

Do the Earth a Favour. Be an Energy Saver

Imagine a world without electricity. Ranging from providing lights to powering up your cell phone, electricity is an indispensable part of the modern existence. Electricity is an energy which drives the wheel of the modern world.

There are reasons why we have to save electricity and reserve them for our future generation.

1. **Sources of electricity are likely to deplete** – It is true that energy can neither be created nor be destroyed. But the sources from which the energy is harnessed are likely to deplete. For instance, coal which directly contributes to the generation of electricity is depleting in a big way. Obviously, wastage is contributing to the same. This makes it necessary to save electricity.
2. **Helps to conserve natural resources** – making way for cost efficiency: Thus, ultimately it aids the conservation of natural resources, helping you realize its potential value. Restrained use of natural resources is ultimately effective for your pocket.
3. **Saving of electricity and eco-friendliness** – Careful use of electricity reduces the impact of pollution. Obviously by minimizing the use of energy producing sources of nature, you are adding an edge to the natural greenery.

What started as a home project is now being developed as a Product

Am all set to embark on a journey to develop sustainable solutions / products for problems that affect our environment and also want to create necessary awareness and provide guidance leading to greener environment.

Mission is to Save at least 5,000 Units of electricity by end of 2020

Alone we can do so little; together we can do so much

STAY TUNED. More updates to follow

With reference to my post “Do the Earth a Favour. Be an Energy Saver” – Starting today, planning to post a daily tip / awareness note (in Facebook and whatsapp) with regards to Energy saving / Approach leading to a greener Environment. If anyone is interested to contribute please share your content to my whatsapp.

Thanks to those who have started reading the Tips/Awareness notes and reaching out to me to find out how you can contribute. There are various ways by which some one can contribute towards this cause. Please find below some pointers

1) Please go through the Tips/Awareness note on a regular basis (in my Facebook Page "Clean and Green Environment "or Whatsapp Status

2) Practise / Implement what you can; Even if it is in very small way

3) Please improve your awareness and spread the word

4) contribute relevant articles such that it can be shared with others

Day 1 - Importance of Energy conservation	5
Day 2 - Introduction to Watt, Kilowatt and a unit of electricity and its correlation	6
Day 3 - "Using pen refills" (instead of buying new Pens)	8
DAY 4 - The Cost of Leaving Appliances on Standby.....	9
Day 5 - How to reduce paper consumption (and save money at the same time!).....	11
DAY 6 - Water Conservation (Why and How?)	13
DAY 7 - Tips to reduce Air Pollution.....	15
DAY 8 - Why 3 Blade Fans are more efficient?	16
DAY 9 - Benefits of Keeping Doors / Windows Open.....	17
DAY 10 - Impact of Dust accumulation in Fan and the necessity to keeping it clean.....	19
DAY 11 - Say "NO" to Body Spray, Perfumes, Deodorants	20
Day 12 - Health Benefits of growing Areca Palm Indoors.....	22
DAY 13 - Minimize Chemicals and try using Baking Soda and /or Vinegar for home cleaning.....	24
DAY 14 - Why should we avoid plastic bags / covers.....	26
DAY 15 - Multiple Ways to Re-Use the Waste Water from RO Water Purifiers	28
DAY 16 - Buy locally, eat more plants, and compost your food waste	34
DAY 17 - Keep a Snake Plant in Your Bedroom to Improve the Air Quality While You Sleep ..	35
DAY 18 - Why should Wet wipes be avoided.....	36
DAY 19 - ZERO Waste Movement (ZWM) and its Benefits.....	38
DAY 20 - 10 Baby Steps to a (Close to) Zero-Waste Home	41
DAY 21 - Mindful consumption	44
Day 22 - Bamboo Palm.....	47
Day 23 - Move away from using Incandescent bulbs	48
Day 24 - Compact Fluorescent light (CFL) is better than Incandescent bulbs but!!!.....	49

Day 25 – Light Emitting Diode (LED); A better replacement option for CFL and Incandescent bulbs.....	50
Day 26 – Equivalent Wattages and Light Output of Incandescent, CFL, and LED Bulbs.....	52
Day 27 – How much Money, Energy and Coal can be saved by replacing incandescent bulbs by a CFL Bulb or LED?	54
Day 28 – National Pollution Control Day.....	56
Day 29 – Science is just beyond good or bad!.....	58
Day 30 – Alternatives to combat the mosquitoes the natural way.....	59
Day 31 – Alternatives to combat the mosquitoes the natural way (Continued...).....	60
Day 32 – Is Teflon based non-stick cookware safe to use?	62
Day 33 – Plant of Immortality [Aloe Vera]	65
Day 34 – Spider Plant	66
Day 35 – Engine idling & why it's so harmful?.....	67
Day 36 – Plastic, a menace to the society.....	70

Day 1 – Importance of Energy conservation

The earth provides enough to satisfy every man's needs but not every man's greed said Gandhiji.

Hard facts on why energy conservation is a must are outlined below.

1. We use energy faster than it can be produced – Coal, oil and natural gas – the most utilised sources take thousands of years for formation.
2. Energy resources are limited – India has approximately 1% of world's energy resources but it has 16% of world population.
3. Most of the energy sources we use cannot be reused and renewed – Non renewable energy sources constitute 80% of the fuel use. It is said that our energy resources may last only for another 40 years or so.
4. We save the country a lot of money when we save energy – About 75 per cent of our crude oil needs are met from imports which would cost about Rs.1, 50,000 crore a year
5. We save our money when we save energy – Imagine your savings if your LPG cylinder comes for an extra week or there is a cut in your electricity bills
6. We save our energy when we save energy – When we use fuel wood efficiently, our fuel wood requirements are lower and so is our drudgery for its collection
7. Energy saved is energy generated – When we save one unit of energy, it is equivalent to 2 units of energy produced
8. Save energy to reduce pollution – Energy production and use account to large proportion of air pollution and more than 83 percent of greenhouse gas emissions

An old Indian saying describes it this way – The earth, water and the air are not a gift to us from our parents but a loan from our children. Hence we need to make energy conservation a habit.

Day 2 – Introduction to Watt, Kilowatt and a unit of electricity and its correlation

Our electricity bills indicate that we have used a certain number of “Electrical Units” for a given period of time (typically over a 2 months period).

When we buy any standard electrical appliance, the power consumption rating (in Watts or Kilo Watts) is mentioned on the product or product catalogue.

We invariably may find it difficult to understand the relation between the Electrical Units and the Power Consumed or do not correlate them at all.

This note is to provide clarity on what is watt, kilowatt and a unit of electricity and also provide a correlation between them.

Power and Energy/Electricity are two words that are used. Interestingly both of them have a very different and a specific meaning. Power is the rate at which electricity is used and energy/electricity is the actual consumption. To give an analogy, power is similar to speed but electricity/energy is the actual distance travelled.

So, $\text{Power} \times \text{Time} = \text{Electricity (or energy)}$

Just like $\text{Speed} \times \text{Time} = \text{Distance Travelled}$.

Power is always represented in watt (W) or kilowatt (kW). A thousand (1000) watts make one kilowatt. So if any appliance is rated as 1.2 kW then it means that it consumes electricity at a rate of 1200 W. Now as we discussed earlier that power is the rate at which electricity is consumed and not the actual electricity consumed, Watt or Kilowatt just represent the rate at which electricity is consumed per hour which means that when you buy a 100 W bulb, it does not consume 100 units of electricity but consumes at a rate of 100 W.

A unit (as mentioned on the electricity bills) is represented in kWH or Kilowatt Hour. This is the actual electricity or energy used. If you use 1000 Watts or 1 Kilowatt of power for 1 hour then you consume 1 unit or 1 Kilowatt-Hour (kWH) of electricity. So the reading on the electricity meter represents the actual electricity used. Just like the odometer on your vehicle that shows the actual distance travelled by the vehicle, electricity meter shows the amount of electricity that is used. So a

a) 100-Watt bulb if kept on for 10 hours will consume:

$100 \times 10 = 1000 \text{ Watt-Hour} = 1 \text{ Kilowatt-Hour (kWH)} = 1 \text{ units (on Your meter)}.$

b) 24 Watts LED Tube light kept on for ~42 hour

c) Ceiling Fan (75 Watts) kept running for ~13 hours

Day 3 – "Using pen refills" (instead of buying new Pens)

We live in a world and society that puts a huge emphasis on living green and protecting the environment. There are many ways to protect the environment (like installing Biogas plants, Solar Heaters, Green and energy efficient appliances, Optimised use of electrical equipments and Automobiles, reducing carbon footprint, eating natural foods etc)

While I will try to cover the above areas in the days to come. Wanted to remind all of us about a very simple and regular approach that we used to adopt traditionally but most of us are not following it these days for whatever reasons (be it for Better convenience or Comfort, non availability of spares, not really worried about spending additional few Rupees etc)

Most disposable pens available on the market are made from plastic and also involve various harmful chemicals as part of the manufacturing.

Just think about it – how often do you buy a new pen, use it for a while and then throw it away? Why not instead use a regular pen refills to keep pens out of landfills and save additional money in the long run?

Am sure you will agree that "Using pen refills" (instead of buying new Pens) is a very simple and amazing method to protect the environment by decreasing Landfills.

DAY 4 – The Cost of Leaving Appliances on Standby

“Standby power” or ‘phantom load’ as it’s sometimes called, refers to electricity that is consumed by appliances left on standby mode. It essentially means we are paying for electricity that we are not even using.

Why do appliances use electricity on standby?

If an appliance has a remote control, LED light, digital clock, touch-on button, or similar function, then you can bet it uses standby electricity. The amount of electricity that feeds into the device will be absolutely miniscule – just enough to power its sensors so it can be switched back on.

Some of the more expensive devices to leave on standby are ones which run background functions. Take a gaming console for example. It might regularly run Wi-Fi checks, download content and be ready for remote, touch or voice activation. This can consume more than 10W of electricity while in standby mode.

Standby electricity efficiency has improved considerably in recent years. But while standby power might cost you less now than it would have done 10 years ago, there are still savings to be made.

So how much does it cost our household?

The cost of an individual appliance left on standby mode is pretty small (and is dependent on a myriad of factors, including the number of appliances left on standby, the appliance efficiency ratings and the rate we pay for electricity) but it certainly adds up.

The cumulative effect of having so many devices plugged in around the clock that can really add up – hurting our efforts to be eco-friendly and cost conscious.

Estimated standby electricity wastage as percentage of the electricity bill is approximately 5% to 10%

There is also a risk of fire from devices in standby mode.

Active standby mode running costs

So far we have discussed the cost of standby electricity when the appliance is plugged in, but switched off. That is often referred to as 'passive standby'. 'Active standby' is when a device is turned on but not in use. For example, when a games console or DVD player is switched on, but no media is playing. Active standby mode can cost you five to ten times more in electricity than passive standby mode, so if our appliance is running, we have to make sure we are using it.

How to reduce standby energy costs

Think of standby electricity as a leaky tap. Even if it doesn't bother us, it is still a complete waste that we should try to mitigate.

Turn off appliances at the wall: This one is pretty self-explanatory and is a widely practised way to save on energy. Switching off appliances at the point is a guaranteed way to ensure our electricity bill is not inflated by phantom load.

Day 5 – How to reduce paper consumption (and save money at the same time!)

"Go Green", "Green Business", "Green Home/Office" and Zero Landfill" are some of the buzzwords of the current era. While more and more businesses/Homes are going green every day, some businesses/Home still lag. Others lose momentum when they run out of waste reduction ideas. Here are some easy-to-implement office/Home Paper waste reduction tips and ideas.

Maybe the best idea for reducing paper waste is through creating a paperless office/Home. You can simply say no to paper use. If that is not completely possible, you should identify for what purposes you have to use paper and for what purposes you can avoid paper use. Once you make the lists for both, then be sure to clearly announce the policy and consistently enforce it.

If the nature of your business is such that you have to use paper for a number of purposes, here is how you can keep paper waste to a minimum:

1. Encourage everybody in the office/Home to edit on computers before printing. This move will help reduce the number of draft copies of documents to be printed. If you still think printing drafts is necessary, print them on the unused side of paper sheets that would otherwise be discarded.
2. Store office/Home files digitally.
3. Use both sides of a paper. Set up computers to automatically print two-sided as well.
4. Use small paper pieces for short memos.
5. Get rid of needless reports and reduce report sizes. If you only occasionally need a report, just run it on demand.
6. Consider using lighter weight papers wherever possible.
7. Enable the reuse of paper envelopes by putting a label on top of the old address.
8. Make use of electronic and voicemail and avoid paper mail wherever possible.
9. Post all workplace announcements in a central location rather than printing multiple copies.
10. Use single spacing and narrower margins for less important documents.

11. Refold and reuse file folders.
12. Be sure to recycle scrap paper. Shredded office paper may also be repurposed as packaging filler for particular applications.

The raw tonnage of paper produced and consumed is still increasing per year. Printing and Writing paper volume has been declining; the decline in Printing and Writing are more than offset by the growth in Packaging and Hygiene paper.

1. Think about purchasing products with less packaging or with no packaging at all.
2. Alternatively, request that your office / Home deliveries be shipped in returnable containers and return the emptied containers back to the supplier.
3. Where possible ask the vendors/suppliers to take packaging back. There may be the possibility that they can reuse it or at least generate greater quantities which will enhance the feasibility of recycling.

DAY 6 – Water Conservation (Why and How?)

Water is a precious natural resource that is essential for human existence. Like other natural resources, its supply is limited. Therefore, it should be used in a judicious manner and best efforts should be made to conserve it. Here are a few practical tips that can be helpful for saving water in everyday life:

1. The biggest life hack to save water in India is to save water from overflowing water tanks. Overhead tanks in India are always overflowing and causing to lose plenty of water.

By avoiding this overflowing water we can make a drastic change in the way our cities function with water

2. Look for ways to save water in the kitchen. Use pressure cooking method instead of boiling. Wash fruits and vegetables in a container rather than placing them under a running tap. Make sure that your kitchen taps are closed tightly when not in use.

3. Arrest all leaky faucet/taps and other plumbing fixtures. Leaks could account to overall water wastage of up to 10% in a building. **A drop per second leak waste around 10,000 litres of water annually**

Residents of apartment should be rewarded for reporting leak.

4. Similarly, you should avoid wastage in the bathroom. Use a bucket instead of a shower for bathing. The taps should be monitored to keep a check on leakages. Turn off the taps when not using them.

5. Install water-saving taps in your home. These taps ensure that there is no wastage and excess running of water.

6. Use a mug instead of a hose to water the plants.

7. Reuse of water is another smart idea for conserving it. For instance, water used for boiling rice can be reused for boiling

vegetables. Later, it can be used for watering the plants in your garden.

8. Water Plants during the Early Times of the Day: Early morning is generally better than dusk since it helps preventing the growth of fungus. Early watering, and late watering, also reduces water loss to evaporation.
9. **Adopt Rainwater Harvesting:** Do not let rainwater run to city drain lines. Let the soil absorb them and recharge your Bore well systems. It is now made mandate to install rainwater harvesting systems in apartments of many states of India. An efficient RWH system reduces total water cost by up to 30% annually.
10. Avoid water wastage on common area washing and other regular practices. Broom can be used for same process also wait for rain to wash large areas. Rain water is free and home delivered. 😊
11. Reduce evaporation of water from Swimming pool: If you live in apartment, your apartment has outdoors swimming pool than evaporation rate will be very high. Try to cover the swimming pool when not in use, say afternoon, when evaporation is high.
12. **Educate, train and spread awareness about water conservation.** By doing such campaign periodically; saving of water up to 10% can easily be achieved over a period. Notice boards are best place to place posters. Use Whatsapp, Social & Email group to spread awareness on water conservation regularly.

You can conserve water by using these simple yet practical tips in your daily life. Not only will it reduce your bills but also make your home an eco-friendly place to live in.

DAY 7 – Tips to reduce Air Pollution

- 1) Reduce the number of trips you take in your 2 / 4 wheelers
- 2) Carpool, use public transportation, Cycle or walk whenever possible.
- 3) Refuel your car in the evening when the climate is relatively cooler.
- 4) Keep your automobile well tuned and maintained. Follow the manufacturer's instructions on routine maintenance, such as changing the oil and filters, and checking tire pressure and wheel alignment.
- 5) Avoid excessive idling of your automobile.
- 6) Be careful not to spill Petrol/Diesel when filling up
- 7) Reduce or eliminate fireplace and wood stove use.
- 8) Avoid burning leaves, trash, and other materials.
- 9) Avoid using gas-powered lawn and garden equipment.
- 10) Use water-based or solvent free paints whenever possible and buy products that say "low Volatile Organic Compound {VOC}"
- 11) Seal containers of household cleaners, workshop chemicals and solvents, and garden chemicals to prevent volatile organic compounds from evaporating into the air
- 12) Plant more Plants (both indoors and Outdoors); Please find below few indoor plants that can clean up the air indoors

1. Aloe Vera
2. Spider Plant
3. Gerber Daisies
4. Snake Plants (Also known as mother-in-law's tongue)
5. Chrysanthemum
6. Red-edged dracaena
7. Golden Pothos
8. Bamboo palm
9. Weeping fig
10. Warneck dracaena
11. Aglaonema (Chinese evergreen)
12. Zamia palm

DAY 8 – Why 3 Blade Fans are more efficient?

The primary purpose of an electric fan is to create air flow. A good fan can do that with minimal noise. A fan is also designed according to the conditions of the operating environment and the required level of air delivery.

In India, fans are usually a stand-alone appliance to generate cooling comfort. Also, India is a tropical country with most areas having high temperatures. Hence, users require a higher quantum of air to create a cooling effect.

As per research, 3 turns out to be the optimum number of blades for air movement and efficiency. Adding more blades does not improve performance and may actually make it worse by increasing the aerodynamic drag on the motor. For domestic ceiling fans, 3 blades turn out to be optimal for air delivery and cooling comfort. The noise level is also suitable for homes. With higher number of blades, the fan tends to be slower in speed and thus quieter but circulates less air and in turn lesser efficient. Additional blades increase the drag on a ceiling fan's motor and slow it down.

Technologically, the lesser the number of blades, higher the air delivery and efficiency.

This is one of the main reasons why industrial fans (like wind turbines) usually only have two blades. They can go faster and move more air. The resulting noise is not much of a concern in those areas of operation.

DAY 9 – Benefits of Keeping Doors / Windows Open

Fresh air from opening your Doors and windows can benefit your body, your mind, the atmosphere of your home, and your wallet.

Opening Windows Can Clear your Home of Indoor Pollutants

When you hear about pollution, you probably picture smoggy skies, car exhaust, and smokestacks pouring filth into the air.

“In the last several years, a growing body of scientific evidence has indicated that the air within homes and other buildings can be more seriously polluted than the outdoor air in even the largest and most industrialized cities.”

That's bad news for those of us who spend most of our day inside.

Pollutants and chemicals released from Plastic, candles, air fresheners, Lightings, water heaters, gas, air conditioners, batteries, ovens etc get trapped in your home.

Open Windows Can Make Your Home Smell Better

Have you ever noticed how everyone's home smells a bit differently? Wouldn't it be great if your home had the fresh aroma of nature? Open a window!

Just as pollutants get trapped inside a closed up home, so can odours.

Regularly opening your windows for short periods of time each day can greatly improve the scent of your home. You may not even need air fresheners anymore! They can add more chemical particles to the air.

Open Windows Can Help You Think and Can Make You Happier

Not only will your physical health benefit from open windows, your mental health could get a boost as well.

Various studies indicate that air quality has a profound effect on cognition. For example, a research project reported that proper ventilation is important for learning. Researchers say student test scores improved when hot stuffy indoor air was replaced with cooler outdoor air.

“Improving ventilation, bringing in more outdoor air and lowering temperatures in the house/classroom dramatically improves students’ ability to achieve.”

Fresh air is good for adults as well as kids. It is found that poor indoor air quality leads to low productivity.

Better air quality helps improve ability to make decisions, process information, and respond to emergency situations.

Opening Windows Could Save You Money

Opening your windows at the right time of day can help cool your house down.

Don't forget to install mosquito / Insect screens

Of course, open windows call for mosquito / Insect screens!

DAY 10 – Impact of Dust accumulation in Fan and the necessity to keeping it clean

It is important to clean our ceiling fan on a consistent basis because it has a significant impact on our health. When a dirty and dust mite ridden fan circulates the air in our home, we become susceptible to breathing in polluted particles.

Clean fans are especially critical in homes with family members who suffer from allergies.

Fan Blades are aerodynamically designed and dust accumulated over the blades will increase the weight and reduce the free movement of blades. The curvature design which cuts the air above the blades is also structurally disturbed because of the accumulated dust.

Cleaning also results in higher air delivery and improved energy efficiency

DAY 11 – Say “NO” to Body Spray, Perfumes, Deodorants

Every time I hear the hiss of someone using a body spray, I quickly walk away from that place. But why? Few seem to realize this air-freshener like spray deodorants contain synthetic fragrances that are made up of hundreds of chemicals, such as hormone-disrupting phthalates, synthetic musks, Formaldehyde – most of which have been associated with cancer.

From room deodorizers to cleaning products, perfumes and fragrances are everywhere. They may be pleasant smelling, but they often contain harmful chemicals that may cause irritation or even more serious health problems over the long term.

Ancient perfumes got their scent from flowers and other natural aromatics, modern perfumes are another story. Beginning in the late 19th century, chemists began to isolate compounds from aromatic oils. These more stable synthetic versions held their scent longer.

Perfumes now rarely use all-natural ingredients, but instead are a chemical mixture very different from the perfume made for centuries (and even millenia).

Manufacturers today use approximately 3,100 ingredients in different combinations to create perfumes and fragrances. As per researchers **95% of chemicals used in fragrances are synthetic petrochemicals (derived from petroleum).**

In fact, the Environmental Working Group's (EWG's) consistently rates **Axe, Old Spice, and other commercial body sprays and deodorants as moderate-to-high health hazards.** Far from transforming men into virile beasts as the ads for these products suggest, the sprays may impede men's chances of reproducing, as a recent analysis of popular men's body sprays confirmed that many contain chemicals that can disrupt male hormones and damage sperm.

Even worse, a 2009 study from the EWG found that teenage boys and girls are particularly susceptible to hormone-disrupting chemicals like phthalates because of the ways the chemicals influence their rapidly developing reproductive systems. Animal studies have found that male rats exposed to phthalates during puberty had

more testicular problems, and a report from the Journal for Applied Toxicology has suggested that there may be a link between spraying the hormone-disrupting chemicals contained in deodorants and breast cancer, especially those tumours found in the outer quarter of the breast.

But these chemicals also have immediate effects on many full grown adults, too, including triggering asthma, eye and throat irritation, dermatitis, migraine, Cognitive problems, gastrointestinal problems and more.

Alternatives to Fragrances and Perfumes

If people made perfume for thousands of years without synthetic chemical-laden fragrances, I am guessing perfumes and other scented products can be made that way again!

Using Essential Oils or Kids-safe-Oil (from a trustworthy brand), Javadhu / Sandalwood powder could be few options

Day 12 – Health Benefits of growing Areca Palm Indoors



Clean air and good food are the two main essential parts of healthy living. Indoor activities like cooking and heating, using Air conditioners, Synthetic building materials, chemicals, usage of Incandescent bulbs, Fluorescent / Compact Fluorescent Lights, Dyes, Body Sprays etc affect indoor air quality. Even using paints, nail polish and nail polish removers, cosmetics, printer, furniture, rugs, and garage activities also degrade the

Inadequate ventilation can also cause numerous respiratory and nervous disorders.

Adding air purifying plants to your home is such a simple change yet it can have a huge impact to your health and well-being.

Areca palm plants help in absorbing indoor air pollutants like acetone, xylene, and toluene which are generated from

petroleum products, paints and wooden furniture; thereby help in

- a) Minimizing upper respiratory tract diseases caused mainly because of toluene.
- b) Improving the nervous system in children.

As per NASA's research – Areca Palm Tree is the best air purifying plant.

DAY 13 – Minimize Chemicals and try using Baking Soda and /or Vinegar for home cleaning.

Homemade cleaners appeal to consumers because they ditch the potentially toxic and harsh ingredients that fill many commercial cleaners. Two ingredients you probably have in your household is baking soda and vinegar which are both known for their cleaning power.

Combining them is an option, but sometimes the combination can counteract the effects. If mixed and stored together in a closed container, there is a chance the trapped reaction can build up too much pressure and explode. Hence, never mix them and store them in closed container.

The acid-base reaction is also the reason baking soda and vinegar are cleaning partners in crime :-)

Cleaning Benefits of Baking Soda

Baking soda helps with cleaning in two ways. As a mild alkali, it helps get rid of dirt and grease easily. If you keep it as a powder, it has a mild abrasive effect that helps you gently scour surfaces. Because it's a natural product and a food, you know it's safe to use on different surfaces with no worry of toxic chemicals contaminating your space.

Unlike air fresheners or candles, which simply mask odours, baking soda actually absorbs things that might make your kitchen smell less than clean. (This is why people leave boxes of baking soda in their refrigerators). That's because most odours are acidic and, because baking

soda is basic, it reacts with the acids in the air to neutralize them. You can also use it to deodorize carpets, furniture and similar items.

Tip: Over time the baking soda can become less reactive to the acids, so it will only work if you remember to mix it up periodically.

Cleaning Benefits of Vinegar

Vinegar is another natural food product that can replace harsh toxic cleaners. The acidity in vinegar is what makes it effective on various surfaces. Like baking soda, vinegar can help deodorize, and it is effective at removing some stains.

However, because of the acidity, vinegar is not safe to use everywhere despite its nontoxic nature. Natural stone surfaces on floors and countertops can become etched from vinegar. The liquid can also damage many wood surfaces, including hardwood floors.

DAY 14 – Why should we avoid plastic bags / covers

Plastic bags are a huge problem.

We are addicted to the use-and-throw convenience of plastic. And even as the government tries to ring the warning bell on single-use plastic, our home delivery culture brings even more plastic and Styrofoam to the door.

According to a recent study against plastic bag usage, approximately 80 million plus plastic bags litter the environment every year.

On an average, plastic bags take more than 1,000 years to break down, meaning this is a problem that won't go away anytime soon. Therefore, people world over are being encouraged to adopt traditional methods of carrying products, such as reusable bags, to cut down on plastic consumption. While many people understand that you shouldn't use plastic bags as they are bad for the environment, what exactly makes them so harmful?

They create litter

Plastic bags are a major contributor of litter; there is a huge amount of money being spent to manage it. This is a colossal amount of money, and if plastic bag usage was decreased, it's also likely that the amount spent on cleaning up litter would go down too.

This would free the environment of toxic materials and other related issues caused by excessive plastic use, as well as making our planet a prettier place to live.

They harm animals

Our cows are still choking on plastic. Micro plastic is in our fish.

As plastic bags are lightweight and float easily, this means they can travel long distances when picked up by the wind. Often, the bags will fall along the coast and other areas of animal habitats, which creatures then attempt to eat, only to choke and eventually starve to death. After the animal carcass has rotted away, the bag is normally released – only for the whole process to be repeated again.

Removing plastic bags from our society will not only rid us of waste and unnecessary expense, it will also help to protect our wildlife and landscape.

They are expensive

The idea that plastic bags are a freebie when doing your weekly shop or other activities is a fallacy. The production price is often incorporated into taxes and other fees; meaning that the price of your groceries, clothes and other items increase to factor in these associated costs. This suggests that although eco-friendly bags may seem initially more expensive, in the long run they work out cheaper – so the more you use them the less you pay. A motivating reason why you should avoid using plastic bags.

DAY 15 – Multiple Ways to Re-Use the Waste Water from RO Water Purifiers

The world has finally arrived at a stage where we, as humans, have to realize the need for conservation of environmental elements. Taking natural resources for granted, we have over utilized these so-called infinite resources for centuries, arriving at a stage where things no longer seem limitless. Water is one such life-source which has lost its eternal property and hence, the world has moved onto adopting technologies which can optimize the usage of water and utilize it in the best possible ways.

It is time for us to step up and explore innovative techniques to recycle, reuse and save water while we can still contribute to the global water crisis and safeguard our future generations.

Such conservations can start at home, as you inculcate water saving habits in your family members and take measures to save more water through conscious choices. Conserving water doesn't always mean saving water, it can also mean using water more thoughtfully and utilizing waste water for general purposes.

Using RO water purifiers not only gives us safe, clean and tasty water but also protects us from life-threatening waterborne diseases.

But there is one big drawback of using RO water purifiers i.e. the excessive wastage of water. An average RO purifier wastes approximately

3 litres of water for every 1 litre of purified water. That means only 25% of water is purified and 75% of water comes out as waste.

Wondering why so much water is wasted? Reverse Osmosis (RO) purifiers use membrane technology to filter dissolved impurities, the impure water is filtered out and is often called waste water or reject water. The percentage of waste water varies according to the RO purifier being used.

Because of the high level of impurities and dissolved solids this reject water is not fit for drinking or bathing.

However, the RO waste water can be used in various ways to avoid overall wastage of water in your home or office.

Before we check out how we can use this waste water, it is important to keep some basic things in mind to avoid any issues or problems.

It is best to determine the Total Dissolved salts [TDS] level in the reject water before deciding to reuse for other purposes. Because if the TDS level is too high in the RO waste water then it might not be suitable for reuse in most of the applications given below. See how you can check the TDS level of water.

How to Store the RO Waste Water?

The easiest way would be to drop the reject pipe in a bucket. But if your daily drinking water requirement is 20 litres then on an average your RO water purifier would generate around 60 litres of waste water.

Assuming you are using a bucket of 15 litres, you would need to empty the bucket 4 times in a day. And the biggest pain is keeping a check on the bucket, so it does not overflow.

This may not be practical for a lot of people.

If you are one of those then worry not because we have a better solution for people like you.

You can extend the RO waste pipe and drop it in a big tank placed outside your kitchen. This stored water can later be re-used for one of the several ways listed below.

1. Car / 2 Wheeler Washing

A single car wash could consume anywhere between 14 litres (for car wash using a bucket) to 75 litres (for car wash using a hose pipe) of water. Keeping in mind the scarcity of drinking water, using so much potable water for car wash seems unreasonable and no lesser than a crime.

We believe, washing cars every day not only wastes a lot of water but is unnecessary. If you are using an RO water purifier at your home or office then you can simply store the waste water in some tank or bucket and reuse it for washing your car. Water with a TDS level of 1200 – 1500 PPM can be safely used for car washing. If the TDS level of waste water is high you can mix tap water to dilute it. This should lower down the TDS level.

2. Watering Your Plants or Home Garden

If you are someone who loves gardening or have planted some plants in pots, the waste water can be used for watering your plants to keep your indoor or terrace garden green. This tip is particularly useful for people living in urban areas as the TDS level in municipal water tends to be lower.

To be on the safer side, you can start with a few plants. Use the RO waste water for 15-20 days and check its effect on the growth of your plants. Each plant will respond to this change differently, which will give you a clear understanding of which plants are responding better to RO waste water. For gardening/irrigation use, a TDS level of up to 2100 PPM is permissible. You should also check out the percentage of Sodium, it should be less than 60 % (i.e. $\text{Na} / \text{Na} + \text{Ca} + \text{Mg}$). High Sodium content causes loss of soil porosity and therefore harmful to soil fertility in the long run.

3. Wash Your Utensils

Another useful application for RO waste water is to wash your utensils. Simply store the waste water in bucket or tank, make sure you place the bucket for collecting RO waste water near your kitchen sink so it can be used easily when you clean your utensils.

4. Floor Mopping

Using the RO waste water for mopping the floor is easy and will definitely save tens of litres of clean water every day. If you have a bigger house then the savings could be in hundreds of litres every single day. If the TDS level of waste water is high (over 2000 ppm):

- Dilute waste RO water with an equal quantity of tap water. Because plain RO waste water with high TDS may stain or leave salt particles on the floor.
- Use the RO waste water for floor mopping on alternate days. This will reduce the chances of any stains or salt deposits.

5. Cleaning and Flushing Your Toilets

Another big source of clean water wastage in modern homes is use of toilet flush. Every single flush sends approximately 5 to 7 litres of potable water down the drain. RO waste water can be used effectively to reduce this wastage of clean water by using it to flush your toilets. When you start, always monitor your toilet seats for any discoloration on porcelain surfaces after few days. With a periodical cleanup using common toilet cleaners, the chances of discoloration and salt deposits can be avoided.

6. Bathing

One can bathe with the RO waste water with saline touch in it and mixing some plain water.

7. Clean Sewage pipe

The waste RO water can be used to clean sewage pipe at home or kitchen because of its saline nature.

8. Washing Clothes

Washing clothes with waste RO water is perfect because salt content in it is powered to take dirt away.

Every year we read and listen to news of farmers committing suicide because of droughts. And there are thousands and lakhs of families in our country who have to travel for miles every day to collect drinking water. If you are fortunate enough to be blessed with sufficient water supply, think of it as a privilege.

Do your bit by saving every drop of water. These small measures can really make a lot of difference because EVERY DROP COUNTS.

DAY 16 – Buy locally, eat more plants, and compost your food waste

When shopping, focus on purchasing locally grown products rather than imported goods. Buying locally means less transportation, processing, and packaging. And when it comes to food – local means fresh... which tastes so much more flavourful.

Eating more vegetables and fewer factory-farmed meats helps reduce greenhouse gases. If your family does eat meat, try decreasing your serving sizes and letting the vegetables take centre stage on your plate and in your belly. And when you purchase meat, be sure to buy it from a reputable grass-fed source without hormones or antibiotics.

Remains of plants and kitchen waste make rich nutrient filled food and manure for plants, helping them grow faster. This process is known as composting. Instead of dumping away your wet waste, you can now use it for the plants in your own home garden.

Composting reduces the volume in our landfills. Municipal solid waste buried in a landfill does not get enough oxygen and will produce methane. A compost pile, on the other hand, undergoes aerobic decomposition. Because it is exposed to oxygen, either by turning it or through the use of worms and other living organisms, it produces carbon dioxide instead of methane.

DAY 17 – Keep a Snake Plant in Your Bedroom to Improve the Air Quality While You Sleep



The Snake Plant, or Mother-in-Law's Tongue, is one of the most recommended plants for improving air quality. The optimal place to keep this relatively inexpensive and low-maintenance plant is the bedroom, because it converts CO_2 into oxygen at night.

While most plants take away oxygen at night, this one gives off oxygen at night. The plant also filters formaldehyde, trichloroethylene, xylene, toluene, and benzene from the air.

The durability of this plant makes it an excellent choice for apartment dwellers that often have limited success with houseplants due to lighting issues. It is the most tolerant of all decorative plants to survive the most unsuitable growing conditions, abuse and neglect a plant could receive. Basically, you have to work really hard to kill this plant :-)

DAY 18 – Why should Wet wipes be avoided

Wet wipes have made our life so convenient. Easy to carry and use, we did not even realise when they became our best hygiene partner. But you will be surprised to know that our freshly smelling wet wipes have been labelled as the biggest villain, by many research organisations.

We carry wet wipes everywhere for emergency clean-ups. Many people even keep flushable wipes in their toilet for better cleaning instead of the ordinary toilet paper. We even carry anti-bacterial wipes to clean the dirty surface. But why are these innocent wipes entitled as a villain? There is not one but several reasons.

These wipes contain nasty toxic chemicals

Multiple research reports claims that wet wipes can cause rashes in uncomfortable places. Another report gave an example of a man who had a rash around his anus, which was so bad and painful that he couldn't walk for months. Some of these wipes contain MCI (methylchloroisothiazolinone), which can be harsh on the skin.

You'd be shocked to know that there are certain baby wipes that contain preservatives and fragrances that should not come in contact with human skin, especially that of infants and small children.

Wipes spread bacteria

When the same wet wipes are used to clean multiple surfaces, they only spread the bacteria instead of eliminating them. A research conducted by the Cardiff University found that wet wipes have great variability when it comes to killing bacteria, making the good old soap and water a much better choice.

Flushing wipes has disgusting results

Many people choose to flush down the wipes in the toilet, which can clog the toilet leading to its overflow. The wipes can even clog the sewers.

Wet wipes can cause havoc for the environment

Most wet wipes contain plastic fibre, which makes them partially non-biodegradable. When these wipes make their way into the bigger water bodies, aquatic animals consume them and eventually die.

DAY 19 – ZERO Waste Movement (ZWM) and its Benefits

It is very clear that plastic is becoming a huge problem in our society and environment. As consumers, it can sometimes feel like there is nothing we can do to stem the flow of single-use products onto the market (and then into the landfill). The zero-waste movement is one way we can make a difference in our homes that can make a big impact in the world.

What Is the Zero Waste Movement (ZWM) ?

The ZWM is a philosophy of waste cycling that supports a goal of zero-waste (no waste going to landfills, incinerators, and the ocean). The zero-waste philosophy is not just for consumers but includes responsible manufacturing, packaging, and more.

Some companies use the term “zero-waste to landfill” to describe their business waste practices but this term can be misleading. For example, incinerating waste so it doesn’t go to the landfill would fit under this term but does not fit the philosophy of reducing waste through better use of resources.

At its core, the ZWM aims to reduce the creation of waste through better production practices and resource use. For individuals, that means supporting companies that are low-waste and making individual choices to reduce waste as well.

Can I Really Be Zero Waste?

It is tough but it is possible.

In a society that achieved zero-waste in manufacturing and government, for example, it would be easy for consumers to be zero-waste as well. In our

current single-use and throw away culture, it's far more challenging (to put it mildly).

Does that mean it's impossible? No! Some families do find a way and I admire them. At the same time, don't be discouraged if you can't be zero waste. In our family, zero waste is more of an ideal than a hard goal. Every little bit helps and the more we can do as individuals, the more pressure on large companies and government to enact changes worldwide.

Benefits of a Zero-Waste Lifestyle

The most obvious benefit to a zero-waste lifestyle is that it reduces waste. This means less stuff going to the landfill, less pollution, and fewer resources being used. But there are many other benefits in addition to helping the environment!

Saves Money

When you commit to a zero waste lifestyle you become more aware of what comes into your life and home. You might think twice about buying some items that will inevitably turn into waste, or come with lots of packaging. Using resources more wisely also means you're not wasting them and needing to purchase new items to replace them.

When you divert food or recycling from the trash, you can reduce your trash bill as well.

Saves Time

Reducing how much stuff comes into the house can help reduce how much time it takes to clean it and put it away. Additionally, being more waste-free with your resources and possessions may mean fewer trips to the store and less time making purchasing decisions.

Promotes Healthy Eating

Junk food is much more likely to be packaged in single serving plastic packaging than real food. Avoiding this kind of wasteful packaging will also help you avoid those unhealthy foods. Foods that can be purchased in bulk (with your own containers) are usually whole foods that are much healthier (and may be less expensive too!).

Teaches Kids (and others) Valuable Lessons

While on a zero-waste journey, you'll probably be much more intentional about what you choose to purchase and take home. This is a great lesson for kids of the value of possessions (or lack thereof). With the throwaway culture we live in, kids often see everything as replaceable. Without even knowing we're doing it, we may be showing them that things aren't worth taking care of. But by being more intentional on what we choose to buy and keep, we are showing our kids that we only buy a few things, so we should take good care of them.

Brings Back Lost Skills

Kids also learn the value of repairing, reusing, and being creative with found materials. If you're not willing to buy a cheap replacement at a big box store, you may have to get creative with what you have and learn to fix it. These are valuable skills for our kids (and others)

DAY 20 – 10 Baby Steps to a (Close to) Zero-Waste Home

Zero-waste living can seem overwhelming and impossible, but with just a few easy changes you can make a huge difference.

1. Take a Slow Approach

Jumping into a zero-waste lifestyle will only cause frustration and overwhelm. Instead, take it one small baby step at a time.

2. Conduct a Trash Audit

Look through your household trash and take a mental note of what shows up most in the trash. This can give you an idea of where to start reducing waste. Maybe there's lots of spoiled food, plastic zippered bags, or plastic packaging.

3. Cook at Home

Cooking at home is a great way of reducing waste. Prepared and packaged foods, as well as take-out, are always going to be packaged in a lot of wasteful packaging. Preparing meals at home eliminates the packaging needed. Even if you buy your ingredients at the grocery store without bulk buying or bringing your own containers, you will still save a lot of packaging. Plus, cooking at home has the added benefit of being much healthier.

4. Swap out Biggest Offenders

Making some simple swaps can save a lot of waste and get you one step closer to a zero-waste lifestyle. I know this seems like one more thing on the to-do list, so here are some easy and pain-free swaps (and may even save some money too!).

- **Water bottles** – Use a reusable water bottle in place of disposable ones.
- **Coffee cups** – Even paper coffee cups can be lined with plastic. Instead, bring your own cup. I like glass and silicone hot or cold beverage cups (this one is my favourite). Bringing your own coffee/Tea from home can also help save money and is healthier than most coffee shop coffee.

- **Straws** – These are a huge problem for the environment but are also one of the easiest places to make a change. When possible, simply refuse plastic straws. If you need a straw, consider bringing your own. I like stainless steel straws, glass straws (just be careful with them), and silicone straws.
- **Shopping bags** – Once you get used to remembering your reusable cloth bags when you're grocery shopping (that's the hard part!) it's really easy to reduce how many plastic bags you bring home. For one thing, a quality reusable grocery bag can carry 2 to 4 times what a plastic bag can. These are especially helpful at farmer's / roadside markets as not every vendor has bags for you.
- **Bar soap** – Without having to change your routine, you can reduce your use of plastic. Choose bar soap over liquid soap stored in plastic containers. Bar soaps last longer and are just as good as liquid soap.
- **paper towels** – Instead of buying paper towels every week, consider investing in some reusable cloths. It doesn't take much time to wash them with the rest of your laundry and you'll be saving a lot of paper.

If you switch out just one plastic container for something more sustainable when you can, you're making huge progress.

5. Get Rid of Junk paper Mail / Letters/ bills

Junk mail is not only a huge waste of paper, ink, electricity (for printing), etc., it's also a huge waste of your time when you have to recycle it. You can also try to contact the company sending it and ask them to take you off their list.

6. Buy Quality Products

The throw-away culture we live in extends from fashion to kitchen appliances and everything in between. By purchasing the highest quality items we can afford, we can reduce how much stuff enters the garbage and landfill. Higher quality items last significantly longer than the cheaper options and are often cheaper in the long run!

7. Shop Second-hand (where applicable and possible)

One way to reduce waste is to buy second hand whenever possible. Look for high-quality items at second-hand stores instead of buying new. You reduce how much packaging you have to throw away and you give something old a new life.

8. Begin Composting

Approximately 22% percent of solid waste that enters the landfill is food, according to the various reports. Diverting this food to a compost pile instead of the trash is a great way to reduce food waste and your garbage.

9. Choose handkerchiefs over tissues.

10. Switch unrecyclable gift wrap for eco-friendly ideas like reusable cloth gift bags.

Baby Steps Matter!

The point is to do small things to reduce our need for high-waste products and materials. The better we do and the more we demand zero-waste products, the sooner companies will come around to satisfy the demand. When we all get together to reduce wasteful production and consumption, we will all reap the benefits.

The more you practice zero-waste living, the easier it will become and the more “zero-wasting” you can do!

DAY 21 – Mindful consumption

Overtime, I have realised that I am taking far more from the universe than I will ever be able to give back.

The constant exercise of differentiating between needs and desire has been an eye opener.

Endeavour is to live responsibly; endeavour is to live with conscience.

For eg:

1. Do I really need the water that is being poured in my glass at the restaurant?

Will that water not go down the drain (literally) when I leave my table? Am I being fair to those who are walking miles for drinking water and yet what they get is hardly safe enough to consume?

2. Do I really need to wrap that gift by buying 'free' gift wrapping paper?

Because that shiny/ non-biodegradable paper is going to be trashed (literally) once the gift is opened?

3. Do I really need to buy gifts when I am not sure if they will be used and needed by the receiver because I want to look good?

Isn't it wiser to buy fruits or dry-fruits with the same amount of money and with almost certainty that they will be consumed?

4. What do I do when I am at buffet?

Do I listen to my stomach or do I fill my plate with everything available (either because it's free or because I have paid for it all)?

5. What do I do when the guy at Subway (the foodchain) offers me two forks and four tissue papers when I am going to be eating alone?

Do I return one fork and three tissue papers (or all four, if I carry my own hanky) to him or I just walk away from the counter and throw away unused forks and tissue papers?

6. Just because something is 'bio-degradable', should I use it?

Can I even avoid a paper bag or a cloth bag because a tree was chopped to make that paper and earth was subjected to atrocities to create the piece of cloth? Can I 'reduce' my consumption even before thinking of 'reuse' or 'recycle'?

7. What happens when I go to eat Mini / Full meals

There are so many things I know I might not eat (for eg curd or kesari or appalam or keera). Do I return it immediately so that it can be offered to someone else or do I let it sit on my plate and leave it untouched only to be thrown away later?

8. Do I really need that cotton Kurti because it looks cool?

The fashion industry is far more evil than what meets our eye. From what it does to the environment while growing cotton and jute to how it treats humans to how it treats textiles and garment waste is mind-bogglingly dirty.

9. Do I really need that extra pair of shoes because I don't have 'that' particular shade of orange?

Do I take into account that once processed, footwear is almost impossible to degenerate on face of the earth (including leather)?

10. Do I need to cook elaborate meals when guests visit me?

Can I cook just enough so that everybody including myself can have a great time and no food is wasted (or we don't continue to eat same food for next three days well after it has lost all its nutrients)

11. Do I need to buy things just because they are in sale and they are cheaper?

Do I need to buy them because there is 'return policy'? I was reading a case study on how big retail conglomerates dump returned goods in the ocean and it's unbelievable how our oceans are constantly being subjected to waste created because of our greed.

12. Am I respectful when I am visiting a tourist destination?

Do I take rules such as 'keep silence' 'do not litter' seriously enough? Do I allow the place to consume me or my overbearing presence consumes the place?

I have been asking these and such questions for a couple of years now.

What else can I ask?

How else can I live mindfully?

The Planet is choking.... make yourself count!

Day 22 – Bamboo Palm



The bamboo palm is a very popular house plant.

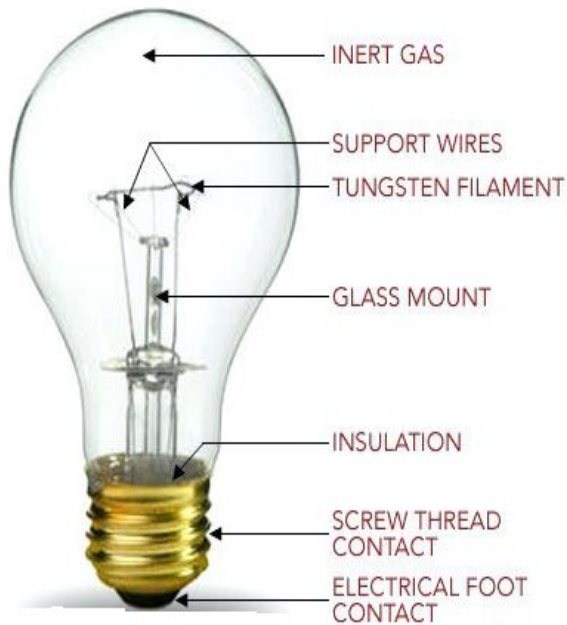
Don't worry; this type of Palm Tree isn't tall enough to bust a hole through your roof. Bamboo Palm only grows between 4 and 12 feet, and is one of the low-maintenance plants that riddles the air of the harmful chemicals benzene, formaldehyde and trichloroethylene.

The Bamboo Palm will bring a tropical look to your bedroom that will improve the quality of the air while you sleep. This is another plant that was "NASA-Certified" as a plant that fights air pollution. It is also said to act as a natural humidifier.

When buying a Bamboo Palm plant, make sure that it's healthy and has dark green leaves; this will make the growing process much easier. Bamboo palm is different from other variations of palm trees in the sense that it doesn't require bright light for it to grow – the bamboo palm can grow in low lit areas, however the more indirect and bright light it receives, the larger it will grow. Watering it is simple – whenever the soil feels dry, water it evenly so all of the soil is moist while making sure not to overwater it.

Why invest in expensive electrical air purifiers when you could purchase a few types of houseplants to clean and filter the air naturally and inexpensively?

Day 23 – Move away from using Incandescent bulbs



Electricity flows through a thin tungsten wire (FILAMENT) in the Incandescent light bulb. The filament used in this bulb has a property called "resistance". A filament has a lot of resistance to electricity. As a result of this resistance, the filament heats up and start glowing, converting electrical energy to light energy.

Incandescent bulbs are not efficient at producing light. Only around 10% of the electric power used by an incandescent light bulb produces light. The other 90% of the output of an incandescent bulb is given off as heat (non-visible infra red light). This makes it a better heat source than light source.

Frankly, an incandescent light bulb is nothing more than a little "HEATER". ☹️

They cost you more to operate, they require more fuel to be expended to generate more electric energy, and they make more waste heat to make your home uncomfortably hot.

Incandescent light bulbs are harmful not only because of the electricity they waste in producing heat, but also the amount of carbon dioxide they emit. The heat they generate pushes cooling system to work harder in summer and in result they emit greenhouse gases.

Day 24 – Compact Fluorescent light (CFL) is better than Incandescent bulbs but!!!



Just a couple decades ago, light bulbs were Incandescent light bulbs. No matter your budget, you really had only one choice when it came to interior lighting options for your home. Head to the electrical shop and pick up some incandescent bulbs, choosing wattage based on how bright you needed the light to be. 😊

But in recent years, technology has brought us other options — namely, Compact Fluorescent light (CFLs) and Light Emitting Diode (LEDs) — that put incandescent lighting to backstage. Not only are these new options more energy efficient, they can also last years, or even decades, longer than the standard light bulb we all remember from our childhoods.

Compact Fluorescent light (CFL) are cold temperature sensitive, not recommended for enclosed fixtures. They take time to reach their full brightness and tend to be slightly more expensive than incandescent bulbs but last much longer

With technology advancements, most of these downsides have been overcome.

Compact Fluorescent light (CFL) is better than Incandescent bulbs but!!!

The real issue is the mercury contained in CFLs and the disposal related issues of how to properly dispose of a fluorescent bulb and its internal ballast.

OK. So, what is a better Solution? Yes, you got it right and that is my next topic 😊

Day 25 – Light Emitting Diode (LED); A better replacement option for CFL and Incandescent bulbs



As of now, **LED lighting is highly-efficient and most eco-friendly lighting source.**

For years, people have only one style of light bulb – the incandescent. Over the time, there was need of energy-efficient lighting, and CFL bulbs came onto the scene, as a cheaper, more energy-efficient lighting option.

However, CFLs are a temporary solution to energy-efficient lighting. The reason LEDs have not yet displaced CFLs from the market are twofold: the first generation LED bulbs had a narrow and focused light beam, and the cost of the LED bulbs was too high.

Recent developments in LED technology, however, have been addressing these issues. LEDs have been 'clustered' to provide more light, and mounted within diffuser lenses which spread the light across a wider area. And advancements in manufacturing technology have driven the prices down to a level where LED bulbs are more cost-effective than CFLs or incandescent bulbs. This trend is continuing, with LED bulbs being designed for more applications while the prices are going down over time.

The main advantages of LED bulbs over CFL are low power consumption, low running cost, higher life span, less heat, Eco friendly, Quick lighting and dimming capabilities.

Low power consumption means far lower energy bills. Generally, lighting accounts for roughly 15% to 25% of the utility bill. So this is really a big deal, not only for residences but also for commercial buildings.

So, this is right time to make change, and go for highly efficient lighting – LED – and save money, energy and also our environment.

When most people need to replace their light bulbs, cost is the biggest factor in their decision. But the actual cost includes more than just the upfront price of each bulb you buy; you should also factor in how much each option will cost to operate over the years.

As with most things, it turns out a bit of money spent today can often lead to substantial savings in the long run.

Note –

- When LEDs first came on the scene, like most technology products, they were extremely expensive. However, that was then, and this is now: The cost is now extremely reasonable!]
- Do not make a impulsive decision to replace all the lightings with LEDs – Understand the pros and cons; Find out how much Light Intensity you want, Decide if you want a Warm/Neutral/Cool White lighting; Once you decide to buy – Ensure you buy a GOOD QUALITY PRODUCT
- In case there is a budget consideration and If you recently replaced your failed incandescent or CFL bulbs/lights 1 to 1; Suggest not to do a Big Bang replacement – Rather change to LEDs as and when the incandescent / CFL Bulbs fail.

Day 26 – Equivalent Wattages and Light Output of Incandescent, CFL, and LED Bulbs

LUMENS ARE THE NEW UNIT OF MEASUREMENT FOR LIGHT BULBS

For decades, we have been buying light bulbs according to wattage. But as energy efficient, low-watt light bulbs like CFLs and LEDs have become available; watts have become an irrelevant metric for selecting bulbs. Instead of focusing on wattage, which measures power or energy use, manufacturers are indicating the brightness of their energy efficient bulbs according to lumens, which measure light output. So while we may be accustomed to shopping for bulbs according to wattage, lumens are actually a more accurate and relevant measurement of how bright your light will be.

CONVERTING LUMENS TO WATTS

How many lumens are in a watt? Because lumens measure brightness and watts measure energy output, there is no simple method for converting wattage to lumens. With energy efficient lighting like LEDs and CFLs, how many lumens are in a 60W bulb or 100W bulb depends on the lumen output of the bulb, not its energy use.

Light Output	LEDs	CFLs	Incandescents
Lumens	Watts	Watts	Watts
450	4-5	8-12	40
750-900	6-8	13-18	60
1100-1300	9-13	18-22	75-100
1600-1800	16-20	23-30	100
2600-2800	25-28	30-55	150

Note – The data in the above table is only an indication and the value might slight vary from one manufacturer to another.

Do not worry. Measuring and labelling light output instead of energy use actually makes it easier for you to find the right energy efficient bulb for your space. Please use the below table to determine how many lumens you will need from your next light bulb. For example, if you typically purchase 60W incandescent bulbs, which produce about 750-900 lumens, consider purchasing a lower energy alternative like a 6-8W LED bulb or even a 14W CFL to achieve the same brightness.

Day 27 – How much Money, Energy and Coal can be saved by replacing incandescent bulbs by a CFL Bulb or LED?

As explained earlier, significant Money, Energy and Coal can be saved by replacing incandescent bulbs by a CFL Bulb or LEDs.

Please find below a simple illustration to help you understand how much money, Energy and Coal you save by replacing incandescent bulbs by a CFL Bulb or LED.

Let us consider that that you have a 60W incandescent bulb, a 14W CFL bulb and a 8W LED bulb. The above consideration is made as all these bulbs individually would approximately give the same amount of light intensity.

We need to make 2 more assumptions to arrive at the savings

- 1) Let us assume that each of the bulbs are being used for 8 hours a day, and
- 2) Electricity cost per unit (Kilo watt hour) in India is 5 rs

	LED	CFL / Fluorescent	Incandescent Bulb
No of Installation	1	1	1
Bulb usage per day (assumed) in hours	8	8	8
Power (in Watts) consumed for an hour	8	14	60
Electricity Unit / KWH consumed for an hour	0.008	0.014	0.06
Bulb usage per year (based on 8h usage per day) in hours	2920	2920	2920
Electricity Unit / KWH consumed for an year	23.36	40.88	175.2
Electricity Unit / KWH saving per year	151.84	134.32	Not Applicable. considered as reference for Savings Calculation
Average Electricity cost per unit (Kilo watt hour) in India (in Rs.)	5	5	5
Electricity Cost per year	116.8	204.4	876
Electricity Cost saving per year (in Rs.)	759.20	671.60	Not Applicable. considered as reference for Savings Calculation
Coal required (in Kg) for generating 1KWH / Unit for Unit	0.378	0.378	0.378
Coal required (in Kg) for generating electricity required for an year	8.83	15.45	66.23
Coal (in KG) Saved each year	57.40	50.77	Not Applicable. considered as reference for Savings Calculation

If we are getting this much amount of savings for just one installation, think about how much savings can be done in each house where typical lighting installations are at least 5 in number. Extrapolate the savings for 100s of houses and the kind of positive impact that it would create on the environment.

Day 28 – National Pollution Control Day

National Pollution Control Day is observed every year on 2nd December. The aim behind the celebration of this day is to commemorate the people who lost their lives in the unfortunate incident of Bhopal Gas Tragedy that occurred on this day in the year 1984 and also to make everyone aware of the significance of the pollution control acts and ways to prevent the industrial pollution that is a result of human negligence.



About Bhopal Gas Tragedy

Today is the 35th anniversary of Bhopal Gas Tragedy that took the life of thousands of people at the midnight on December 2 in the year 1984. Considered as the world's worst industrial disaster, Bhopal Gas Tragedy occurred after a highly toxic methyl isocyanate (MIC) gas made its way into and around the area situated near the Union Carbide India Limited (UCIL) pesticide plant in Bhopal. According to the official data, the incident claimed the lives of 2,259 people immediately after the incident. However, the government of Madhya Pradesh has confirmed that a total of 3787 people died due to the gas release.

Significance of National Pollution Control Day

According to the National Health Portal of India, every year around 7 million people globally die due to air pollution. It also states that the condition is so worse that nine among ten people globally do not have access to safe air. Notably, the pollutants present in the air can

potentially pass through the protective barriers present in the body and can damage your lungs, brain, and heart. It is the air pollution that is responsible for the damage of the ozone layer. This shows how impactful air pollution is.

Day 29 – Science is just beyond good or bad!

It took several decades by the scientists to prove that "Nicotine is Cancer Causing" and we proudly say that we are in the age of most developed science of entire human history.

Science is just beyond good or bad, it does not know good or bad; it is up to the wisdom of its user to put it in righteous path. The most of modern science today is in the hands of commercial minded business organisations that have nothing to do with Dharma. Non-righteous actions disturb the balance of nature over longer span of time and lead to destruction, distress and non happiness. We can observe this fact by just seeing that the diseases are increasing in the individuals, society and Mother Nature irrespective of so called growth in the field science. Most use of science in current time is for individual's benefit & greed and not the benefit of all. It is reported that US alone spends 50 billion dollars in a single year on spy agents, if same amount used for some productive work, then it could lead to peace and harmony in the world. At this moment – approximately 60-70% use of science is for destruction.

It is really a shame on humanity (of course am also part of this community) that first time in entire known history a day has come when human are saying "save the earth, otherwise we would not be able to multiply any further" not because of overwhelming love towards nature & other life forms but because we have began to realize the cancer of humanity. Use of science in negative direction because of depletion in human values is the main cause for this entire situation.

Am sure you appreciate and agree on most points (if not all)

Let me now allude to the introduction for the next topic.

Mosquitoes are a real threat to us. According to "World Health Organisation" [WHO] every year more than 10 lakh people die due to diseases such as malaria, dengue etc spread by mosquitoes.

Now the problem arises when mosquito repelling market sell products that does constant harm to our health. Fast cards, mosquito repellents, sprays, body creams, coils, they all are chemical based products which harm you as well along with mosquitoes.

Although there are many people who do not see mosquito repellent as a threat but they sure has many harmful effect on humans.

Day 30 – Alternatives to combat the mosquitoes the natural way

Avoid Toxic chemical based Mosquito / Insecticide liquid vaporiser, Spray, cream and Coils

Mosquito liquid vaporisers/Coils emit fumes which are toxic to the mosquitoes and hence kill them. However, the important thing what we have to note is that it causes serious health problems for humans, if used for prolonged period.

Most common reported side effects are eye irritation, headache, frequent allergic rhinitis and difficulty in breathing especially for asthmatic patients.

One of the most prominent long term effects is nerve damage. Allethrin is a neuro-toxic compound. When humans get exposed to it for a long time, they are prone to nerve weakness.

The side effects are more commonly seen in young children and babies. Hence, they should be kept away from such repellents as much as possible.

Please find below some suggested alternatives to combat the mosquitoes the natural way

- 1. Cover arms, legs, and other exposed skin*
- 2. Use a fan or find an area that is breezy (mosquitoes are weak fliers; a little airflow can help keep them away)*
- 3. Using mechanical protection against mosquito – use of mosquito nets / Bats*
- 4. Stay indoors at dawn and dusk (when mosquitoes tend to be most active)*
- 5. Don't give mosquitoes a nearby place to breed*

Most mosquitoes can fly no more than couple of kilometres. So they are always looking for a place to land or a place to lay eggs, and water is an attractive option.

Eliminate standing water where mosquitoes breed by emptying the saucers for plants, hauling off old tires, cleaning rain gutters and frequently changing the water in birdbaths. Don't leave pet bowls filled with water outside when your pets are indoors. Look out for water that gathers in buckets, flower pots and trash cans. Even discarded Frisbees, toys and lids can collect water after it rains and attract mosquitoes.

Like their fellow bloodsuckers, vampires, adult mosquitoes rest during daylight. Mosquitoes spend daylight hours hiding among vegetation. Reduce mosquito shelter in your yard by trimming weeds and keeping the grass short.

Day 31 – Alternatives to combat the mosquitoes the natural way (Continued...)

6. Smell of chocolate confuses them

The carbon dioxide we exhale excites and attracts mosquitoes. Some research reports states that certain scents – mint flavour or caramelized chocolate can confuse them

7. Mosquitoes go nuts for dirty socks

Certain research reports that mosquitoes with malaria are also more drawn to the smell of human sweat; hence, the need to ensure sweaty clothes and Socks are not exposed and also washed on a regular basis to decrease the odds of spreading

8. Plant some natural repellents

You can grow a garden full of your own pest control by choosing plants that naturally keep mosquitoes away. There are all sorts of lovely herbs and flowers that look great but also have powerful mosquito repellent properties. Bonus – Most of these plants also fight back against flies and few other insects.

Some herbs/trees to consider: basil, lavender, lemongrass, citronella, lemon thyme, mint, rosemary, lemon balm, garlic, tea tree and Eucalyptus

If flowers sound more appealing for you, try marigolds or common lantanas to create a mosquito-free yard.

Essential oils in these plants act as nature's bug repellent. Insects tend to avoid them. You can even use some of these plants to make your own natural bug repellent.

However, please note that there is no guarantee to completely eliminate mosquitoes but it will be certainly reduced 😊

9. Camphor is a class-A mosquito repellent

It simply has an odour which drives mosquitoes away.

Burning camphor in a closed room can be extremely effective in keeping away mosquitoes; however, it also deters humans. Hence, a practical approach can be to

place camphor tablets in the corners of a room. Left there, they will evaporate within a day, keeping the air pure and also mosquito free.

10. Mixing neem oil and coconut oil in equal proportion and rub it on the exposed parts of a body will help keep mosquitoes in check.

11. Use essential oil diffusers

Using essential oils to repel mosquitoes can make for greater peace of mind, free of the fear of negative health consequences, while providing a range of other health benefits

Add a few drops of one or a few different essential oils to a room diffuser and allow the vapours to keep the mosquitoes away

Lemongrass oil is comparable to commercial mosquito repellents. In fact, combining lemongrass oil with another essential oil (like cinnamon bark oil) will make its repelling effect stronger.

Lemon eucalyptus essential oil is also believed to provide 100% percent protection against mosquitoes for up to 12 hours

Citronella essential oil is commonly used in most commercial bug repellents. Hence, It is an ideal essential oil to protect us from mosquitoes and similar insects

This list is not exhaustive and you may well be able to add to it as time goes by. If something else works for you, let me know!

Day 32 – Is Teflon based non-stick cookware safe to use?

Non-stick cookware is very commonly being used in almost all kitchens worldwide.

The non-stick coating is made from a chemical called polytetrafluoroethylene (PTFE), also known as Teflon, which makes cooking and washing up fast and easy.

Various health agencies have raised concerns about the compound perfluorooctanoic acid (PFOA), which was used to make Teflon. However, the current claim (since 2015) is that Teflon is PFOA-free and hence Teflon cookware is completely safe for normal home cooking, as long as temperatures do not exceed 570°F (300°C).

The current recommendation by health agencies is that we can use non-stick cookware on the stovetop at low-to-medium heat, but there is a caution to avoid using it at maximum heat, or for hotter cooking methods like broiling.

The understanding is that while most of the PFOA on pots/pans was normally burnt off at high temperatures during the manufacturing process, a small amount remained in the final product.

Despite this, research has found that Teflon cookware is not a significant source of PFOA exposure.

PFOA has been linked to a number of health conditions, including thyroid disorders, chronic kidney disease, liver disease and testicular cancer. It has also been linked to infertility and low birth weight.

Hence, my recommendation is to avoid Teflon based non-stick cookware (of course choice is yours :-)) and move back to the good old days / new age safe alternatives to minimize your risk exposure.

Find below some great Teflon-free alternatives:

1. *Stainless steel: Stainless steel is excellent for sautéing and browning food. It is durable and scratch-resistant. It's also dishwasher safe, making it easy to clean.*
2. *Cast-iron cookware: When it is seasoned properly, cast iron is naturally non-stick. It also lasts a long time and can withstand temperatures well above those considered safe for non-stick pots and pans.*
3. *Stoneware: Stoneware has been used for thousands of years. It heats evenly and is non-stick when seasoned. It is also scratch-resistant and can be heated to very high temperatures.*
4. *Terracotta based pots and pans*

If you still decide to continue with Teflon based non-stick products – You can minimize your risk when cooking by following these tips:

1. *Do not preheat an empty pan: Empty pans can reach high temperatures within minutes, potentially causing the release of polymer fumes. Make sure you have some food or liquid in pots and pans before you preheat.*
2. *Avoid cooking on high heat: Cook on medium or low heat and avoid broiling, since this cooking technique requires temperatures above those recommended for non-stick cookware.*

3. *Ventilate your kitchen:* When you are cooking, turn on your exhaust fan or open up windows to help clear any fumes.
4. *Use wooden, silicone or plastic utensils:* Metal utensils can lead to scuffs and scratches on the non-stick surface, reducing the life of your cookware.
5. *Hand wash:* Gently wash pots and pans with a sponge and soapy, warm water. Avoid using steel wool or scouring pads, since they can scratch the surface.
6. *Replace old cookware:* When Teflon coatings start to visibly deteriorate with excessive scratches, peeling, flaking and chipping, they are ready to be replaced.

Ceramic is a newer material in the world of non-stick cookware. It's widely considered to be the safest and most environmentally friendly option. Ceramic is free of PTFE and PFOA. Ceramic coatings come in a wide variety of styles and colours.

It is important to recognize that the way you cook and clean your pan can have as much or more of an impact on cookware longevity than the coating itself. Making the choice to cook without oil can improve the lifespan of both your cookware and yourself!

Note – If you own birds, you may want to avoid PTFE cookware altogether. Birds are much more sensitive to PTFE fumes than humans.

Day 33 – Plant of Immortality [Aloe Vera]

The whole world is going green and of course for good reasons.

Air pollution is the leading environmental risk factor for death, accounting for over 4.2 million deaths every year.

While you may not be able to reduce indoor air pollution around the globe, you can for sure do so in your own home or office.



Native to South Africa, this plant has long been praised for its medicinal uses. But did you know it is also one of the best purifying plants to reduce indoor air pollution?

This easy-to-grow, sun-loving succulent helps clear formaldehyde and benzene, which can be a by-product of chemical-based cleaners, paints and more. Unlike most plants, aloe releases oxygen and absorbs carbon dioxide during the night, which makes it ideal for the bedroom.

Give your aloe plant plenty of sun exposure, but do not overwater it.

Day 34 – Spider Plant



The spider plant is considered one of the most adaptable of houseplants and the easiest to grow.

They prefer bright light and tend toward scorching in direct sunlight. However, they will grow in conditions ranging from semi-shady to partial direct sun. You should water them liberally through the summer and mist them occasionally.

One of the easiest indoor plants to maintain, the Spider Plant produces oxygen whilst purifying the air in your home and office by absorbing carbon monoxide, formaldehyde and xylene. Additionally, Spider Plants are non-toxic and are in fact edible, making them safe for pets and young children.

High in vitamins and micronutrients, spider plant contributes to a healthy diet for many rural Africans with limited food budgets.

During the summer, spider plants may produce tiny white flowers on long stems, as well as baby spider plants (offsets) called “pups.” The pups look like tiny spiders, hence the plant’s name!

They also go by the names “airplane plant,” “ribbon plant,” and “spider ivy.”

Spider plants were once highlighted by NASA for their reported air-purifying ability, though a large amount of plants would be required to reap any benefits in the home. Nonetheless, they are a classic and attractive plant to add to your space.

Day 35 – Engine idling & why it's so harmful?

What is idling?

Idling is the act of leaving a vehicle's engine running while it is stationary.

While this is often the result of traffic, there are some instances, such as waiting for children outside of schools and in traffic jams/long traffic pauses, when idling is not necessary and should be avoided.

Why is idling bad?

Idling increases the amount of exhaust fumes in the air.

These fumes contain a number of harmful gasses including carbon dioxide, which is bad for the environment and contributes towards climate change, as well as a range of other harmful gasses including nitrogen dioxide, carbon monoxide and hydrocarbons which are linked to asthma and other lung diseases.

You may not be able to avoid keeping your engine running when you're stopped at a traffic signal or stuck in slow-moving traffic. But other times idling is unnecessary.

Advice to stop idling

- Try to consider how long you are going to be stationary in traffic. Typical recommendation is that motorists turn off their engines if they think they are not going to move for around greater than a minute.

In fact, idling for just 10 seconds wastes more gas than restarting the engine.

- Many modern vehicles have 'stop-start' systems fitted that automatically switch off the engine when the vehicle is stationary and restart it as soon as the accelerator is pressed. In a few cases, Manufacturers allow this feature to be manually switched off, If possible avoid manual switching off this function. There is no risk to your vehicle in allowing this feature to be left on.

- For vehicles without 'stop-start' it's fine to turn off your engine, but you should try to avoid doing this repeatedly in a short space of time. In addition, older vehicles (around eight years old) and vehicles with older batteries (around five years old) may struggle if they are started too often in a short space of time.
- **Warm up your engine by driving it, not by idling.** Today's electronic engines do not need to warm up, even in winter. The best way to warm the engine is by easing into your drive and avoiding excessive engine revving. After just a few seconds, your vehicle is safe to drive. The vehicle's engine warms twice as quickly when driven.

Dispelling myths around stopping and starting

- With stop-start systems, don't worry about the battery not getting charged while the engine is off – the stop-start system will automatically restart the engine to ensure the battery is kept fully charged, even in stationary traffic.
- Switching off your engine in traffic should not adversely affect your fuel economy. However, fuel usage from starting does vary from model to model. Generally, older vehicles – 10 years or older – will use more fuel when starting and may require some accelerator use which will inevitably use some fuel. If a vehicle will start without any use of the accelerator, then try not to use the accelerator during starting.

Reasons to stop idling

A simple turn of your key can keep the air cleaner and save money and fuel. Every time you turn off your car engine in place of idling, you'll:

- **Make the air healthier** by cutting down on hazardous pollution in your city or village or community. Idling tailpipes spew out the same pollutants as moving cars. These pollutants have been linked to serious human illnesses including asthma, heart disease, chronic bronchitis, and cancer.

- *Help the environment. For every 10 minutes your engine is off, you'll prevent one pound of carbon dioxide from being released (carbon dioxide is the primary contributor to global warming)*
- *Two minutes of idling uses the same amount of fuel as 1.6km of driving, so the message is simple – engine idling wastes fuel and gets you nowhere. Save fuel and in turn Save money*
- *You could be breaking the law*

Day 36 – Plastic, a menace to the society

As the world's population continues to grow, so does the amount of garbage that people produce. On-the-go lifestyle requires cheap, easy to handle and easily disposable products, but the accumulation of these products has led to increasing amounts of plastic pollution around the world.

As plastic is composed of major toxic pollutants, it has the potential to cause great harm to the air, water and land.

Plastic is not great for our bodies or our environment, **but why do we still use it so much?**

While plastic keeps prices low, there are costs for convenience. We just don't pay them when we buy them at the shops. **The planet and our health pay them in the medium to long term.**

Plastic is designed to last forever and yet half of it is single-use, which means it is used once and thrown away. But there is no away. When plastic is sent to a landfill it slowly breaks apart, usually over hundreds of years, leaching toxic chemicals into the ground and polluting groundwater reservoirs. By 2050, we'll be making more than three times as much plastic stuff as we did in 2014 and our landfills and oceans will be overflowing. At the same time plastic in the ocean could outweigh fishes and other marine species, according to a report by the Ocean Conservancy.

Even though recycling is helpful, it doesn't solve the plastic problem.

Unfortunately, recycling only delays a plastic items trip to a Landfill or the ocean.

When plastic is recycled, it is downgraded in to a lower form of plastic until it becomes unusable and is eventually thrown away anyway. Materials like aluminium, stainless steel, and glass can be recycled with no loss in quality. They never need to end up in a landfill. Plastic seems to solve problems, but it is a habit we need to break .

Stay Tuned