ENERGY SLAVERY & FREEDOMS

Track 27 **: Green energy, Climate change & Disasters**

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http://tinyUrl.com/Energy-Slavery

12th EuroSciCon Conference on

RENEWABLE & GREEN ENERGY

Theme: The future is all about Green & Renewable Energy

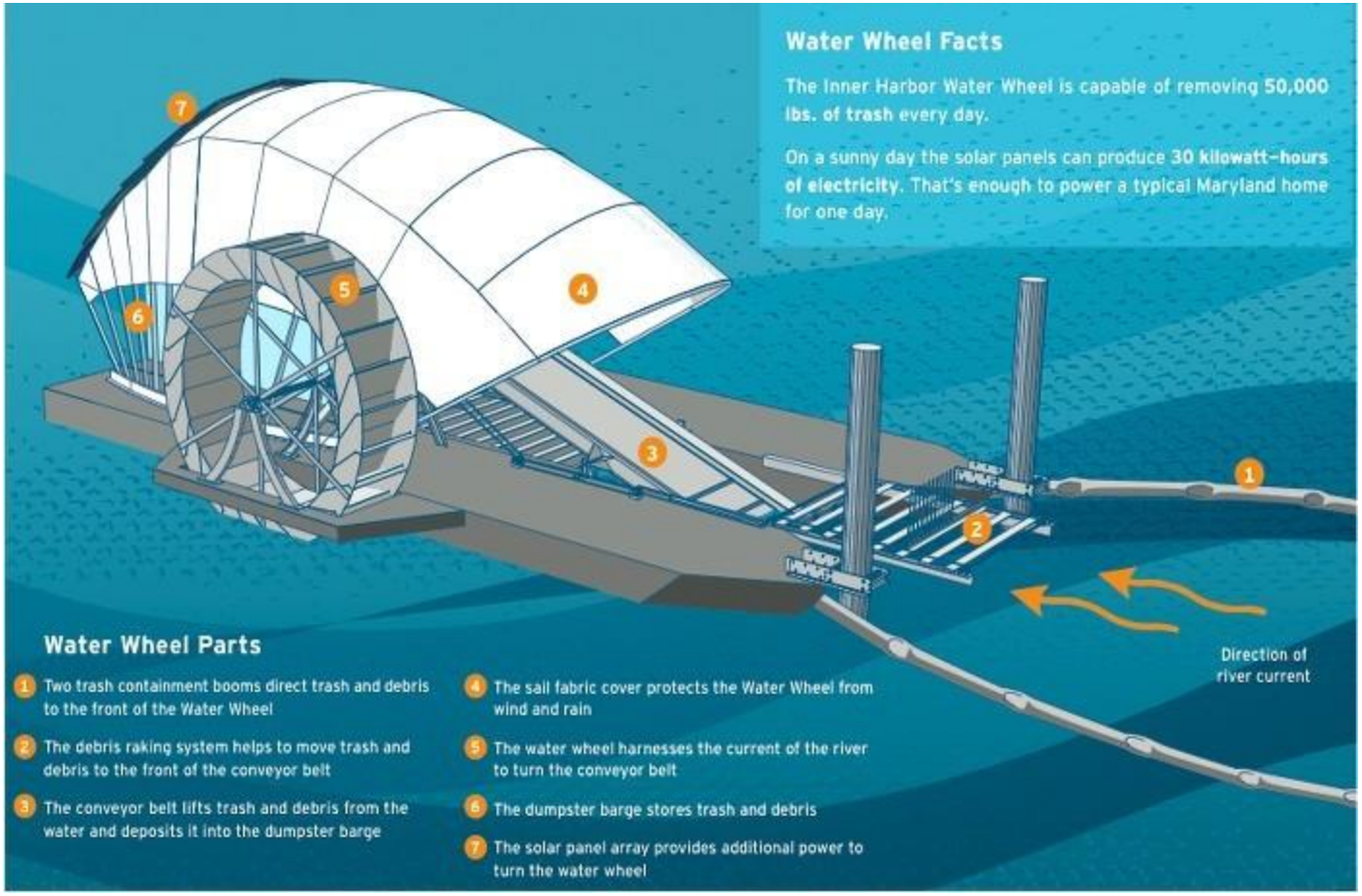
ENERGY SLAVERY & FREEDOMS

Track 27 : Green energy, Climate change & Disasters



Industry, Automobiles, Cities today .. **Azadi or 'Freedom' : Slavery :: Energy** .. people powering plantations: the muscle machines i.e. Coal-Oil-Electricity Today!! ***Slavery : Security*** .. Nature ..Energy.. Climate Change..***Futures***

'*Energy Managers*' for a State, City or Industry, Office or Home need to consider factors that I'd try elaborate, update here time to time - your candid critic comments and contribution very welcome - makrand

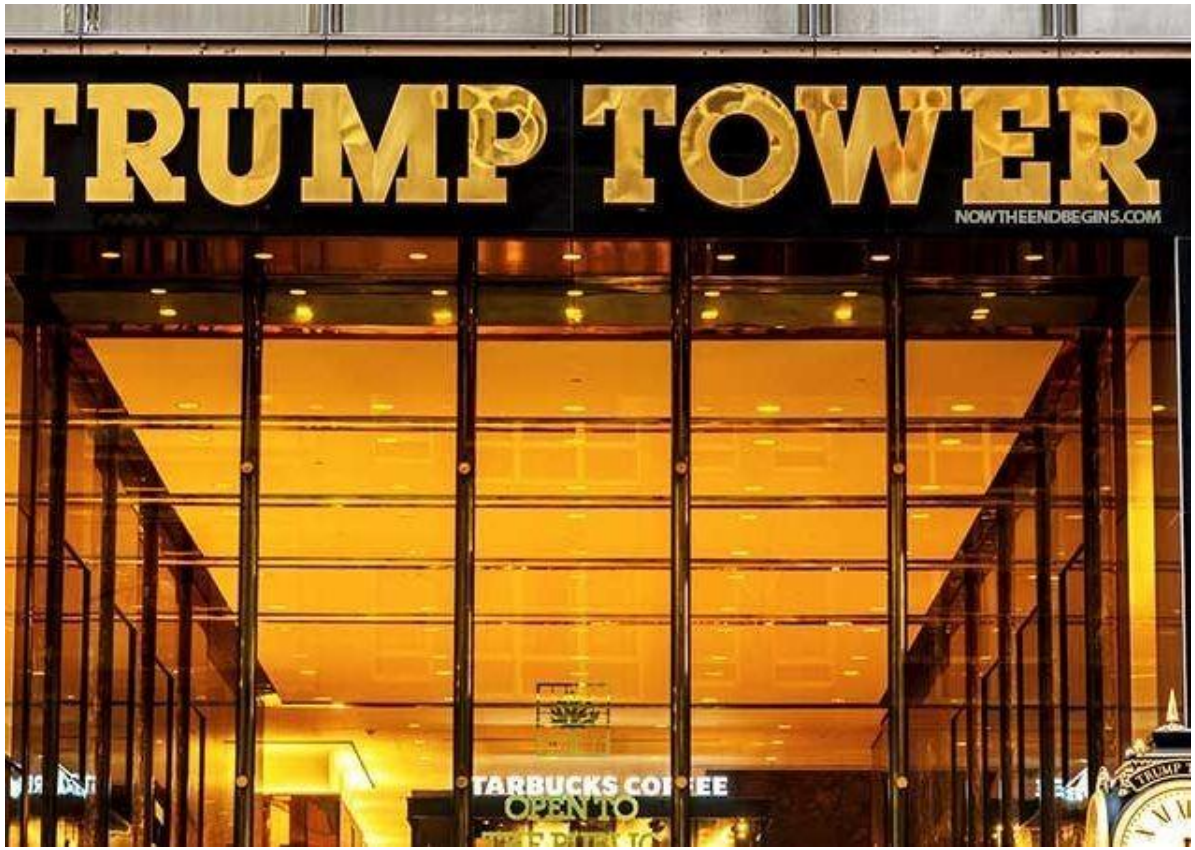


on the onset I'm advocating **Conservation not convertion :**Renewable Energy: **Minimizing Storage and Transmission**reducing Grid-Electric Power towards 'Use At Source' directly as is (eg Turbine for Pumping, Solar to run DC motors where ever possible- eliminating batteries- and with ingenuity -an enormous portion of our peak energy demand can be offset : as a solution for the planet Self-Sustaining Systems respecting Law of Energy Conservation (click on link or http://www.ecowatch.com/***how-a-solar-powered-water-wheel-can-clean-50-000-pounds-of-trash***-per-d-1881928895.html



Batteries in the phone in your hand, laptop on your desk or the Electric Cars - the size, heat, radiation, accidents, toxicity, recycling disposal problems besides batteries are **energy storage devices only**- the charge still coming from fossil fuel power plants- the pollutions kept at countrysides or peri urban regions may be *out of sight and out of site* yet its exasperating climate change - **exponentially scaling up Smart Phones, Computers and Cars: recycling and disposal need be intrinsic part of City/State energy policy** .. direct charging from Local Solar PVs and Pedal Power need be encouraged via research and innovation funding. We have designed and built many buildings with HVAC heating, ventilation and air 'cooling' by Solar PVs without (expensive inefficient) battery or (toxic and cumbersome) DC-AC inverters - simple direct motors running machines fans and pumps .. examples follow

Power Pricing **Provides A Picture of** ***Perversity in Policy***



Blackout in New York City. Chaos ensued.. But the nature of the disruptions far from simple... PBS's American Experience chronicles and deconstructs that intense experience. "Blackout," It's a cautionary tale about class divisions that explode from an unanticipated spark. ***Trump Towers Dimming Day Lights****.. New York City Summer* Power loads top 30,000 megawatts, Usage typically peaks in late afternoon. The all-time record peak was 33,956 megawatts reached July 19, 2013. One megawatt typically can supply 800 to 1,000 homes in New York or 2400 to 3000 Homes in New Delhi



...in September 2016, street lights were installed in Navsari Nagapalika of Gujarat, the bill for August 2016, prior to the installation of LED streetlights was ₹5,03,516 .. after installation, instead of the 50% "Deemed Saving" it went up to ₹5,97,865. Thereafter, in all successive months, the bill never went below ₹5,03,516...

People without Housing :: Housing without People



reviewing Electricity/ utility meters- vacant apartments consistently billed zero or minimal consumption.. and its not just the 'Ghost Towns' as pictured here in Manchuria ..

Approx 1 in 6 ..a significant number of apartments remain vacant .. luxury or low income housing, metropolises or countryside.. 1st world or 3rd world countries, including overcrowded congested cities like Tokyo, Mumbai, Shanghai, Dubai ..
https://www.census.gov/housing/hvs/files/qtr416/source_16q4.pdf

ENRON : Andersen > the Smartest People .. the Smart Cities

Enron and Andersen turned out world's (most fraudulent after) largest smartest corporation trading Energy - manipulating power plants to speculate Peak Power Demand Units Pricing - critical lessons for #Smart #Cities #Managers jumping in the bandwagon - how hype and greed could destroy entire state's economy



See also Makrand Bhoot's LinkedIn Pulse Post (click link Energy Speculation, Enron, (Dabhol, India) **Peak Demand Offset**, LEED, Conservation Kilowatts ...more to be added - standardization and solutions of Transformers, Direct Solar BIPV, Nagging Nuclear Power, Battery Problems (Storage & transmission issues) pondering on **power panacea**

www.tinyurl.com/Bloomberg-Modi

MORE TO THIS SHOCKING INCIDENT : PEOPLES PERSPECTIVE **serious matters - during solar/wind plants by mega corps total disregardard for local people and nature - also after completion - NO maintenance and abandonment - how many reports of any running Solar/ Wind Farm after 1 year of their operation? Any reports of exploitation when wide forestation, land grab, displacement all goes waste because of these companies making their profits and running away (like fancy malls in small towns that destroy local small businesses and then they close down leaving vast youth unemployed and local economy destroyed) Maharashtra already parched dry and farmers are silently killing themselves - in that perspective - these villagers are no different than college students burning vehicles for protest - or do we know better??**

SOLUTIONS, SUGGESTIONS every energy solution:) has a problem

Establishing Building Labs/Workshops in New York, New Jersey, Mumbai and Raipur working with Metropolitan Corporate Clientele as well as Rural Informal Economies .. over the years these solutions, suggestions are derived from field implementations + 15 years of experience as USGBC LEED (Energy & Environmental Efficiency) Accredited Professional .. following link lists specific Energy Credits Criteria

Industry and Cities guzzle Energy for *Consumers* who turn it in pollution & wastecontributing to *Glocal* Climate Change that Municipalities & Agencies failing miserably to contain so blame & shame *citizen* ..

returning all the packaging back to retailers (all the printed plastic & paper) may ***encourage the industry to curb contamination*** *and waste at source? embodied* ***energy saved*** *is manifolds more efficient than* ***renewable*** *energy and a* ***conserved kilowatt*** *is exponentially efficient than a* ***non-renewable kilowatt****.*

LEED resources offer practical insights and everyday/life long tools

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http://www.metmotors.com/solar-powered-motors/

Direct Current Motors Eliminate Storage Batteries Losses and Power Transmission Problems and above all best to offset Peak Demand Loads during Summer Afternoons. This simple viable solution has 'practice apathy' problem besides power suppliers lobby - easy education and proper policy shall entirely eliminate future 'BLACK OUTs'

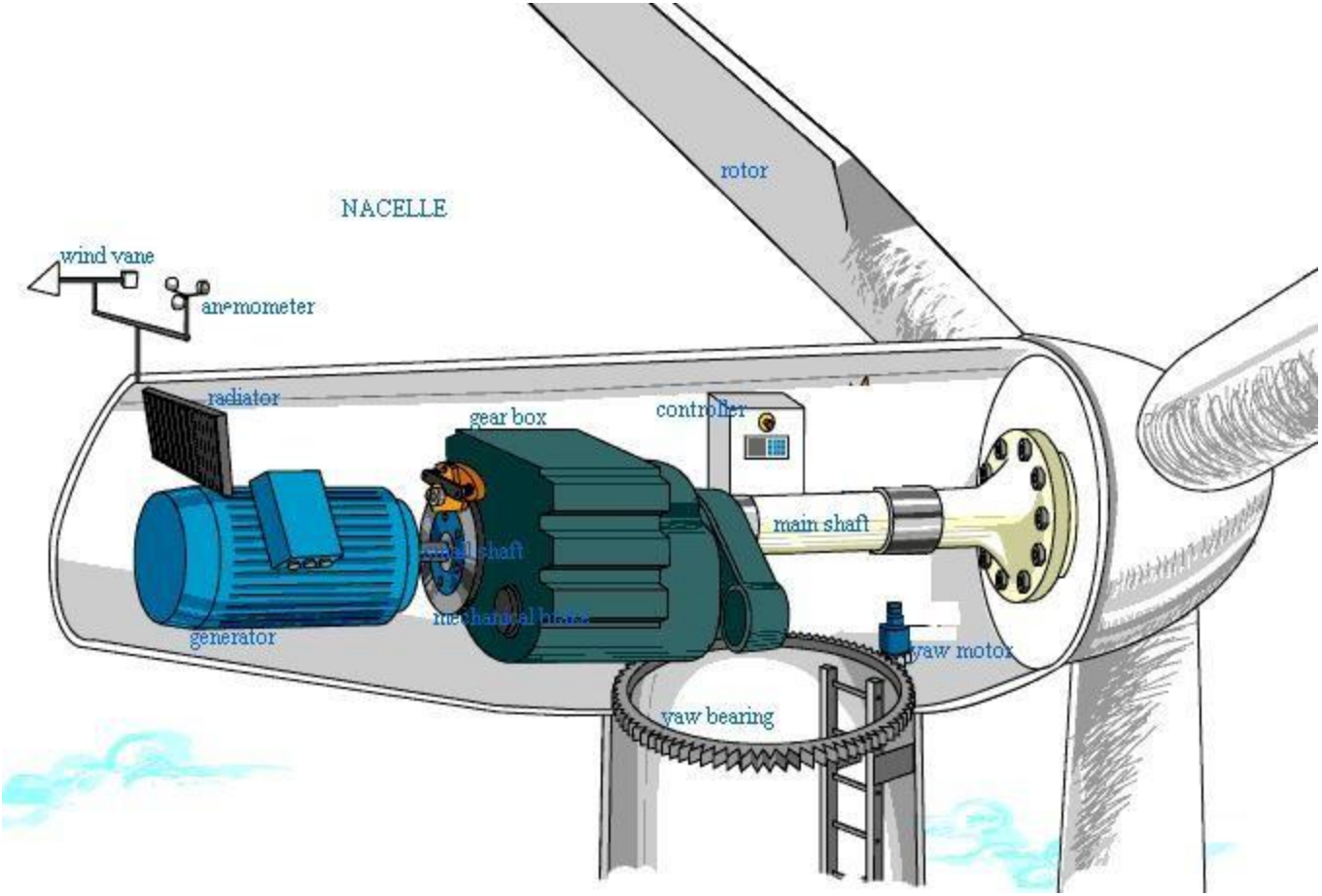


Not Every State or Power Grid offers Net Metering - not so much technology but it's a largly a policy problem .. 4 Time Square or Clonde Nast Towers - with a Hydrogen Fuel Cell Power Generator -

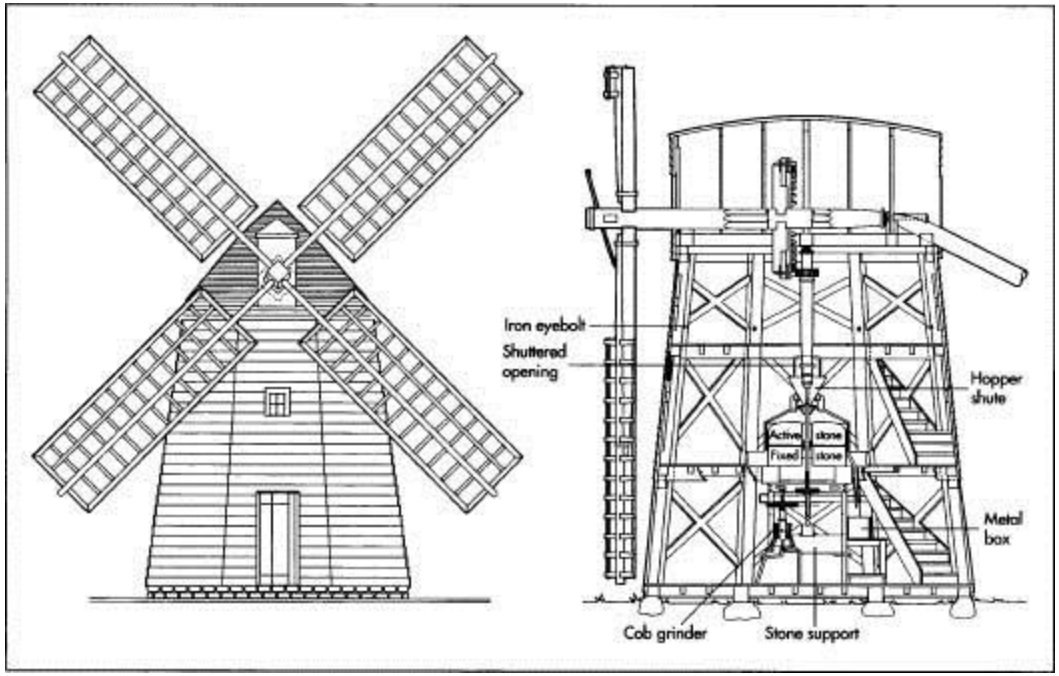
considered a technologically advanced work place in the world - was unable to use its own generator to save itself from New York city Blackouts!



Large wind turbines today are too cumbersome and inefficient for the cost and toll it takes on the environment to justify the projects .. accidents and maintenance problems plague the venture as efficiency reduces drastically - not just the power generators high up in the air but also the tower foundations below the ground/water level remain problematic till date yet hidden from public perception

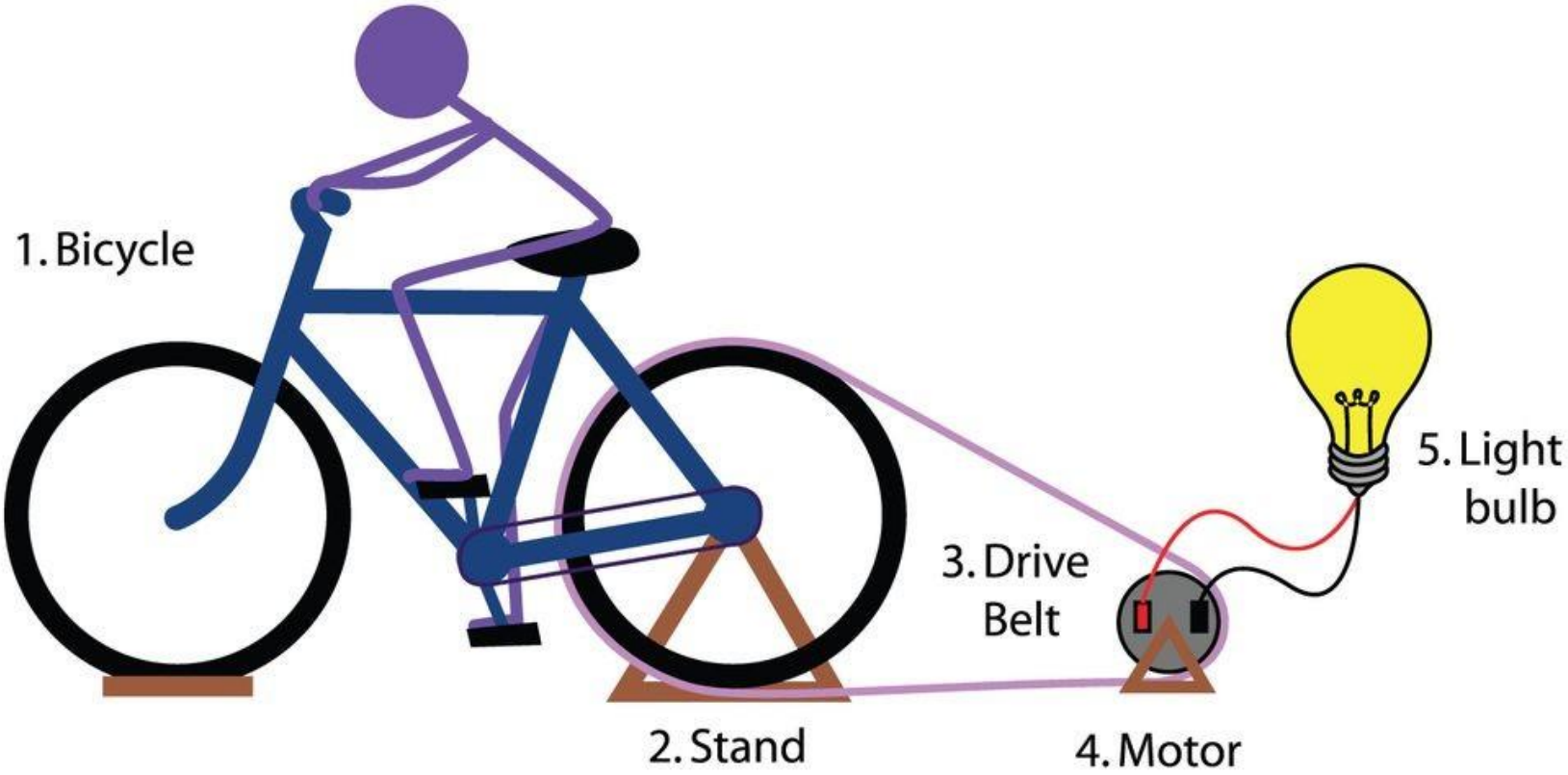


- the above image is to offer you an idea of the scale how enormous the construction of a wind mill is .. comparatively the energy output never ever gets to even a fraction of the estimates - this necessitates having diverse energy portfolio consider building a 40 stories building in the middle of your towns lake - the cost scale and complication of building a 10 Megawatt wind turbine. A 10 MW gas fired plant far more efficient yet every solution has problem.



Not Electricity but Mechanical Energy harnessed from Traditional Wind Mills - for example here - corn grinding... similarly water pumping and such functions need no conversion in Electricity first - hence this is to to consider Energy not just as Electricity

Patented in 1880s Electric Bicycle (see images as follows) or 2016-18 google winds (see the Youtube video above) how a traditional wind mill could be improved for modern means. FUNDAMENTALLY ITS ALL **TURNING A WHEEL** SO LETS REINVENT:)

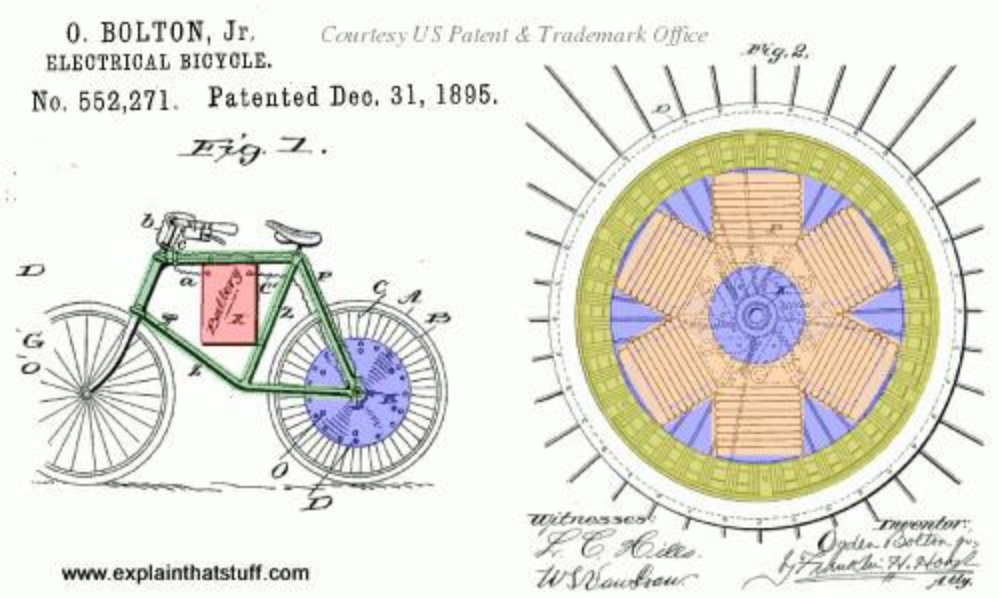

1. Bicycle
2. Stand
3. Drive Belt
4. Motor
5. Light bulb



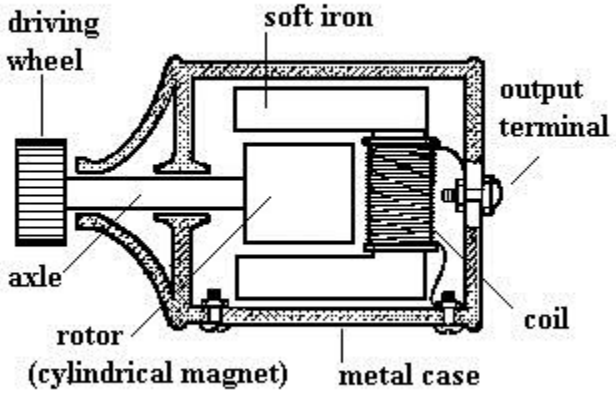
SCALE : Small is Beautiful :) and EFFECTIVE ENERGY SOLUTION - this is the main reason I'm writing this blog - by now you know what my effort is - to look at mega infra innovations programs and projects and make them work for the most underprivileged by<u>working hand in hand at ground with zero capital.</u>



Lets look at a girl's bicycle - it's a motor - generator, fan, pump, and could make several uses - i'd keep on updating these examples and please feel free to suggest, comment, critic, tear apart or appraise

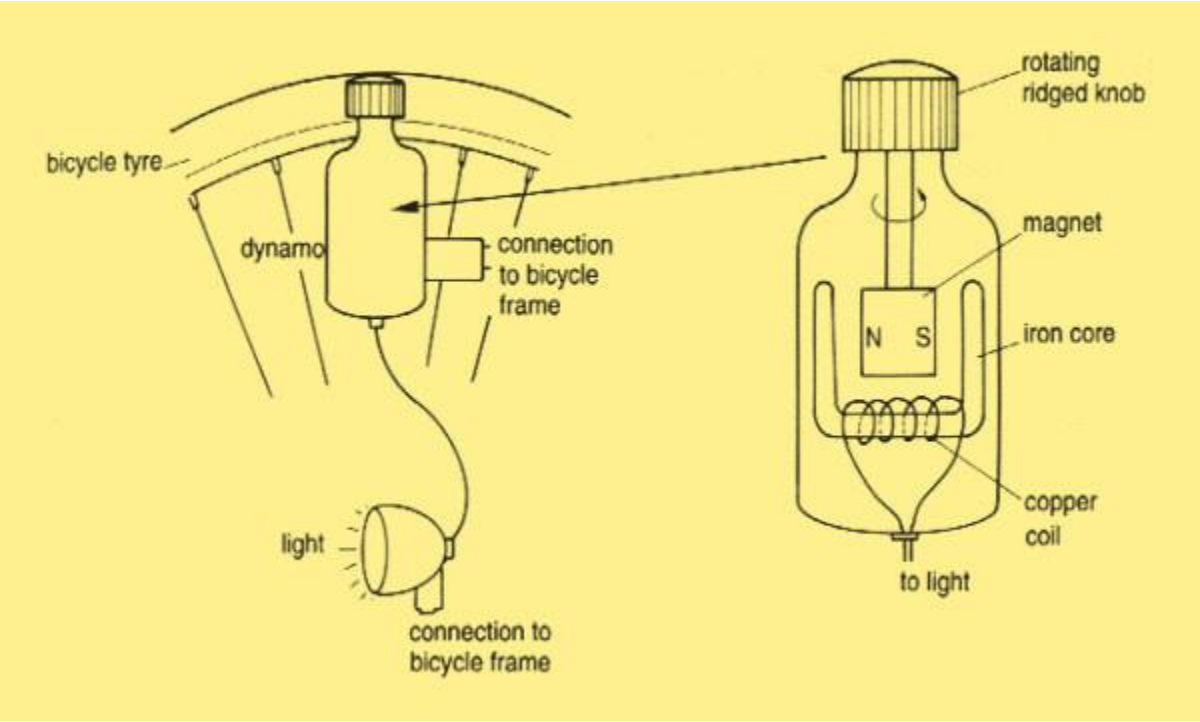


30.1.3.1 Bicycle dynamo

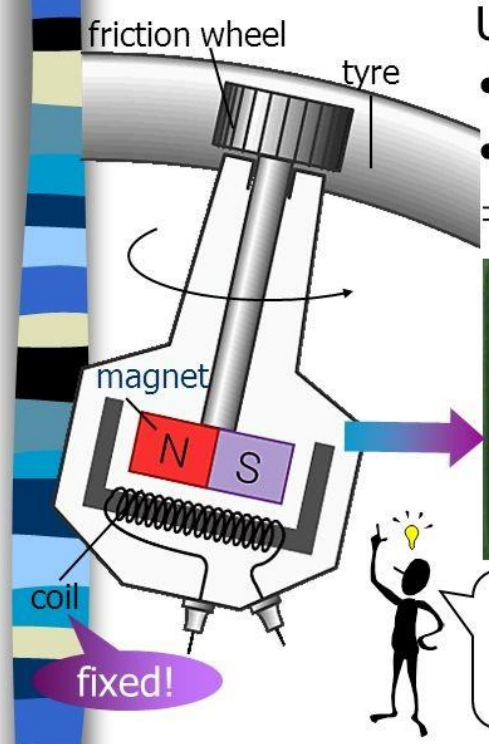


Electrical generators or dynamo are the machines used to convert mechanical energy into electrical energy. They are based on the principle of electromagnetic induction. A dynamo is used to induce current in fewer amounts and a generator is used to induce electric current in large scale.

It should be noted that the name generator is actually a misnomer, as no energy is being generated by it but is only converted from one form to another. A generator or dynamo converts kinetic energy into electrical energy.



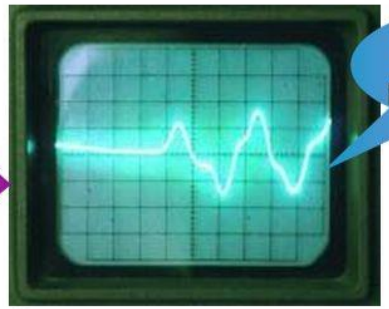
a Bicycle dynamo



Unlike the simple a.c. generator:

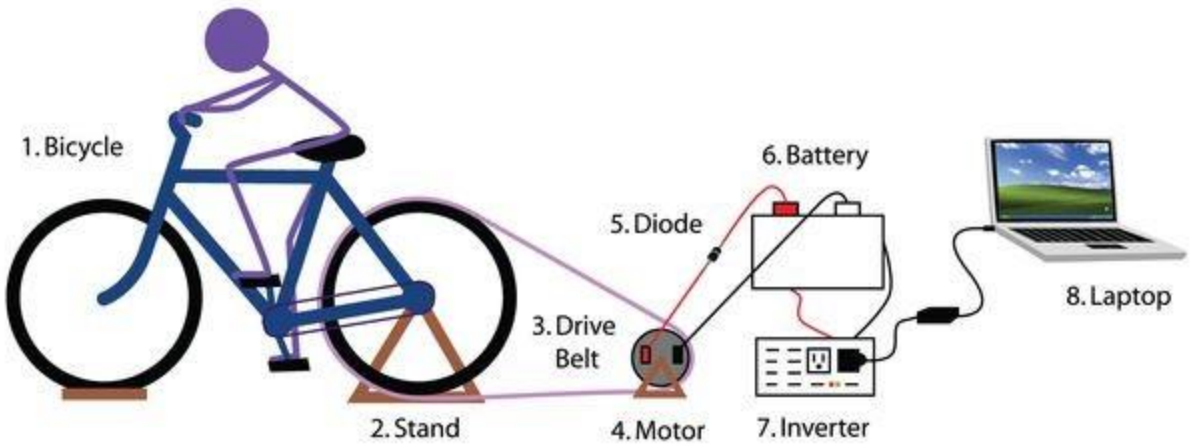
- coil is fixed on a soft-iron core
- magnet is rotated instead

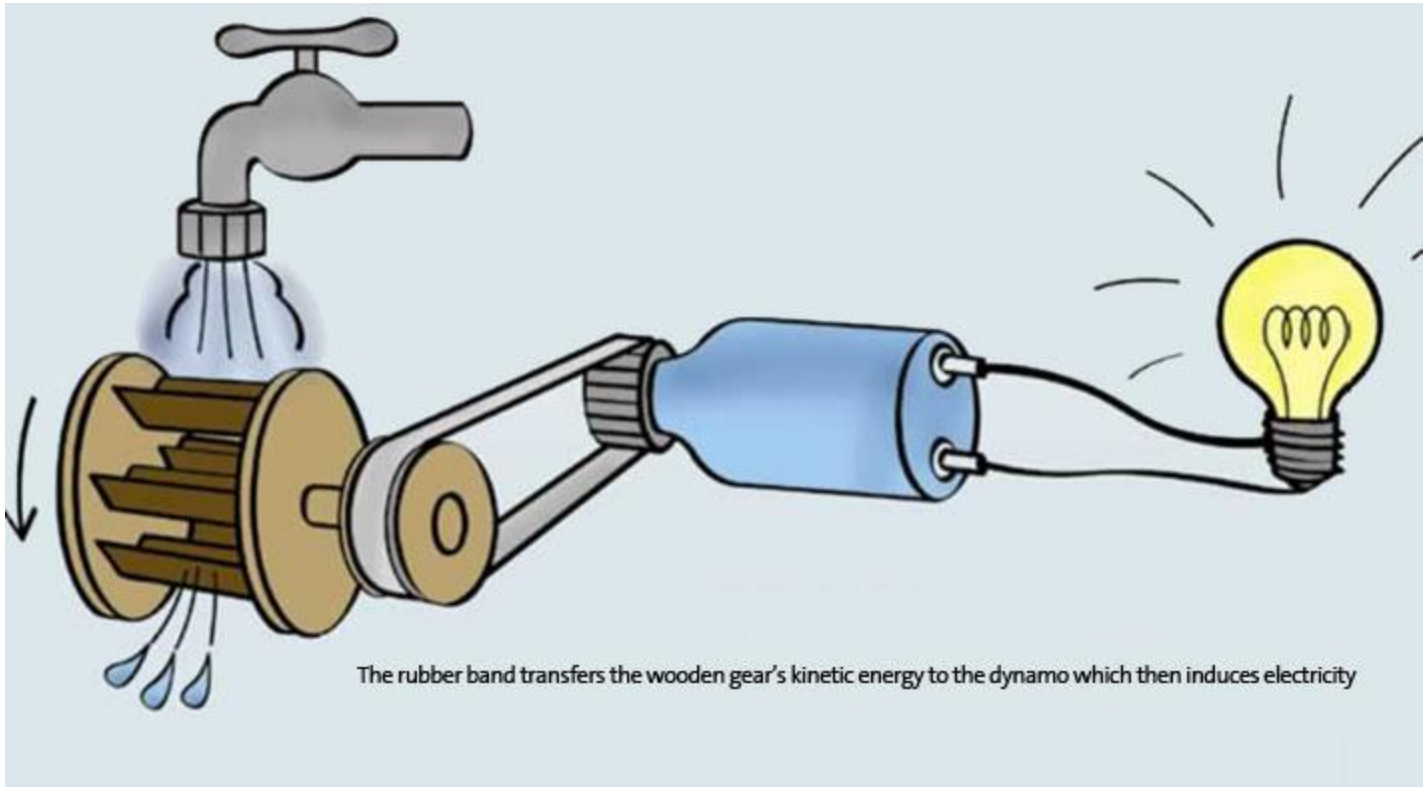
$\Rightarrow$ rotation causes induced a.c.



waveform of the a.c. produced by dynamo

No problem!
∵this a.c. is used to light up a lamp,
NOT produce a smooth waveform


1. Bicycle
2. Stand
3. Drive Belt
4. Motor
5. Diode
6. Battery
7. Inverter
8. Laptop



Smaller 'UNIT' Scale keeps large power projects manageable and mitigates environmental consequences - here a Energy Farm is a real farm and power plant supports real plants!



DESIGN PLAN FOR LAND AS WELL AS THE ROOF TOP SOLAR STRUCTURES - COVERED AREA UNDERNEATH COULD BE VERY VALUABLE - Clear 6.5 Feet or 2 Meters Height beneath SOLAR FRAMING COULD PROVIDE VARIETY OF FUNCTIONAL SPACE THAT IS SHADED FROM SUN AND RAIN FOR PEOPLE/PLANTS AS WELL AS BUILDING/LAND - SIGNIFICANT FOR 'HEAT ISLAND EFFECT' where land or real estate values are high



- such clean covered shaded secure USABLE AREA beyond the planning-zoning is extremely valuable yet time and again its seen elaborately engineered solar frames and wind tower structures without consideration for the ARCHITECTURAL and/or PUBLIC SPACE ..



Further the Solar Energy would not be consumed here at the site - it'd need transmission over 100s of kilometers to be utilized - there is considerable loss besides cost of connecting to a grid.. at this point let's consider energy storage



Let such POLICY drive the PROJECTS.. Water a precious commodities consumed in maintenance (cleaning) of solar photo-voltaic panels world over .. where engineers/managers learn such practices?? infrastructure offers functional architectural shelter - PLANNING DESIGNING BEYOND THE THE WATTS COULD SIGNIFICANTLY CHANGE THE ENERGY LANDSCAPE