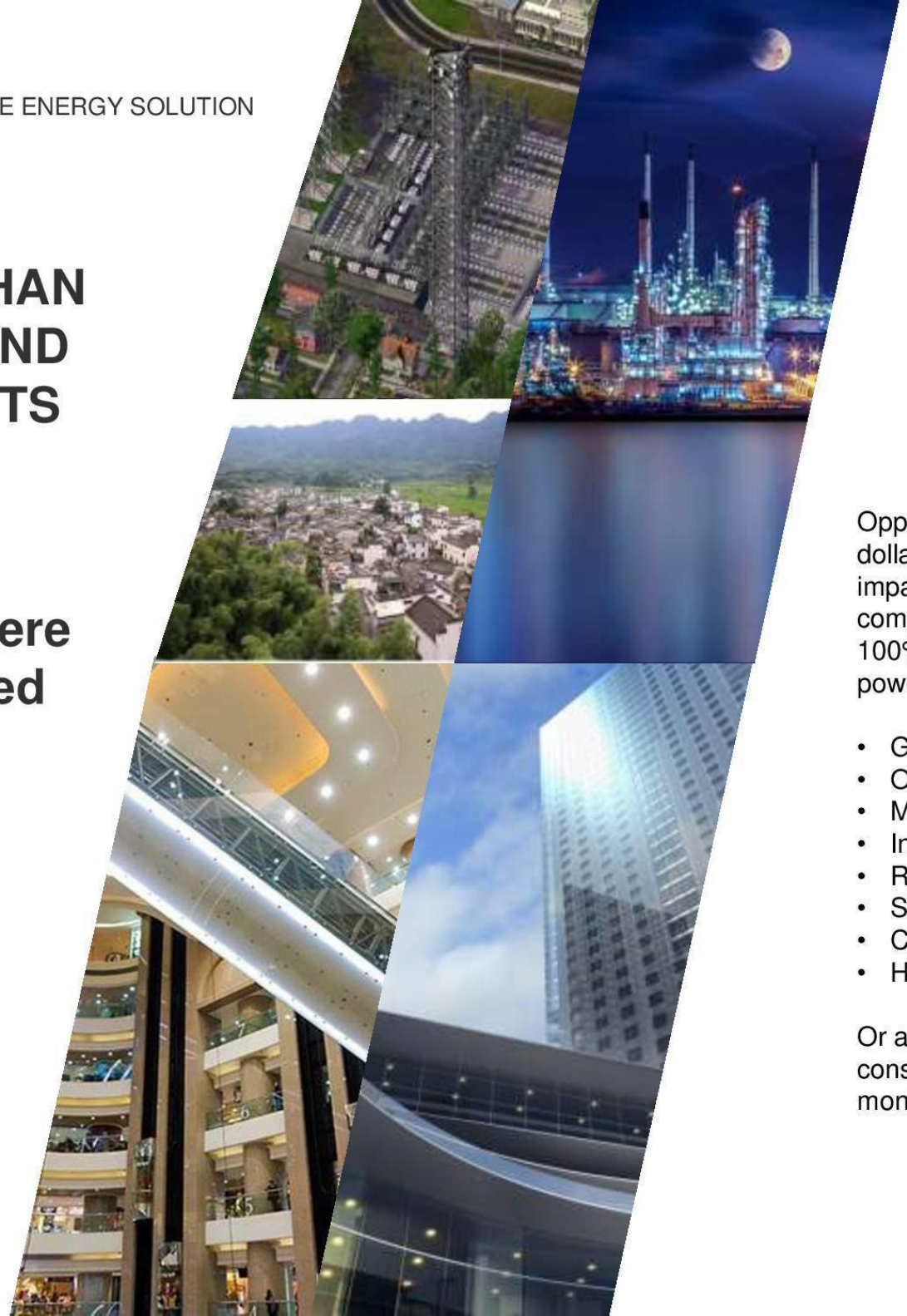
Renewable Energy Solutions

SUSTAINABLE RENEWABLE ENERGY SOLUTION

BETTER THAN SOLAR, WIND OR GENSETS

Power Where It's Needed

Affordable kWh

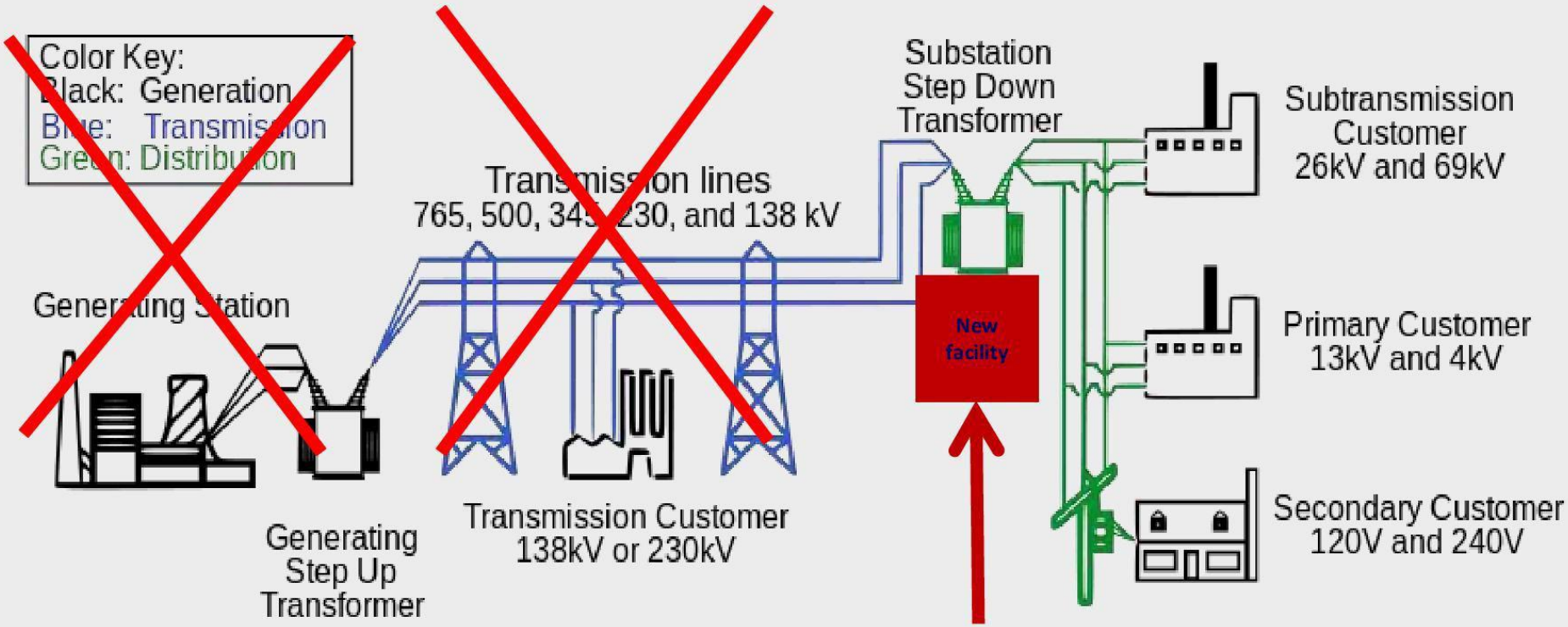


Opportunity to save millions of dollars over time with zero impact to the environment. A complete energy solution with 100% financing available to power:

- Government Buildings
- Off-Grid is now possible
- Micro Grids
- Industrial Facilities
- Residential Complexes
- Shopping Malls
- Commercial Buildings
- Hospitals and Hotels

Or any facility that currently consumes 40,000 kWh per month or more in electricity.

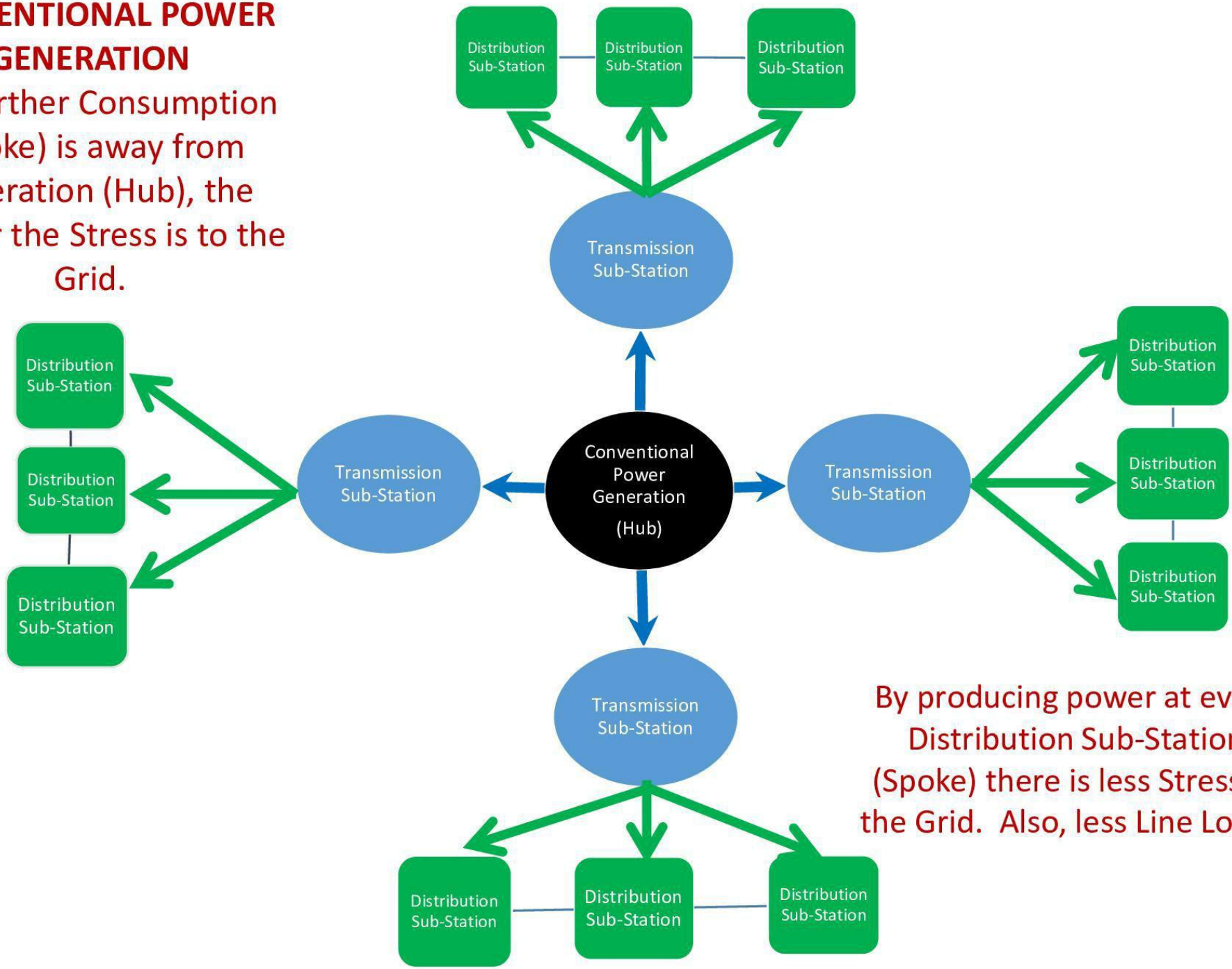
Conventional Generation
Transmission and Distribution



By Installing next to the Substations you avoid all Transmission Losses and Costs. We work with the Grid to stabilize existing energy generation or we can work off-Grid.

CONVENTIONAL POWER GENERATION

The farther Consumption (Spoke) is away from Generation (Hub), the greater the Stress is to the Grid.

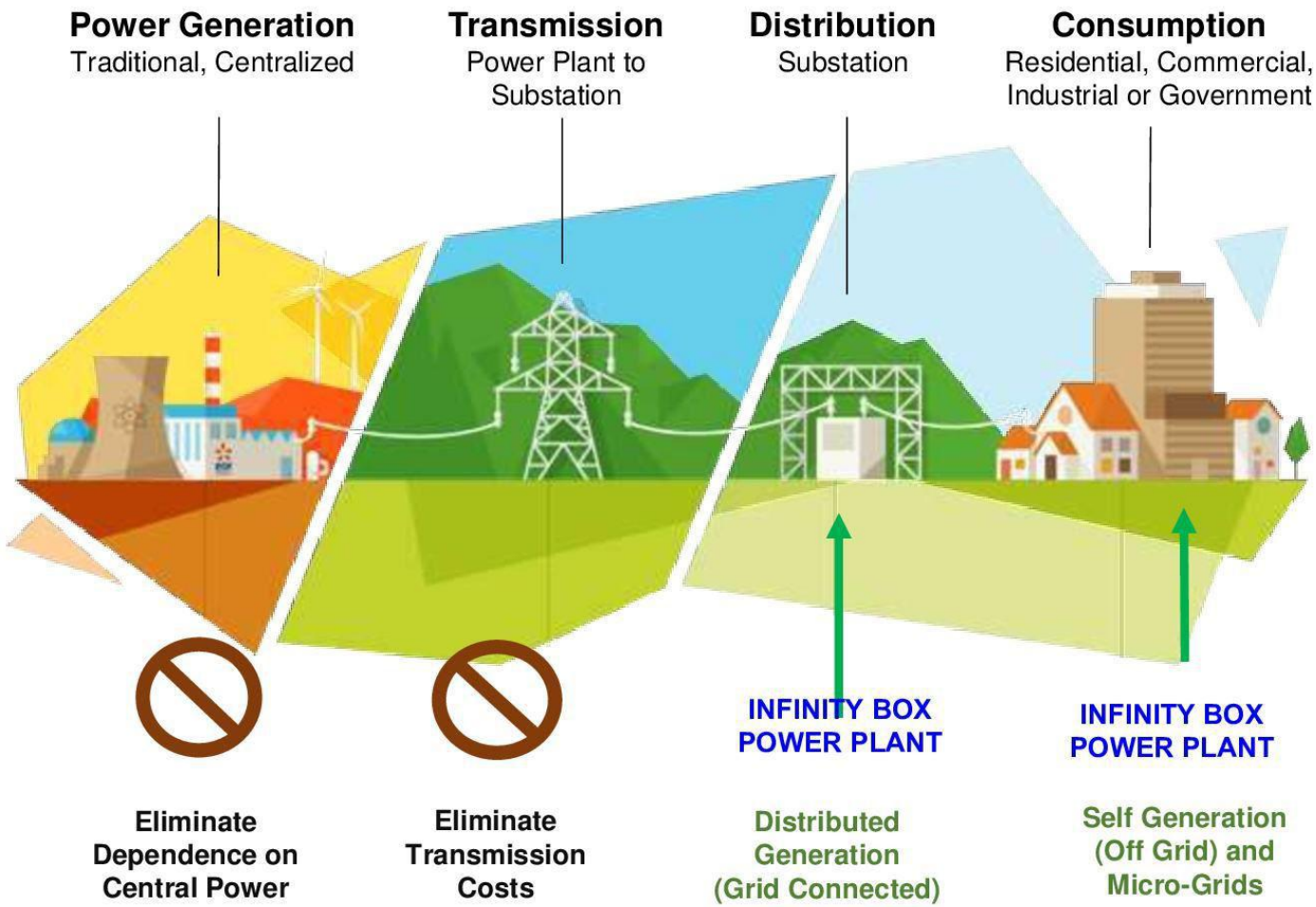


By producing power at every Distribution Sub-Station (Spoke) there is less Stress to the Grid. Also, less Line Losses

ELECTRICTY TRANSMISSION A THING OF THE PAST

DEPLOYMENT METHODS

- Install next to the substations and avoid transmission costs.
- Connect to the grid to stabilize existing energy requirements and benefit from net-metering.
- Install off-grid for 100% grid independence.



Scalable Deployments

1 MW
17 Units

Industrial Facility

From industrial zones to entire industrial cities, the InfinityBox® ability to scale to the power needed for these facilities to run 24/7.

10
MW
170
Units

Isolated Community

The InfinityBox® is the only solution that has the ability to power a rural community where access to electricity is limited or costs too much to distribute.

Scalable
From 5 - 50 MW
850 Units

Large Power Plant

Whether it's a big city or a small town, the InfinityBox® is able to connect directly to the distribution substations to efficiently power entire cities.

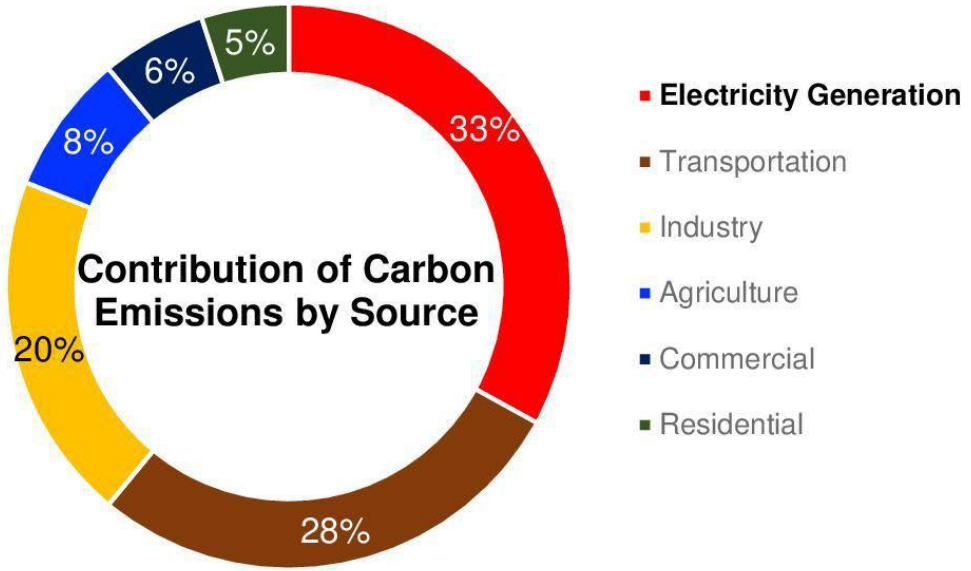
From
10 MW
To
100 MW

Utility Scale

The InfinityBox® is the only solution that has the ability to power a Distribution Substation in the middle of a city to Distribution Substation in a rural community where access to electricity is limited or costs too much to distribute. The footprint is small; the sustainable solution is Huge!

NO OTHER RENEWABLE ENERGY SYSTEM CAN PROVIDE

ZERO ENVIRONMENTAL DAMAGE



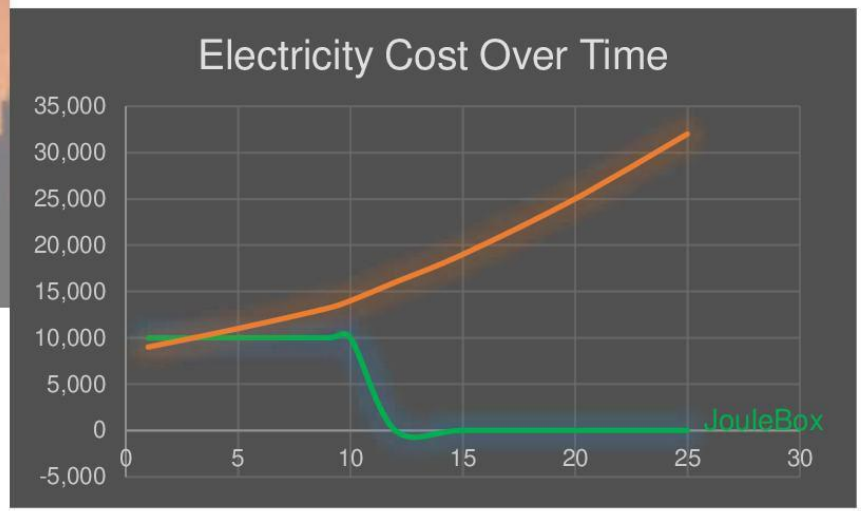
A **InfinityBox®** hybrid energy system can significantly reduce the contribution of carbon emissions as a result of electricity generation.

Unlike other renewable sources, the **InfinityBox®** is the only energy solution that has no impacts to the ecosystem.

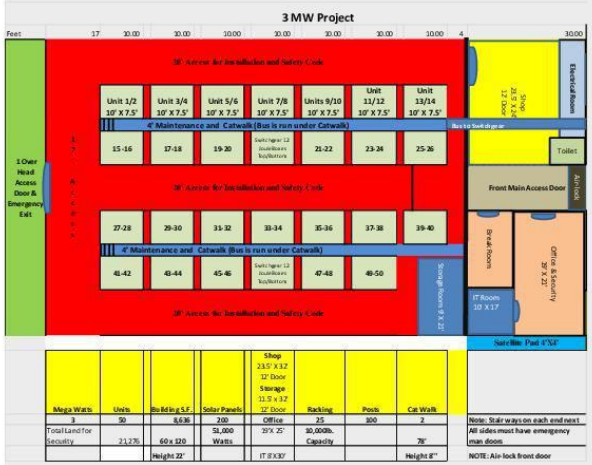
TAKE CONTROL OF WHAT YOU PAY FOR ENERGY

CONTROL POWER COSTS

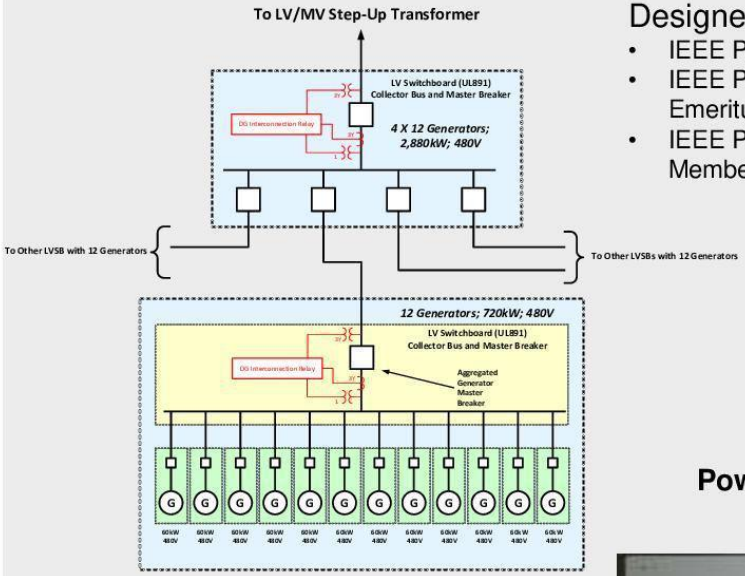
The InfinityBox® provides clean, green renewable energy. Whether a purchase or PPAs, the InfinityBox® provides affordable power that is not subject to market fluctuation for fuel.



Building, Racking, Sound & Solar Module #1



Electrical Intertie & Grid Protection Module #2



Designed by a Senior Member, IEEE

- IEEE Power Systems Relaying Committee (PSRC), Main Committee
- IEEE PSRC Rotating Machinery Protection Subcommittee, Chair Emeritus
- IEEE PSRC Rotating Machinery Protection Subcommittee, Committee Member

14 Units are Combined

We make the Grid stronger

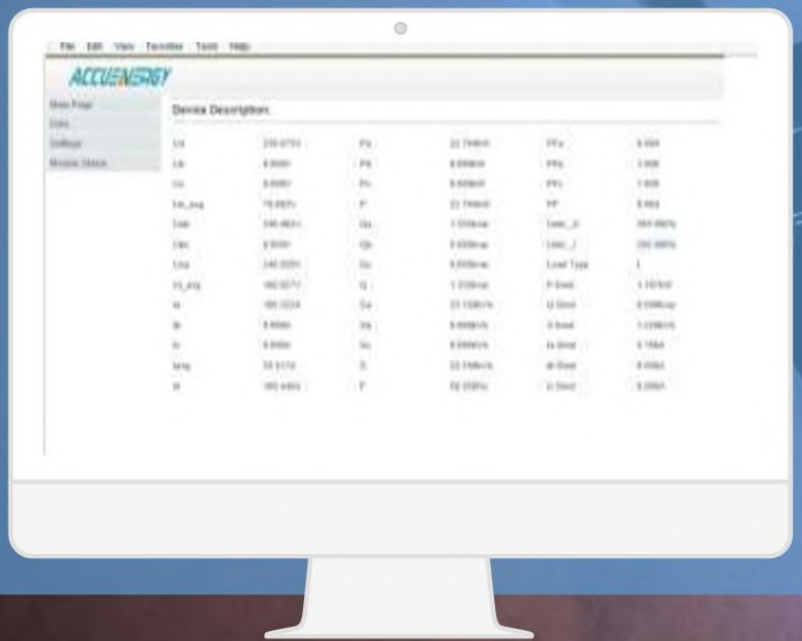
ABB Switchgear

Power Q (Power Quality Box) regulates sine waves, harmonics, voltage spikes

Woodward EasYgen

Beckwith Intertie Protection

REMOTE MONITORING



Utilizing satellites, the entire site will be able to be monitored from anywhere in the world.

Real-time video surveillance and system health reports are readily assessable to ensure that the facility that's being powered has no unplanned down time.

THERE IS A BETTER WAY

HOW WE COMPARE WITH TRADITIONAL RENEWABLE

Solar	Wind	Geothermal	Hydro	InfinityBox®
• Requires large physical space • Not feasible for all geographic locations	• Requires large physical space • Not feasible for all geographic locations	• Requires high investment to locate to suitable space	• Not feasible for all geographic locations	• Requires minimal real estate • Can be setup anywhere and everywhere
• Dependent on sunny weather	• Output is proportional to wind speed	• High risk of failure	• Can be affected by droughts	• No impact on weather patterns
• Transmission costs • Output losses	• Transmission costs • Output losses	• Transmission costs • Output losses	• Transmission costs • Output losses	• Zero transmission costs
• Solar panel maintenance	• Low maintenance	• Maintenance shut-downs impact output • Backup power is expensive	• Maintenance shut-downs impact output • Backup power is expensive	• Each generator only needs to be shut down for 15 mins per year
• 6-8 Hours of power per day	• Power generation is seasonal	• Consistent power	• Consistent without a drought	• 24/7/365 days of power
• 12-18 months to setup	• 12-24 months to set up	• 24-36 months to setup	• 24-36 months to setup	• 6-8 months to setup

Custom Designed Utility Solutions

YOUR PATH TO GREEN

Rising Energy Costs **Are finally controllable**

Signup with us	Review your proposal and sign the agreement.
System Design	A engineers will work with your professionals to design installations next to the Distribution Substations to produce Baseload Distributed Generation.
Turn-key System	5 MW to 100 MW facilities. Designed to meet your needs and make your grid more secure, safer and more reliable. Includes Beckwith Grid Protection equipment and MV transformers.
System Installation	Installed in a little as 9 months.
Testing and Commissioning	We understand your utility scale needs and make sure everything is perfect.
Monitoring, Operations & Management	We are with you for the next 20 years, monitoring all aspects of the power and the facility.

Savings & Energy Independence

Where you could be with the InfinityBox!

INSTALLATION PROCESS

Shipment

The InfinityBoxes will be manufactured in California and shipped out on freights to their housing location.

Housing Container

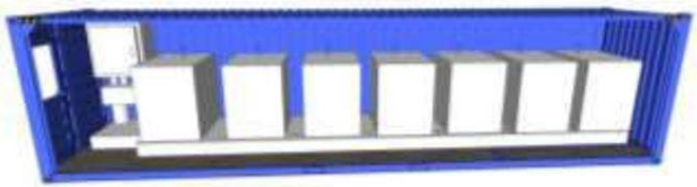
A units are installed in 40' customized containers..

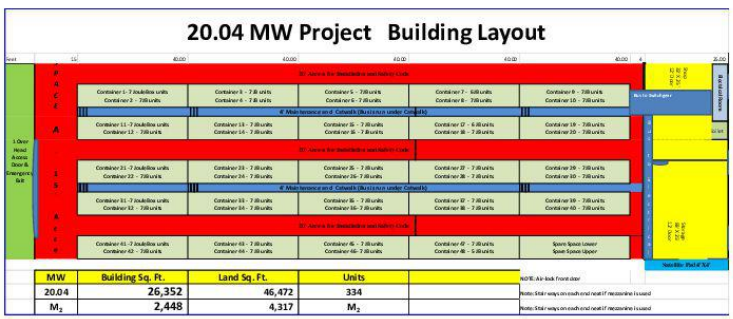
Electrical Set Up

The containers are installed in a facility next to the Sub-Station. Installation in the new facility is in less than a month

Switch On & Monitor

Within a few months of signing an agreement for the JouleBox, the installation will be complete, allowing your facility to run purely on renewable energy.





Power Generation Technology

MOST EFFICIENT GENERATOR EVER MADE

ABOUT THE JOULEBOX

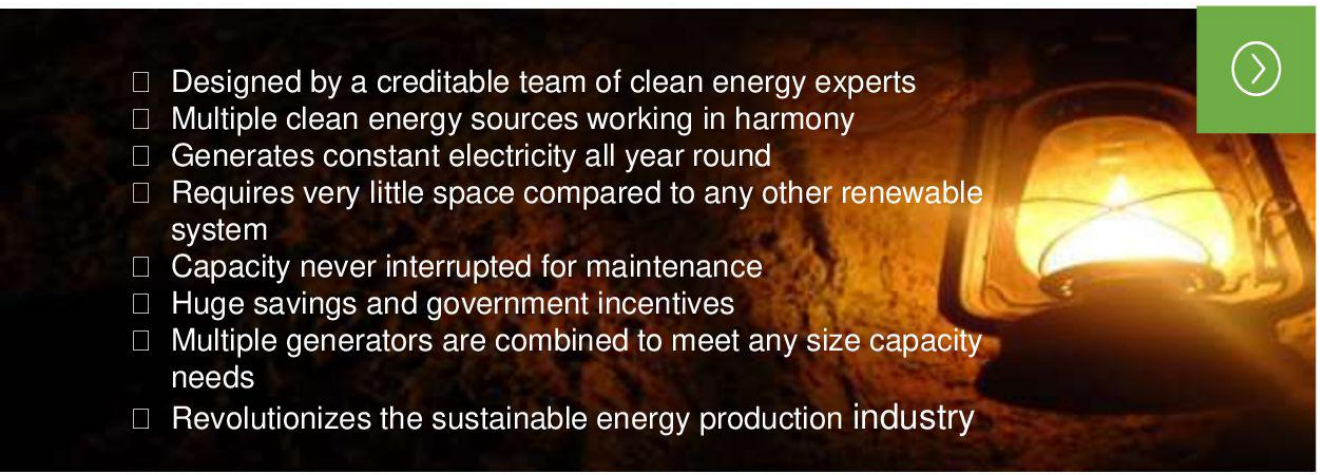
The **InfinityBox®** is a hybrid electricity generator that produces clean, green energy 24/7/365, using Solar, Wind Turbines and Lithium Ion Batteries.

Baseload Power 24/7/365

Unit Capacity	Annual Output
60kW	525,600

One 60kW InfinityBox® hybrid generator can power a 65,000 sq. ft. building with constant electricity and save thousands on a monthly electricity bill*

** Depends on the energy rate in your state and the usage patterns.*



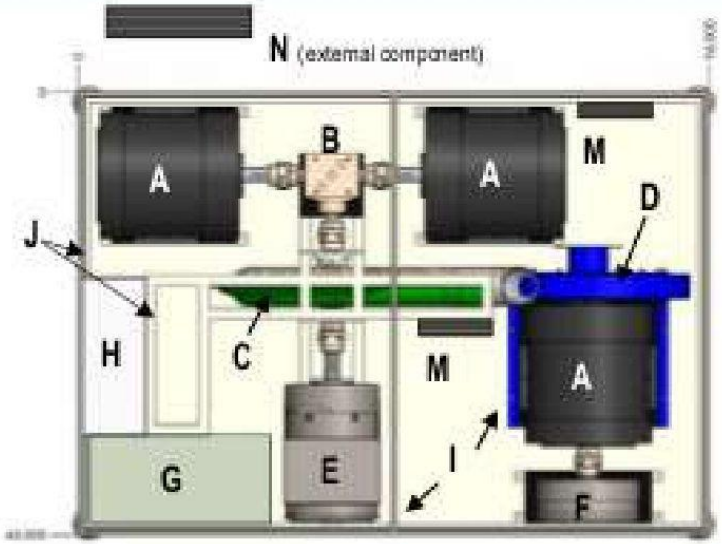
- Designed by a creditable team of clean energy experts
- Multiple clean energy sources working in harmony
- Generates constant electricity all year round
- Requires very little space compared to any other renewable system
- Capacity never interrupted for maintenance
- Huge savings and government incentives
- Multiple generators are combined to meet any size capacity needs
- Revolutionizes the sustainable energy production industry

InfinityBox® Quick Facts

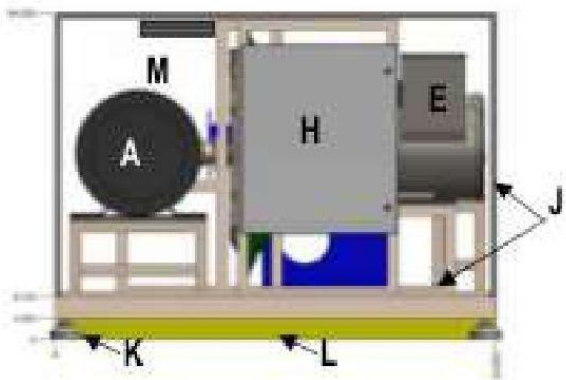
- Measures 7’ (in length) x 5.5’ (in width) x 5’ (in height).
- Weighs approximately 6,000 pounds.
- Requires only 3 solar panels.
- Typical power output of 525,600 kWh per year.
- Maximum power output of 657,000 kWh per year.
- Real-time satellite monitoring with GPS.
- 10 years manufacturer’s warranty.
- Complete replacement in case of catastrophic failure.
- 1 MW of capacity requires 17 units.
- 7 units fit in a 40-foot container.

Basic System Components

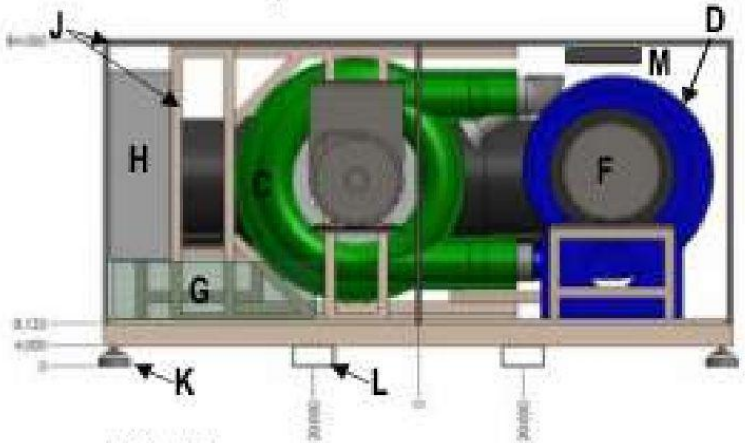
A	40 HP DC Star Motor
B	Gear box transfer case
C	Wind Turbine
D	Power Wind Blower
E	60kW Marathon AC Electric Generator
F	30kW Marathon DC Generator
G	30kW BMZ Lithium Ion Battery Brick
H	PowerQ® Power Factor Correction Unit
I	JouleBox® base steel platform
J	Steel frame
K	Leveling mounts
L	Fork Lift sleeves
M	Sound attenuation unit (@ intake & exhaust)
N	Beckwith Intertie Protection Unit



Top View



End View



Side View

HP= Torque X RPM / 5252

Nothing in the formula says anything about Watts

Historically motors that needed more HP added Watts

Not the only way!

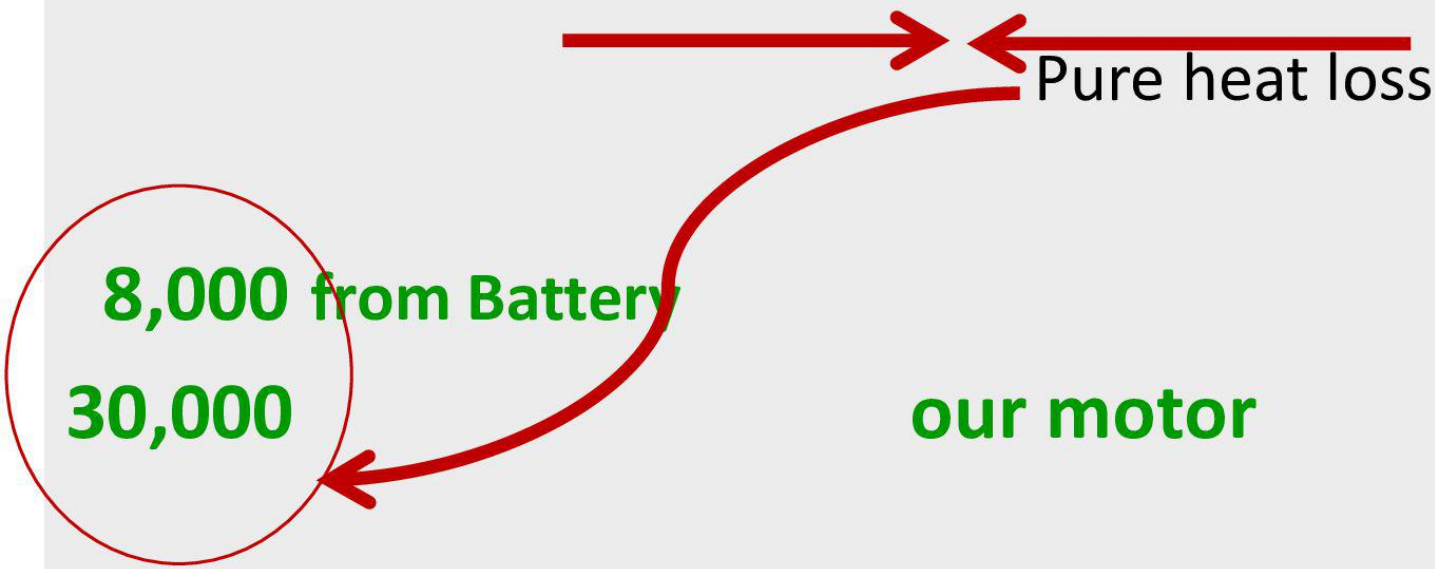
1 HP = 746 W

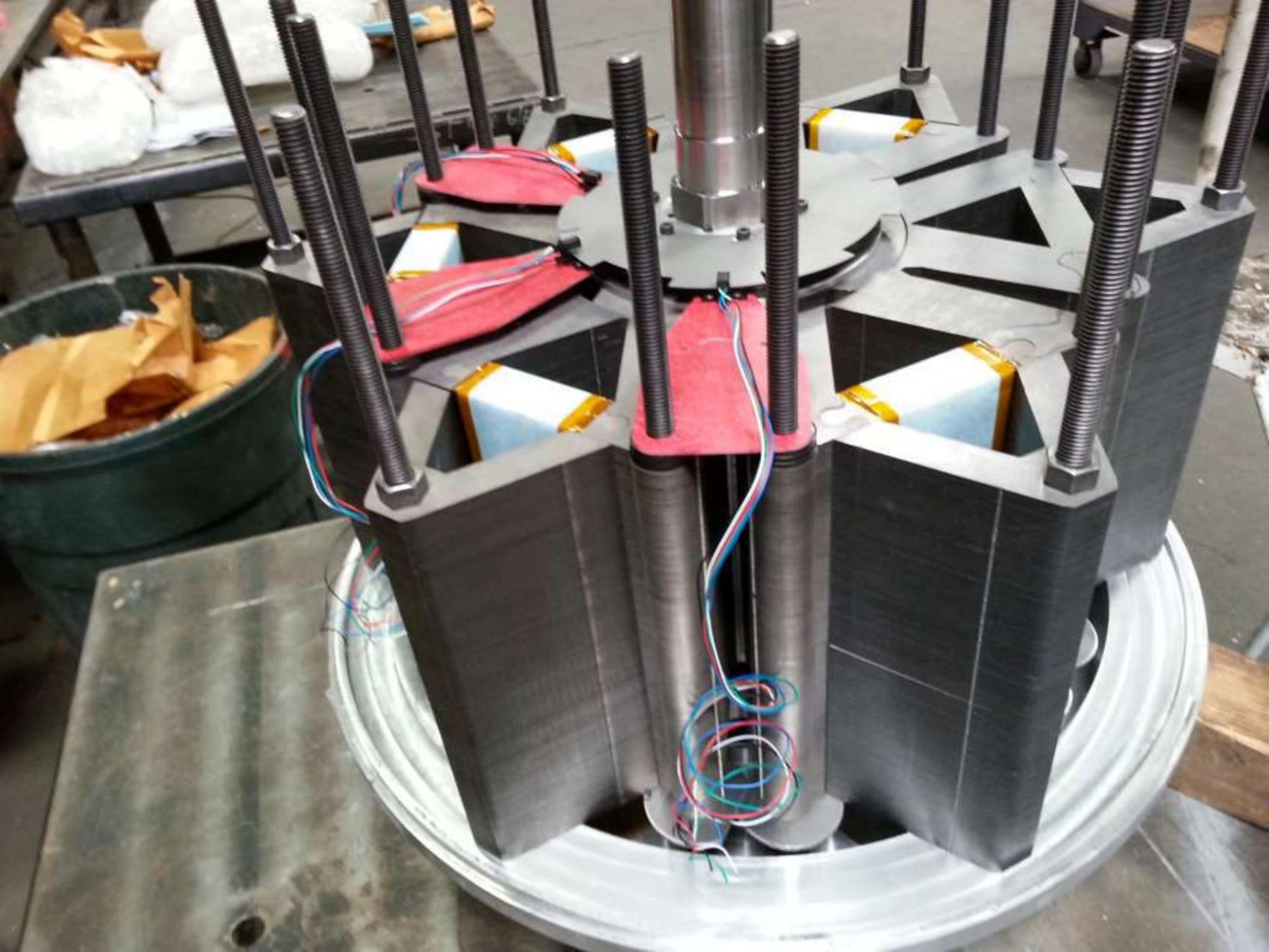
40 HP = 30,000 W (95% efficiency)

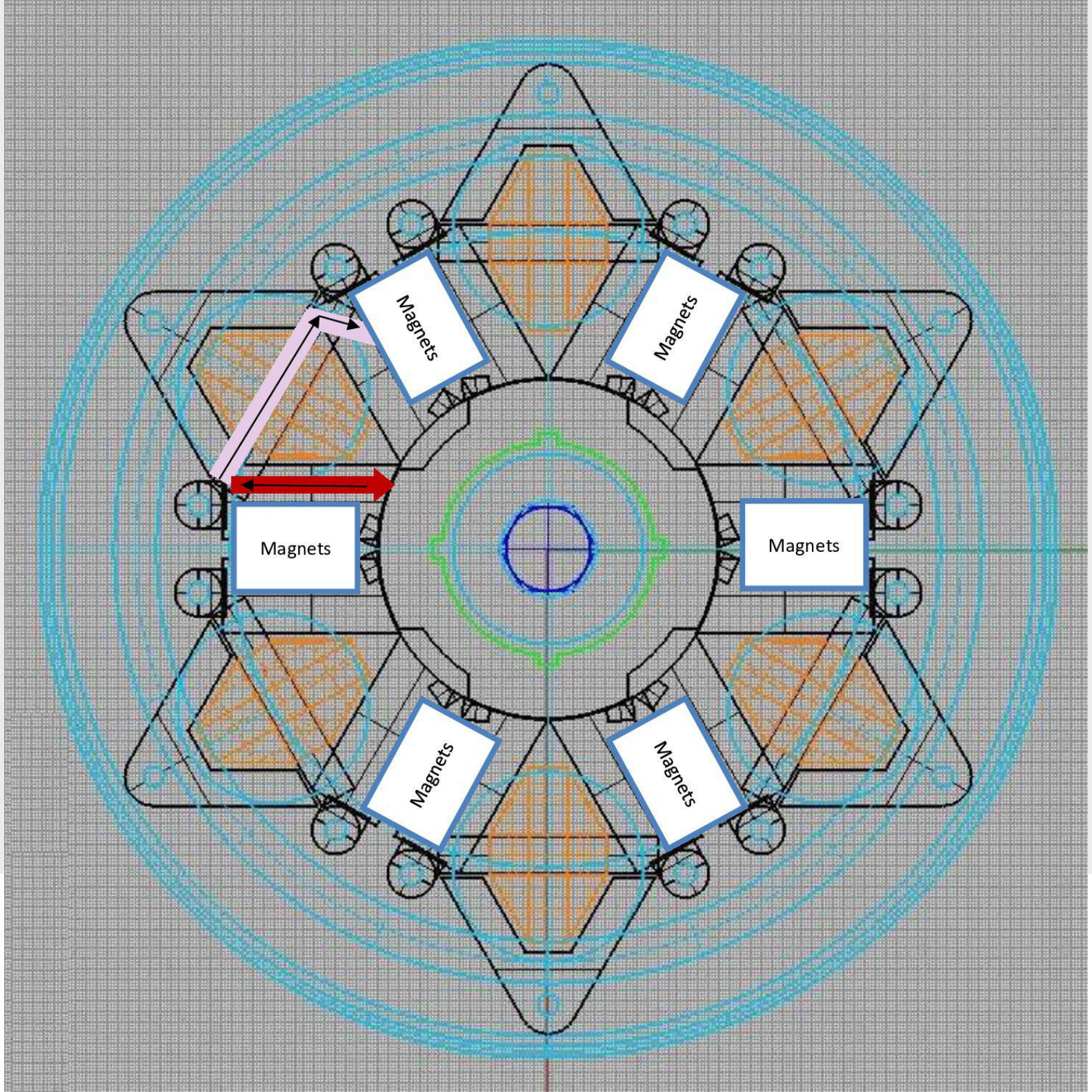
(1500 loss)

Conventional Motor

Watts IN	EMF	Back EMF	Work OUT
31,500	30,000	30,000	30,000






Magnets
Magnets
Magnets
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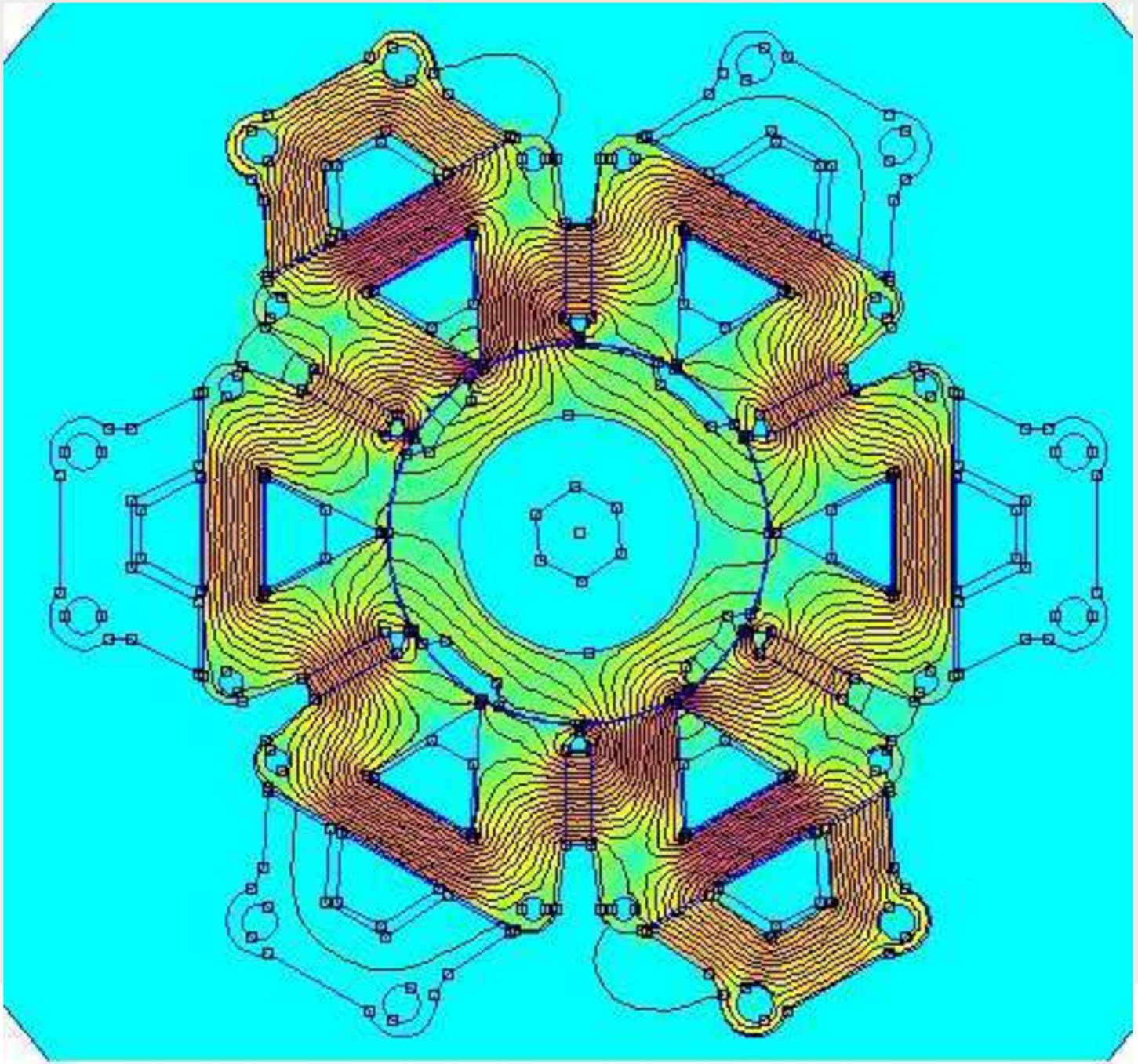
Magnets



Magnetic Fields Inside the Patented Star Motor

HP= Torque X RPM / 5252

Magnetic Coil Flux (8000 W = 5,000 gauss) +

Permanent Magnet Flux (+/-15,000 gauss) =

Dual Flux

=

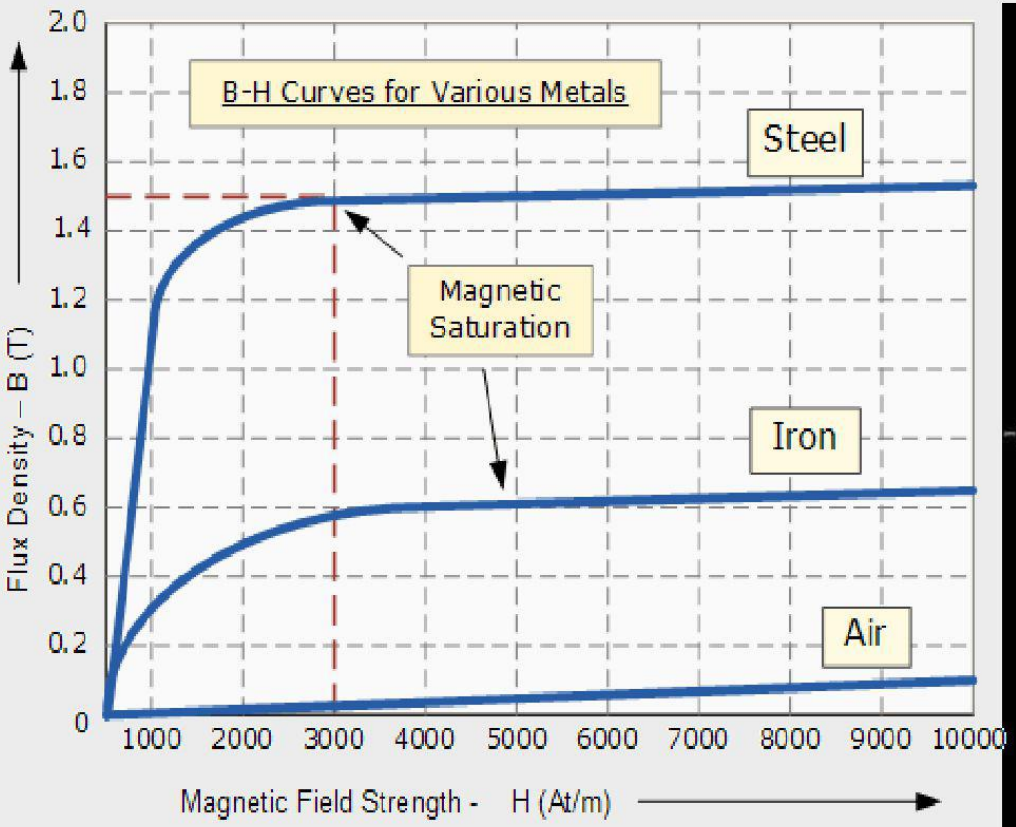
Max Saturation Faster (+/-20,000 gauss)

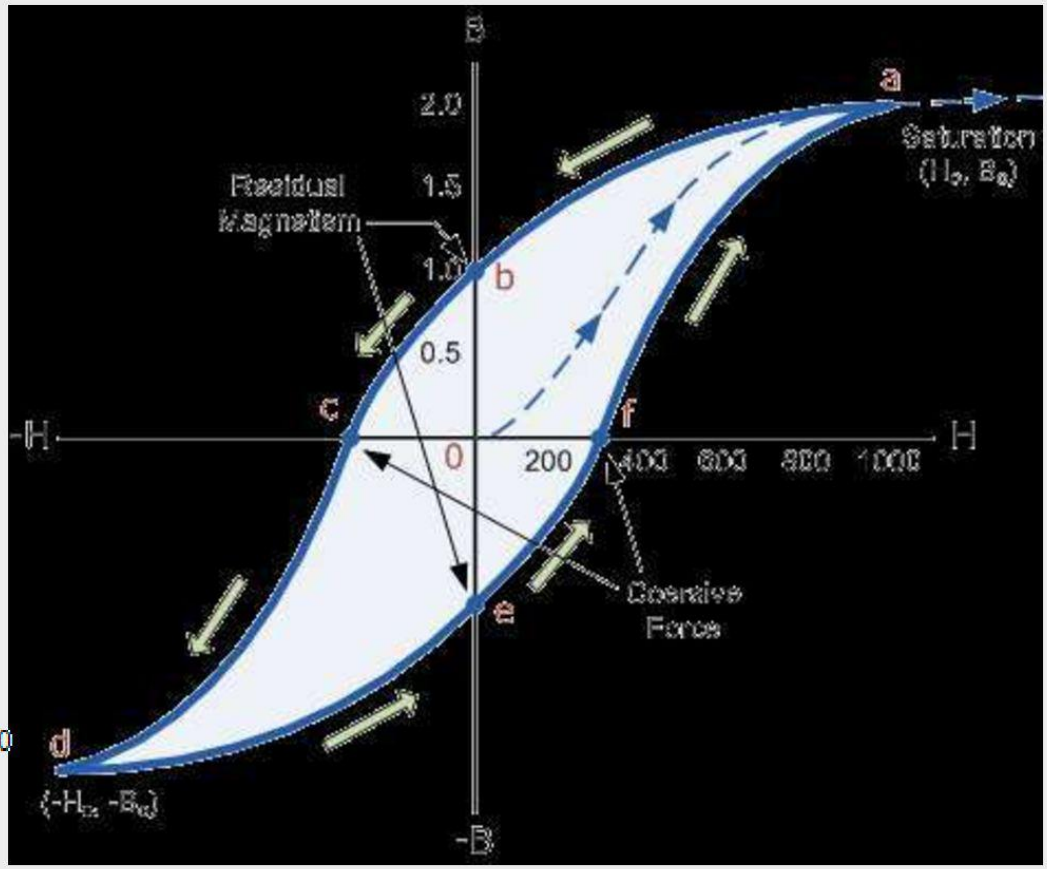
More Torque with Less Watts

We operate on the High side of the BH Curve

HP= Torque X RPM / 5252

We operate on the High side of the BH Curve





Heat is pure LOSS .

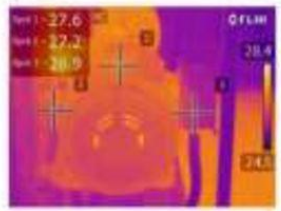
The surface temperature of continuously (and correctly) operating general purpose industrial electric motor will easily be 80° C (176° F) and perhaps as high as 100° C (212° F).

The Star Motor has minimal heat loss because the Back EMF is not lost to Heat but is redirected and reused. Only 2°C - from 27°C to 29°C

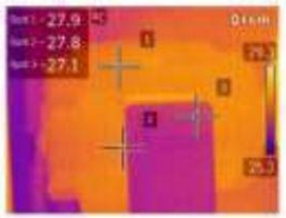
Thermal Pictures of the motor and unit while running at baseload.

Completed by Patrick Laurie a certified thermographer.

Before Operation

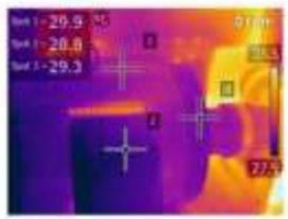


27.6° C
27.2° C
26.9° C

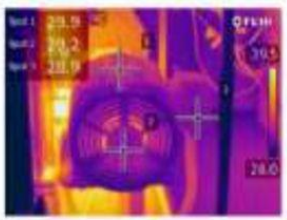


27.9° C
27.8° C
27.1° C

After running for 45 minutes with minimal change in tempurature.



29.9° C
28.8° C
29.3° C



29.9° C
29.2° C
28.9° C

HP= Torque X RPM / 5252

Back EMF creates Resistance

100% 100%

EMF Back EMF

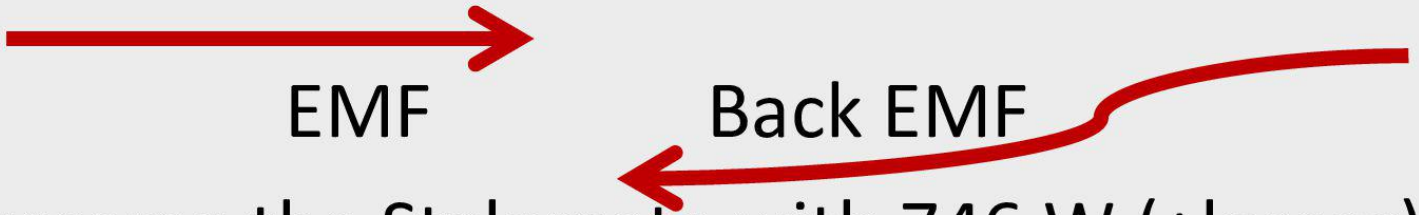
Overcome the Stalemate with 746 W (+losses)

95% Efficient

Most are about 28-29% efficient

HP= Torque X RPM / 5252

Redirecting Back EMF reduces Resistance



Overcome the Stalemate with 746 W (+losses)

95% Efficient

Redirect Back EMF = Reduced Resistance

More RPM Using Less Watts

Laws of Thermodynamics
Conservation of Energy

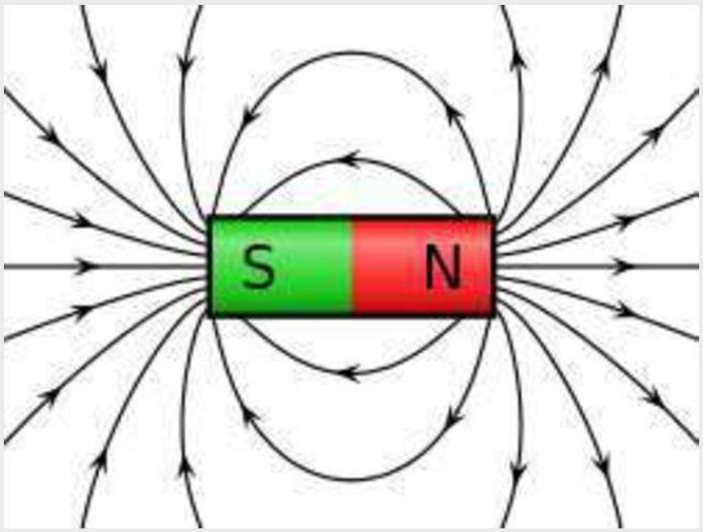
Energy Cannot be Created or Destroyed

No Such Thing as Perpetual Motion Machines

Laws of Thermodynamics
Conservation of Energy

Only Applies to a Closed System

Permanent Magnets can never be a Closed System



Energy is always coming OUT of the N end and coming INTO the S end

Combining PM with Electro Magnets captures the lost N energy

Laws of Physics
Balance

1 HP = 746 Watts (.746 kW)

3 – 40 HP Motors = 120 HP

30 kW DC Generator + 60 kW AC Generator = 90 kW

120 HP = 90 kW (.750)

We are in Balance!