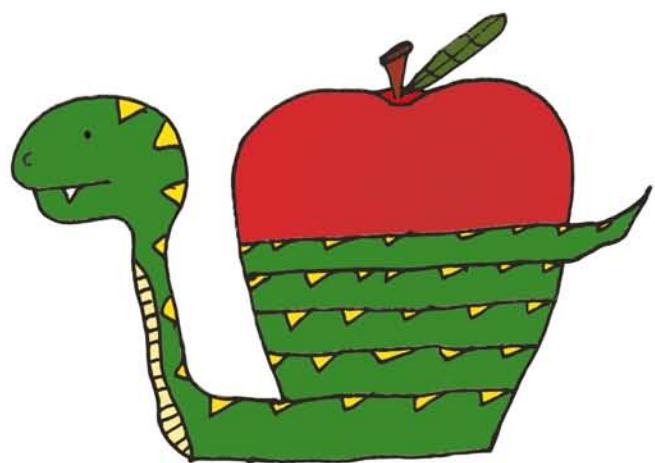
EXCEPT IF WE TAKE AWAY ALL THE NUCLEAR POWER THERE WOULD BE A DECREASE OF 20% OF THE ENERGY BEING PRODUCED. THE ADVENT OF WIND WOULD SIMPLY FILL THE HOLE LEFT BY NUCLEAR POWER.

BECAUSE NEITHER RELEASES GREENHOUSE GASES, THE NET AMOUNT OF CO₂ BEING RELEASED INTO THE ATMOSPHERE WOULDN'T CHANGE SO, IF GREENPEACE WERE TO GET WHAT IT WANTED CLIMATE CHANGE WOULD BE THE SAME PROBLEM IT IS TODAY.



GREENPEACE IS A RADICAL ORGANIZATION. IT MAKES FEW COMPROMISES; IT USES SHOCK CAMPAIGNS TO GET ATTENTION.

BUT IT GETS THINGS DONE. GREENPEACE HAS BEEN THE REASON A LO OF ENVIRONMENTAL LEGISLATION HAS BEEN PASSED AROUND THE WORLD.



PATRICK MOORE IS A MAN WHO HAS A UNIQUE PLACE IN THE HISTORY OF GREENPEACE, AS DOES THE ORGANIZATION. MOORE FOUNDED CALLED GREENSPIRIT. PATRICK MOORE WAS ONE OF THE FOUNDING MEMBERS OF GREENPEACE. HE SPENT HIS YOUTH WITH THAT BAND OF RADICALS, SHAKING HIS FIST AT THE MAN AND SAVING BABY SEALS, BUT AS HE GREW OLDER, HE BEGAN TO SENSE A DIVERSION BETWEEN HIS OWN PERSONAL PHILOSOPHY AND THAT OF THE ORGANIZATION HE HAD HELPED TO NURSE INTO EXISTENCE.

GREENSPIRIT DESCRIBES ITSELF AS A PROGRESSIVE ORGANIZATION, BELIEVING IN THE IDEA OF "SUSTAINABLE DEVELOPMENT" AND RENEWABILITY. ONE OF THE MAJOR DIFFERENCES WHICH CAUSED THE SPLIT BETWEEN PATRICK MOORE AND GREENPEACE, WAS THE TOPIC OF NUCLEAR ENERGY.

WHILE GREENPEACE TAKES A STANCE OF ABSOLUTE AND UNWAVERING OPPOSITION TO NUCLEAR ENERGY, GREENSPIRIT SEES IT AS PERHAPS THE ONLY WAY TO SERIOUSLY REDUCE CARBON EMISSIONS.



BUT MOORE'S NOTION OF "SUSTAINABLE DEVELOPMENT" IS A SLIPPERY SLOPE... ESPECIALLY WHEN YOU FIND OUT THAT MOORE GETS PAID BY LOGGING COMPANIES, AND BIG BUSINESS. HE CLAIMS IMPARTIALITY BUT IS IT EVER REALLY POSSIBLE TO BITE THE HAND THAT FEEDS YOU?



I EMAILED GREENPEACE ABOUT THEIR OPPOSITION TO NUCLEAR ENERGY. I ASKED HOW THEY CAN REJECT NUCLEAR POWER THOUGH IT IS ONE OF TWO OPTIONS FOR CO₂ FREE POWER. I ASK HOW THEY RECONCILE THE FACT THAT THEIR PROPOSAL WOULD HAVE NO NET EFFECT ON THE RELEASE OF GREENHOUSE GASES INTO THE ATMOSPHERE.

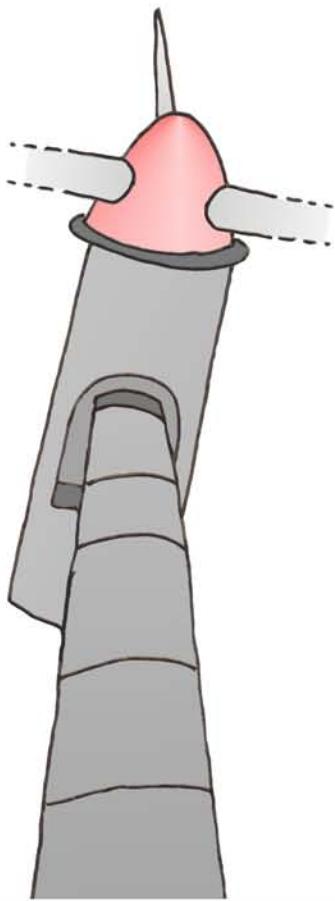
AND I GET A REPLY AND THEY TELL ME THAT NUCLEAR POWER IS TOO RISKY AND IT'S TOO COSTLY AND THE CHANCE OF ARMS PROLIFERATION IS TOO GREAT AND THE WHOLE THING IS TOO SLOW AND JUST A DISTRACTION FROM THE "REAL SOLUTIONS TO CLIMATE CHANGE."

I E-MAIL BACK, PRESSING THE QUESTION OF HOW THEY PLAN TO FIGHT THE EMISSIONS OF GREENHOUSE GASES WITHOUT NUCLEAR POWER...

BUT I GET NO RESPONSE.

AND AT FIRST I THOUGHT THEY WERE JUST DODGING MY QUESTIONS...

... UNTIL I REALIZED, MAYBE THERE IS NO ANSWER.



NO ANSWER?

YEAH. A COP OUT, I KNOW,
BUT THERE IS NO EASY ANSWER.

THE PROBLEM IS, WE NEED AN ANSWER, I MEAN SOMETHING IS GOING TO HAPPEN, SO THERE WILL BE AN ANSWER. IF NOT THE RIGHT THING, WE SHOULD DO THE LEAST WRONG THING.

BUT WHAT IS IT?

WELL, WE NEED TO REDUCE CONSUMPTION ON ALL LEVELS. WE CANNOT INFINITELY REDUCE NEED, BUT EVERY LITTLE BIT IS GREAT. THE UK HAS DONE WELL IN KEEPING ITS ENERGY USE FAIRLY LEVEL. CONTINUING THAT TREND WOULD BE SWELL.

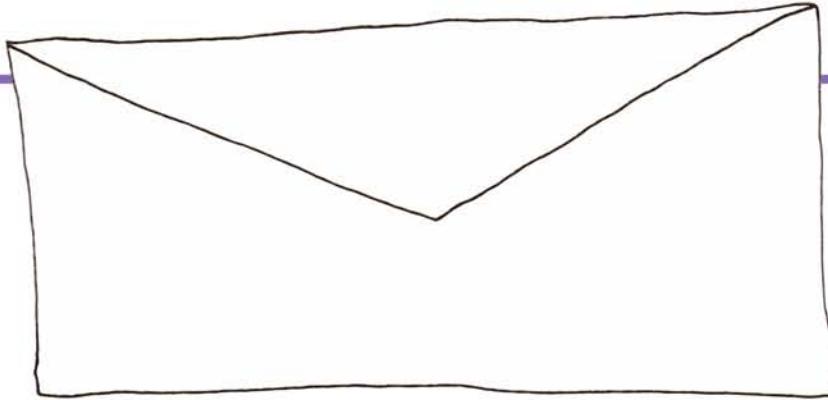
SECOND, WE NEED TO INVEST IN WIND POWER. IT'S A GREAT SOURCE FOR ENERGY, BUT WE CAN'T PRETEND THAT IT'S OUR ELECTRICAL SAVIOR. WE NEED TO BE REASONABLE THAT WIND POWER CANNOT DO EVERYTHING.

IT WOULD NOT BE POSSIBLE TO FULFILL ALL OF OUR NEEDS USING WIND POWER, NOR WILL IT PROBABLY EVER BE. IT WILL BE NECESSARY TO SUPPLEMENT WIND POWER WITH OTHER FORMS OF ENERGY PRODUCTION.

AND FOR THE TIME BEING, THAT MAY MEAN NUCLEAR. AS NUCLEAR PLANTS GO OFF THE GRID, THERE WILL BE A HOLE LEFT IN PRODUCTION, AND THAT COULD BE FILLED WITH FOSSIL FUELS, WIND, OR A NEW GENERATION OF NUCLEAR...

WHO KNEW IT
WOULD BE SO
HARD TO SAVE
THE WORLD...

fin.



Mail Bag

Q: Nathan, We all know you aren't an artist. Who really drew these pictures?

A: All images in this cartoon are hand drawn by me. Yeah, even that one of Homer Simpson. It took me twelve tries, but I got it looking real. You can tell which drawings I did last because my drawing got infinitely better as time went on. The one exception is the Greenpeace brochure, which I scanned in without permission. I am sorry. Very sorry.

Q: How come everything looks kinda blocky – in the good way?

A: Well, see, I draw everything by hand, then scan it onto my computer. From there, I edit the images, erasing unwanted lines and fixing problems, then I use another program to give it that "cut out" look. From there, I color the images, place them on the page, and then reprint them.

Q: You make some wild assertions here. Wild. Can you back this up?

A: Sure can. But you see, I figured no one wants to see citations in a comic book so I wrote a companion guide which follows my thoughts and readings as I developed this work of genius. There you can find all my sources and the reasoning – if a little jumbled. It's a journal of my thoughts and workings.

Q: Nathan, this changed my life. How can I get this piece of art to my friends?

A: In theory, everything should be online with all of my other works at my website at: <http://oberlin.edu/student/nleamy/>

Q: How long did this project take you?

A: I worked on it for about a month and a half for many hours. It stole some of the best days of my life. I have no regrets.

Q: What's the green thing in the nacelle that you didn't label?

A: I don't know.

Q: Nathan, this is your mother. Your verb tenses are inconsistent and your text is full of comma splices. Didn't I teach you anything?

A: I'm sorry mom. I should have proofread more. I never listen.

Q: Your layout looks is awful/the text is dry/there are spelling errors/letters are missing/I am generally not impressed. What gives?

A: Judge not lest ye be judged (unless you are Chris or Steve, and grading this, then judge away!).

Q: Why do people have heads as inanimate objects and fruits?

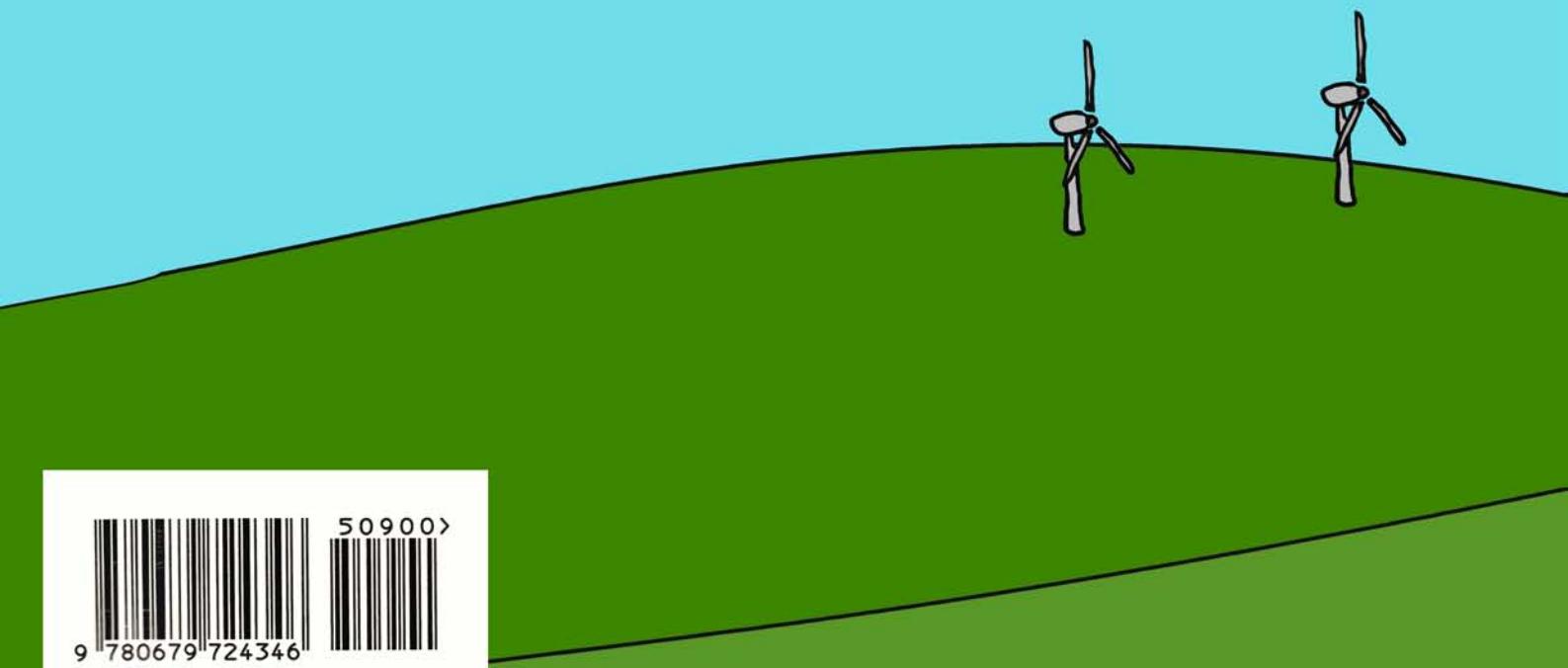
A: Because I can't draw faces, but I can draw inanimate objects and fruits. Plus it gives people some character.

Q: Why is your head an eggplant? You don't even like eggplant!

A: It's true, but I needed a head, and that just seemed right. There wasn't all too much politics behind anyone's head. So don't worry about it. Yes, Steve, your head is a kiwi. No, I don't know why. I am sorry.

Q: Don't you realize that by writing and answering your own questions you're not being post modern, but just sorta lame?

A: Yes. Duly noted.



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