Chris Greaves
60 Canon Bayley Road; PO BOX 1452 Bonavista; CANADA A0C 1B0

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Specific Applications of 12vDC in a Home

These applications can be grouped in many ways.

One grouping is seasonal. I use driveway cables in the winter to melt snow, but I do not use driveway cables in the summer (unless I want to blanket the island in fog after a rain-storm). I use a Personal Fan in summer time to bring relief on a hot night. But in winter-time, I do not use a personal fan.

A second grouping is by time of day. Reading lamps at night time, but not in the day-time

A third grouping is opportunistic. If my power reservoir is overflowing, I might pursue Water Distillation.

A fourth grouping is Handy To Have, such as pumping rain water to a tap in my kitchen, or a Flash-Heater to pre-heat water entering my water heater.

A fifth grouping is Decorative – Christmas Lights and Model Railway.

Two applications in this list are not applications built to demonstrate electrical-energy-from-wind-power, but they are meant to demonstrate how other sources of energy might be used to maintain an off-grid reservoir of electrical energy.

(1) Awareness Lamp

This is the top-priority. It needs a wind-vane, a single battery, and demonstrates that I can harvest electricity from the wind. On this basic system everything is appended.

(2) Water Jug

In terms of power outages, a hot drink (or boiled snack) is a morale-booster and gets us through the day.

(3) Reading Lamp

During a power-outage, a reading light allows me to read books or write notes. It is what I do.

(4) Phone Charger

During a power-outage a phone keeps me in touch with local friends, and allows me a limited amount of internet activity under my data plan.

(5) A Laptop Charger

This allows us to make use of our laptop to work offline. There is no high-speed internet access since the router is powered by mains electricity.

(6) Water Pump for Rain-Water Reservoir

Since August 2019 I have collected rain water from a six-foot length of my roof. The rain drips directly from the roofing tiles – there is no eaves trough – onto a crude v-shaped wooden trough lined with two plastic garbage bags and though an eight-inch strip of toweling into a 25-litre pail. The pail is replaced and is filtered into 17-litre water casks. There is no treatment other than cloth-filtering.

(7) Water Pump for Hydroponic Garden

I have longed for a wall panel of luxurious greenery to tide me over the winter months. A pump with a capacity of no more than a pint per minute lifted eight feet will satisfy.

(8) Water Distillation

I am confident in the quality of the rain water collected off my roof. I am not averse to supplying distilled water for (a) battery electrolyte or (b) aquarium use. Or for bottling for personal use.

(9) Personal Fan

Bringing the summer breeze indoors for a better night's rest.

(10) Electric Blanket

Why not take the chill off the bed sheets before retiring to bed?

(11) Aquarium Air Pump

Why not keep my guppies water oxygenated?

(12) Driveway Cables

A straight-line cable loop (out and back) in a groove cut centrally in the driveway.

(13) Bridge Cables

Similar to driveway cables. This is a small mat capable of melting a build-up of snow outside the door within about one hour.

(14) Clothes Dryer (Heater)

This looks like a small floor-level heater that provides a dry convection current to boost evaporation from clothing, or to boost the speed of rising of dough. It might be the desiccating oven.

(15) Desiccating Oven

Especially in summer time; fruits are plentiful, the wind blows. I desiccate fruits and vegetables in a low-powered ventilated oven.

(16) Green-House/Seedling Heater

Or at least a seed-tray heater (or two)

(17) Flash-heater

within twelve inches of the hand-basin tap; ditto kitchen tap.

(18) VCR/TV

A morale booster during a power outage.

(19) Router

If the router can pick up a signal, we need not burn up our Data plan, and we can use our Laptop to access email.

(20) Pre-Heated Water

The ability to raise the grid-powered water heater's inlet temperature would make for faster heating.

(21) Auxiliary Heating

This takes the chill off an otherwise unheated room. Right now my kitchen is unheated. Using free power to take the chill off the kitchen before I rise would be a pleasant bonus. Alternatively sited under a clothes horse to provide energy to dry clothes.

(22) Model Railway

No Kidding. Maybe not an 4x2 foot layout with scenery, but at least a T-, Z-, or N-scale Toy Train Set, an oval, two carriages, as an eye-catcher or tourist trap. Toy trains often use 12vDC (and 15vAC) current.

(23) Christmas Lights

LED lights, perhaps, to illuminate a wooden wreath and a plastic candle.

(24) Electrolysis

Generation of Hydrogen gas from water by electrolysis. Electro-plating for a craftsman perhaps.

(25) Charging

Charge a battery on a small electric bicycle

(26) Radio

Power source for my MW/SW radio

(27) Solar Panels

An auxiliary source of power could be solar panel(s) on my south-facing roofs.

(28) Stationary Bike

An emergency source of power could be a generator run off a stationary bike. As a child I had a dynamo that was powered from the tyre wall of the front wheel.

(29) Science Laboratory

This might be more suitable for a school environment supplied with a 12vDC source. Wind wire around a large nail and create an electro-magnet. Wire lamps in series, in parallel.

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