

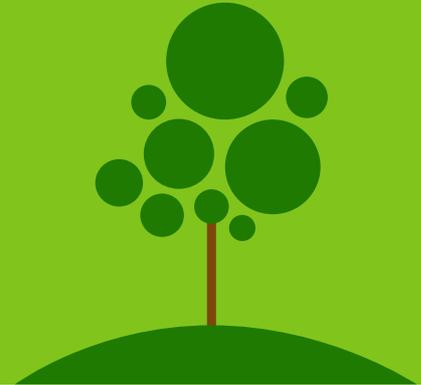


SASKEN

Sasken Environmental Sustainability Initiatives 2018-19



About Sasken



Sasken Technologies Limited (formerly Sasken Communication Technologies Limited) is a technology and service provider based in Bangalore, India, which provides product engineering and digital transformation services to global customers in industries such as semiconductors, automotive, enterprise grade devices, smart devices and wearables, industrials, satcom, and telecom.

Environmental Sustainability Vision

Dear Sasian

We need to take a long-term view when it comes to using fragile natural and environmental resources. We must pass on a world that is economically, socially, and environmentally better than what we inherited for the generations to come. Our values and beliefs enshrine our commitment to adhere to pro-environmental principles. From our inception, we have pioneered, or readily adopted and promoted 'sustainable' practices.

We have a core group called 'Prakriti' who have made it a point to instill the ideology of embracing eco-friendly practices by all Sasians. I take this opportunity to promise that I will wholeheartedly support our sustainability initiatives. I invite all fellow Sasians to renew their pledge to embrace a culture that is committed to helping our natural environment flourish.

Warm regards,

Rajiv C Mody
Chairman, Managing Director & CEO
Sasken Technologies Limited

Synopsis:

It is essential to protect the environment to reduce the destruction of eco-system caused by all of us. It is more of a moral obligation for humans to protect the environment from pollution and other activities that lead to environmental degradation. Importantly, environmental degradation is detrimental since it threatens the long-term health of the animals, humans and plants.

Air and water pollution, global warming, smog, acid rain, deforestation, wildfires are just few of the environmental issues that we are facing right now. It is everyone's responsibility to take care of the environment to make this planet a wonderful place to live. At an individual level one does not need to put lot of money to go green, but simple changes in daily lifestyle is all what is required to reduce your carbon footprint .

We at Sasken have taken many such small and simple steps to reduce environment pollution and maintain Ecological sustainability. What started as vision of our CEO, has become the fundamental building blocks of every process in Sasken.

Every process be it engineering or administration or finance, the first question asked is that "how much of Carbon foot print we can reduce by following this process?". And we believe there is a scope to reduce Co2 emission /pollution in each and every activity we do undertake in our corporate life as well as in our personal life.

Sustainability Milestones at Sasken



2011

Purchase orders converted to E-purchase order sans printing

Extending the life of Desktops and Laptops: Donate and support underprivileged schools in the remote villages

2012

Mandatory E-learning module on Environment Care is launched. Train, educate Motivate is the mantra to drive the initiatives on Environment

250 no's Tube lights in the 2 vehicle Parking floors completely converted into LED lights, lit through roof top DC-Solar plant

2013

2015

Sasken campus is now Plastic Free Zone

Reduction in paper and plastic usage - Removal of paper cups and plastic stirrers from café and pantry operation-, saves 2.1Ton Co2 per month and makes it almost a zero-waste pantry

2016

Started a new initiative of Seed Ball making and rolling with a commitment of making and rolling at least 5000 seed balls every year

Starting Organic Farming in the company owned land. Providing Organic vegetables to employees, protecting soil erosion and contamination

2016

2016

2017

Converting common areas into LED lightings as a first step towards Converting CFL to LED

Converting 80% of the Electricity consumption in the campus to renewable Energy source

2018

Setting up RO plant to ensure reduction of CO₂ and elimination of Plastic water bottles

2019

Initiatives Taken for the Community

Solar lighting project for Belgavadi village: Lighting of all 250 houses in the village with Roof top DC-Solar.

2017

1.2 Tonner Dry leaf composting unit setup in Domlur ward ensuring no open area burning of dry leaf in the ward area.

2018

While we add new initiatives every year, each of the above program is sustained and improved year after year and we are seeing tremendous process improvement as well as increased benefits from these initiatives.

Initiative 1: Inhouse Reverse Osmosis water treatment plant

Keeping aside the debate, whether RO treated water consists of essential minerals or not, the fact is that, we at Sasken corporate office used to consume about 1800 Litres of drinking water supplied by an external agency on a daily basis. These used to be delivered in plastic cans of 20 Litres each (about 90 cans).

Vendor having his mineral water plant at the distance of about 30 Kilometres from our corporate office, used to ply his Diesel Van every day to supply these water bottles to our office. This on an average generated about 1.1 tons of Carbon emission per month. To reduce the CO₂ emission from the entire services, Sasken Implemented a Double Pass Reverse Osmosis water filtering plant inside the campus.



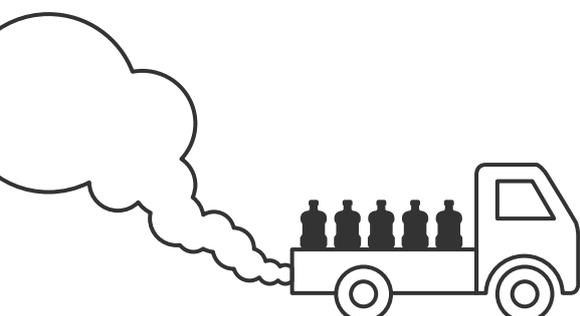
Double pass RO system is comprised of two RO systems. The reject water from 1st pass is further fed to 2nd pass to further recover the water. With this system 57 to 60% water can be recovered unlike single pass RO, which has 30-35% recovery ratio, thus minimising the wastage of water.

The excess wastewater post RO treatment is collected separately and then used for purposes like cleaning, feeding into secondary storage for flushing in the bathrooms there by ensuring that every drop of water is utilized, without any wastage.

Taking this initiative one step further, we have eliminated the plastic bubble top dispensers in each floor in our campus. Customized steel dispensers were manufactured exclusively for Sasken. While Initiative helped us to get RO water generated and served within the campus, the entire process saves about 1 tons of CO₂ emission every month.

Keeping in line with the theme of 2018 **“Beat the Plastic Pollution”** we have put a complete stop on employees to carry Plastic water sippers to the worktable.

Each and every employees are given with steel sippers as compliment and to encourage less use of plastic.



Initiative 2: Seed Ball making drive

As we read the Dangerous situation in Cauvery basin where more than 80% of tree cover has vanished, at Sasken we always thought that we need to dedicate some time every year during monsoon to help the cause of afforestation.

What do you get when you mix some soil, water, cow dung and seeds? - "Seed balls". This concept was discovered by Masanobu Fukuoka, an agricultural scientist, philosopher from Japan.

A seed ball works on the survival of the fittest principal - they grow when they find water. They don't need to be fenced, watered or taken care of. Simply made out of the mixture, which can sometimes include charcoal dust, clay, compost and other nutrients, and put the seed into the heart of a ball. This will protect the seed against ants and other animals, as well as extreme temperatures. Once the seed balls are made they are thrown

around. This unique method not only makes planting faster but it is also more cost-effective than traditional tree planting methods. The concept is simple - throw and grow!

Third year in row, we are creating 5000 seed balls and rolling out all of them in the various parts of the state, wherever afforestation is needed.

Even if 30% of them germinate and becomes a plant, we will be proud to say that we have helped with 1500 Saplings, that has the potential to grow into trees.

Our commitment has increased year after year in this front. Volunteers have increased, number of schools who visit us and get educated by our team have increased. We feel proud that we are making a small but definite change towards better future.



Initiative 3: Sustainable Energy

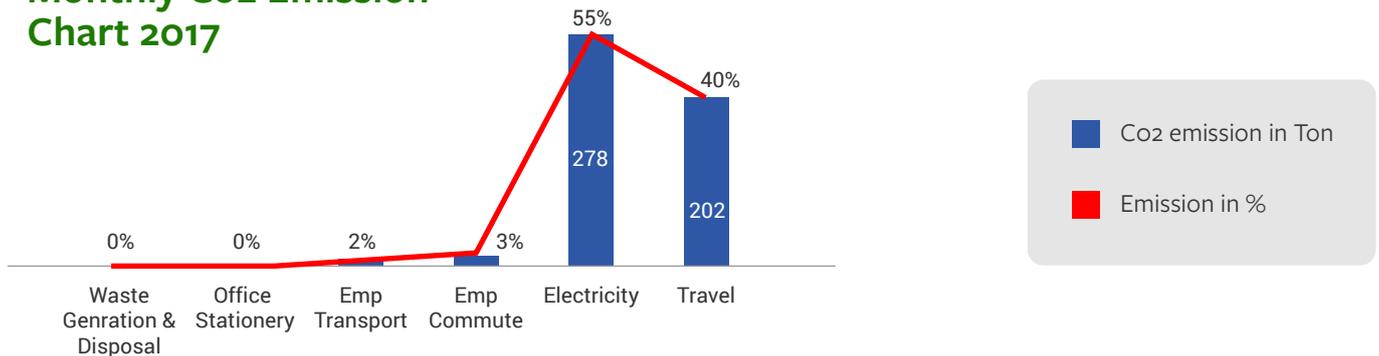
It is estimated that about 25-30 percent of the global warming emissions come from our electricity sector. Most of those emissions come from fossil fuels like coal and natural gas.

In contrast, most renewable energy sources produce little to no global warming emissions. Even when including “life cycle” emissions of clean energy (i.e., the emissions from each stage of a technology’s life—manufacturing, installation, operation, decommissioning), the global warming emissions associated with renewable energy are minimal.

The comparison becomes clear when we look at the numbers. Burning natural gas for electricity releases between 0.6 and 2 pounds of carbon dioxide equivalent per kilowatt-hour (CO₂E/kWh); coal emits between 1.4 and 3.6 pounds of CO₂E/kWh. Wind, on the other hand, is responsible for only 0.02 to 0.04 pounds of CO₂E/kWh on a life-cycle basis; solar 0.07 to 0.2; geothermal 0.1 to 0.2; and hydroelectric between 0.1 and 0.5.

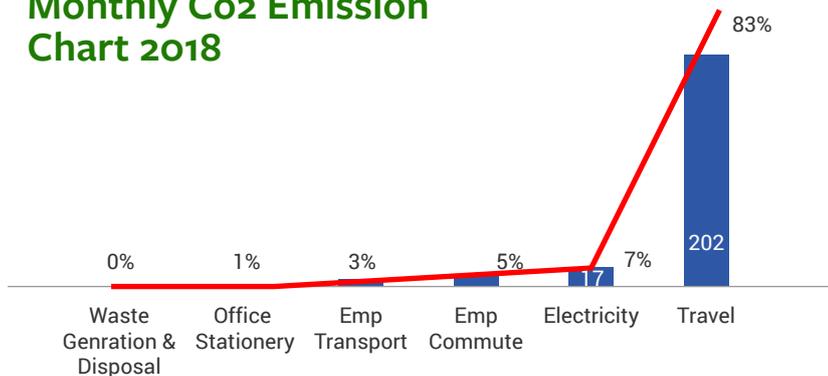
Over the last 18 months we at Sasken have switched over to Green energy source from Energy Farms. **Today 80% of the Electricity consumed in our corporate campus is substituted by the Alternative, renewable energy.**

Monthly Co2 Emission Chart 2017



Today we substitute 36Lkajs unit of energy from alternative renewable energy source there by reducing nearly 3.3metric tons of CO₂ every year.

Monthly Co2 Emission Chart 2018



Initiative 4: E-waste collection drive for the community

Electronic waste from equipment of all sizes includes dangerous chemicals like lead, cadmium, beryllium, mercury, and brominated flame retardants. When we dispose of gadgets and devices improperly, these hazardous materials have a high risk of polluting the air, contaminating soil, and leaching into water sources.

When e-waste sits in a typical landfill, for example, water flows through the landfill and picks up trace elements from these dangerous minerals.

Eventually the contaminated landfill water, called “leachate,” gets through layers of natural and manufactured landfill liner and other protection. When it reaches natural groundwater, it introduces lethal toxicity.

Health risks range from kidney disease and brain damage to genetic mutations. Unless educated, today most of the electronic waste from residences either ends up as landfills or partly recycled in a unhygienic conditions by backyard recyclers and then partly thrown into waste streams damaging the environment.

If “Managed” safely by Recycling, E-waste can be secondary source of raw material along with some additional benefits like;

- The Earth’s Natural resources are limited and hence we can make sure that we preserve them and use them carefully.
- Economic Benefits: Revenue generation from recovered materials.
- Environmental Benefits: Natural resource conservation and Reduction in environmental pollution by means of Land fills and burning.
- Social Benefits: Employment generation.

Since we have robust E-waste management practice in Sasken, we thought of extending the same to residences in the locality. We partnered with NGO called EnSyed and under there bE-Responsible initiative and have started collecting E-waste from every residences of Domlur Layout. Idea was two fold a) train residents on disposal of E-waste b) collect the e-waste and dispose the same in scientific manner. Our volunteers go to each house, educate the residents on the dangers of E-waste getting mixed with general waste and collecting the E-waste from each residences. A small but a positive step towards making disposal effective.



Initiative 5: Reduce Paper - Save tree!

We follow 4R's - Refuse, Reduce, Reuse and Recycle, when it comes to conserve natural resources.

Our Control print initiative which started in 2008 have over the years resulted in reduction in huge number of print (depicted in graph) consumption in Sasken.

Our Print count across our offices has reduced to 6 Lakhs in FY 18-19 compared to 35.6 Lakhs in FY 08-09. Indirectly the number of printers has been reduced from 47 (FY08) to 16 (FY19)

Paper waste – Packaging materials, cardboard boxes, newspapers, tissue paper from hand wash area etc. gets donated to Khadi Gramodyoga - Bangalore for recycling, every year.

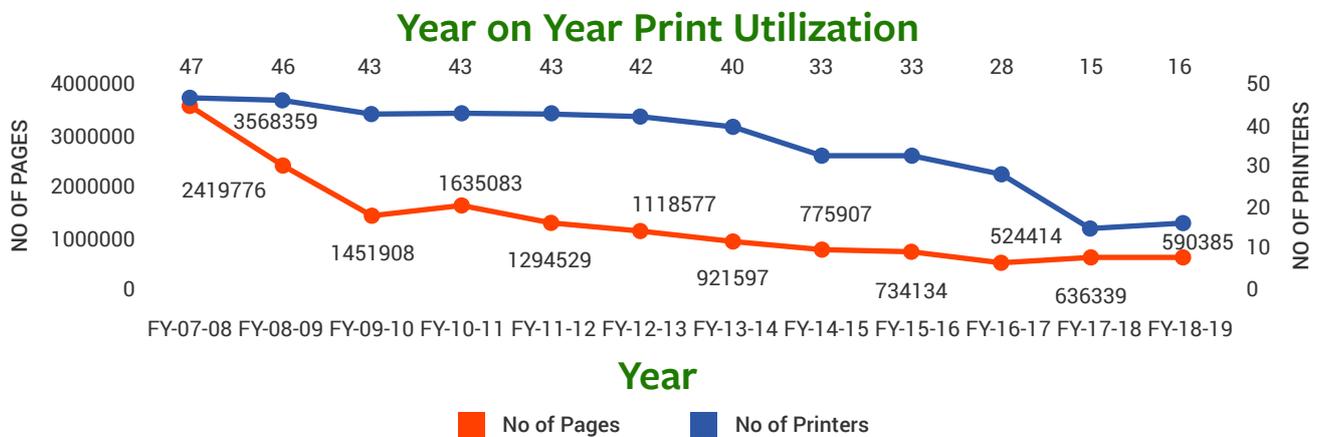
In 2018 we have donated app 1.5 Tons of wastepaper to Khadi Gromodyog, in turn we have collected 1500 Notepads created from recycled papers.

We use only such recycled notepads as writing pads in Sasken year on year.

Income tax proof submission in the form of soft copies, driven by Payroll team, helps us save paper and power. 5000 sheets of papers were saved during FY 18-19 under this activity.

Paper saved by sending e-Purchase orders to vendors - 12000 sheets.

We observe **“No Tissue Paper Day”** once a month across all our facilities in India, we have saved Avg. 25000 sheets of paper during FY 18-19



We have saved approx 200 Trees from getting cut! (Ratio - one tree produces 12000-15000 sheets of paper)

Every recycled tons of paper save approx
17 trees!

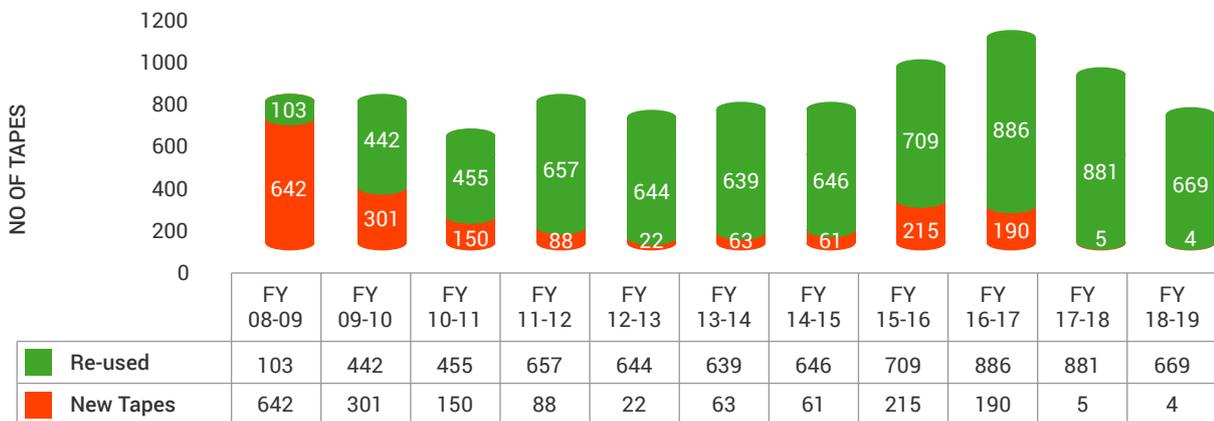


Initiative 6: Backup tape utilization

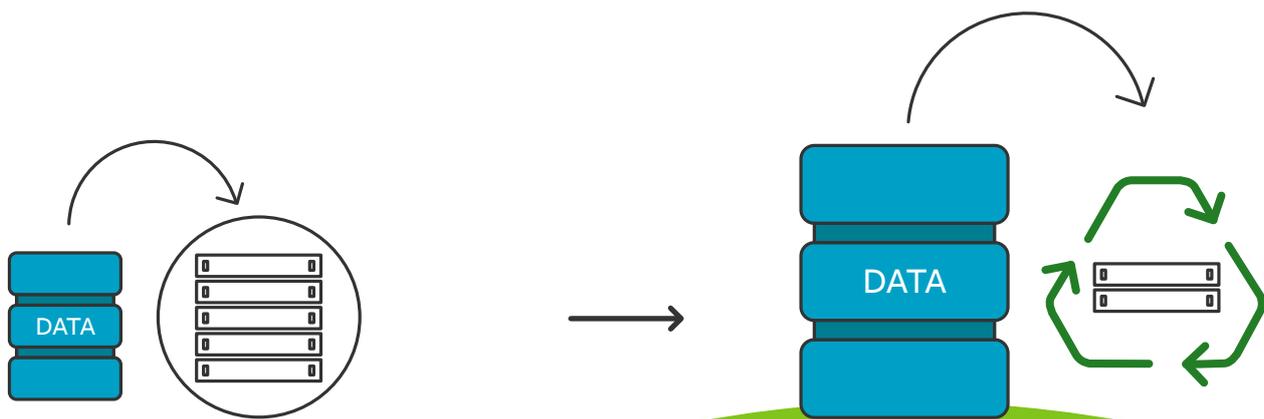
Backup tapes have started losing its relevance. More so in the last 2 years with the emergence of Cloud computing and reduced cost on Hard disk and of course the improvement in technology on storage. Having said this, tapes will still be around for the next couple of years because it is cheaper, helps in offsite vaulting, moveable independent of a machine, gets barcoded over the volume and many such things.

In Sasken while we store the backup data at offsite vaulting as Business continuity plan, starting 2008-2009 we kick started a multi-year project on REDUCE- REUSE-RECYCLE of tape media. Implementation of “Re-Use of Tapes” has significantly contributed in a positive way, the new tapes consumption has decreased over the years, thus saving E-waste and impact on the environment.

Backup Tapes Utilization



While the data capacity has increased in volumes over the years, our Tape consumption has become least. The above graph represents the reuse metrics on Tapes. We are proud to say that we have procured just 4 tapes in FY18-19 with a 10 times increased data compared to that of FY08-09.



Initiative 7: Reduce wastage of Potable water

Despite the simple truth that there is no life if there is no water, human beings have been systematically wasting this primordial source of life.

World body reminds that every time “we use water, we produce wastewater. And instead of reusing it, we let 80 per cent of it just flow down the drain. We all need to reduce and reuse wastewater as much as we can.

Key Facts About water is: (source world water day)

- Globally, over 80% of the wastewater generated by society flows back into the ecosystem without being treated or reused.
- 1.8 billion people use a source of drinking water contaminated with faeces, putting them at risk of contracting cholera, dysentery, typhoid and polio.
- Unsafe water, poor sanitation and hygiene cause around 842,000 deaths each year.
- 663 million people still lack improved drinking water sources.
- By 2050, close to 70% of the world’s population will live in cities, compared to 50% today.
- Currently, most cities in developing countries do not have adequate infrastructure and resources to address wastewater management in an efficient and sustainable way.
- The opportunities from exploiting wastewater as a resource are enormous. Safely managed wastewater is an affordable and sustainable source of water, energy, nutrients and other recoverable materials.
- The costs of wastewater management are greatly outweighed by the benefits to human health, economic development and environmental sustainability

What do we do then?

At Sasken, every drop of wastewater is recycled and reused. In our corporate campus we recycle almost 500KL of water every month, which almost fulfils our need for common usage (like rest room, gardening, cleaning etc).

Each of the water flow areas (like Taps in the wash basins) is fitted with Improved version of Aerators, which arrests 60% water flow compared to a normal tap there by reducing the wastage of the potable water.

A constant education on this to the users in the form of mailers, communication, demos has resulted in drastic water saving in the campus.

We are proud to say that at Sasken ”Every Drop” of water is used judiciously and there is no word called “Waste Water”.



Initiative 8: Organic Farming

The impact of organic agriculture on natural resources favors interactions within the agro-ecosystem that are vital for both agricultural production and nature conservation. Ecological services derived include soil forming and conditioning, soil stabilization, waste recycling, carbon sequestration, nutrients cycling, predation, pollination and habitats. By opting for organic products, the consumer through his/her purchasing power promotes a less polluting agricultural system. The hidden costs of agriculture to the environment in terms of natural resource degradation are reduced.

Started off in 2016, now a 1.5 acre of organic farm in the campus, we are proud that we have been able influence each one of our employee to appreciate the need to conserve mother earth by not polluting them and consume something which creates less harm to the environment.

It also serves stress buster for employees when they take a break from their routine work and take a stroll to farmland and join hands in farming whenever possible.

This also helps us to offset approximately 0.4 to 0.5 Ton Co2 per month.



The health of the soil,
plant, animals, man is
one and indivisible.
- Albert Howard

Employees waiting for their turn to procure organic vegetables grown in Sasken farm.

Initiative 9: Reuse-Reuse-Reuse

As a corporate we keep pace with the technological changes. We keep replacing our old desktops and laptops with the latest models. While we upgrade, the leftovers are valuable and working devices which has life of at least next 3 to 4 years, if donated this can be boon to childrens who are less privileged.

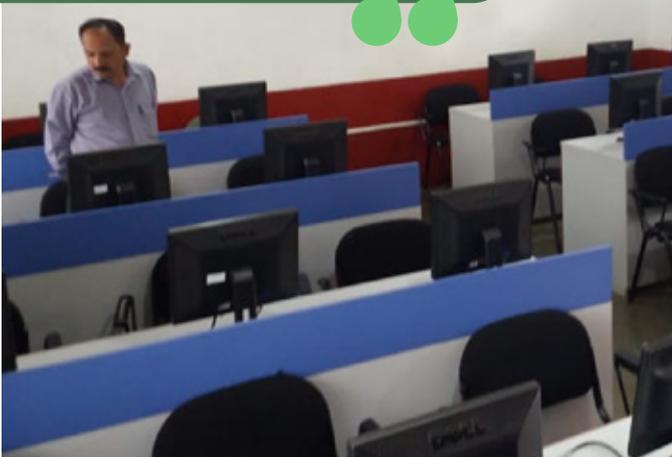
What started with donating 15 refurbished computes in 2012, In 2018 we have donated 261 Desktops /Laptop to Various under privileged schools. That's precisely is one computer donated every working day, throughout the year in 2018.

These are energy star certified desktop and Laptops which consumes 25% less power and help protect the climate.



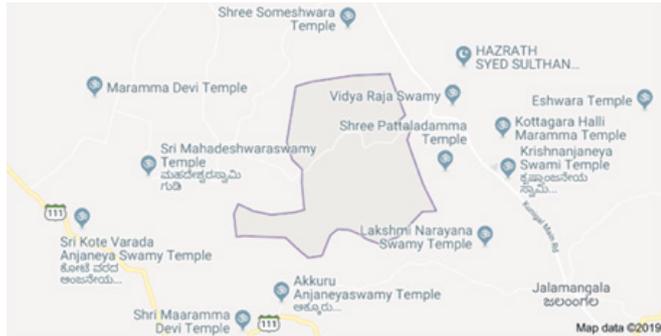
All of us do not have equal talent, but all of us have an equal opportunity to develop our talents.

-Dr. APJ Abdul Kalam



Initiative 10: Community

Belagavadi is a rural village in Karnataka, India which is about 80kms from Bengaluru, 20kms from its nearest town, Magadi and falls on the Kunigal Main Road. Although it is accessible by road, the village is quite remote and is not very well connected by the public transport services.



The village houses about 250 homes, two schools and a community hall. Most of these households fall under low-income or low-middle income categories, who depend mainly upon dairy farming and mango cultivation for a living.

Even though Belagavadi is grid-connected, it is affected by frequent load-shedding, which on an average is about 6 hours a day. In summers, it is usually about 9 hour a day.

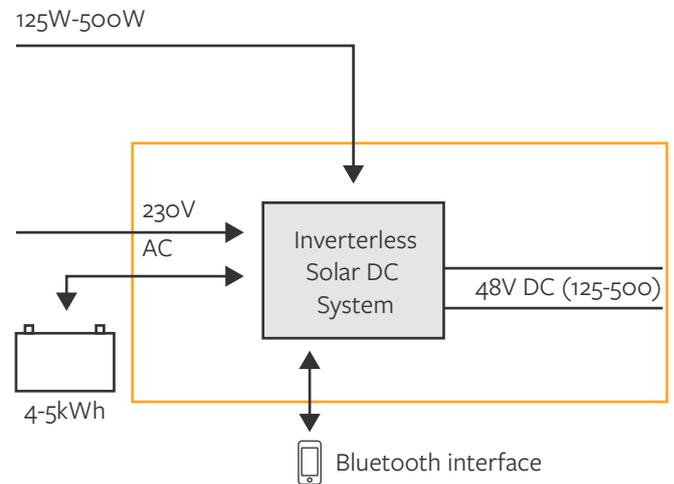
What started with setting up of 215 houses to use DC solar technology (Designed by IITM and Cygni), in 2018 we completed setting up DC solar for every house and school in the village. This is managed and

run efficiently all though the year using remote monitoring technology.

Each of these homes has been installed with the Inverterless System, which typically consisted of one 125Wp solar panel, one 1kWh battery, an Inverterless controller unit and DC loads operating on a 48V DC internal distribution line. The DC loads provided on this line included one DC fan, one DC tube light, two DC bulbs, one DC mobile charger, one DC socket and one remote controller to operate fan and tube light.

Today, the Solar DC Inverterless technology has multiple benefits to the households of Belagavadi. It is acting as an efficient power backup solution.

Saving on their electricity bills along with providing the good quality power supply. Utilizing rooftop solar in the most energy and cost-efficient manner.



Initiative 11: Community

Burning Leaves May Spark Health Problems, Because of the moisture that is usually trapped within leaves, they tend to burn slowly and thus generate large amounts of airborne particulates-fine bits of dust, soot and other solid materials. According to Wisconsin's Department of Natural Resources, these particulates can reach deep into lung tissue and cause coughing, wheezing, chest pain, shortness of breath and sometimes long-term respiratory problems.

Leaf smoke may also contain hazardous chemicals such as carbon monoxide, which can bind with hemoglobin in the bloodstream and reduce the amount of oxygen in the blood and lungs. Another noxious chemical commonly present in leaf smoke is benzo (a) pyrene, which has been shown to cause cancer in animals and is believed to be a major factor in lung cancer caused by cigarette smoke. And while breathing in leaf smoke can irritate the

eyes, nose, and throat of healthy adults, it can really wreak havoc on small children, the elderly and people with asthma or other lung or heart diseases.

Greenlighted on 17th Feb 2018, Our 1.25 ton Dry leaf composter plant, setup near Domlur composts on average 350 to 400Kgs (shredded to powder and finally measured) of dry leaves every week.

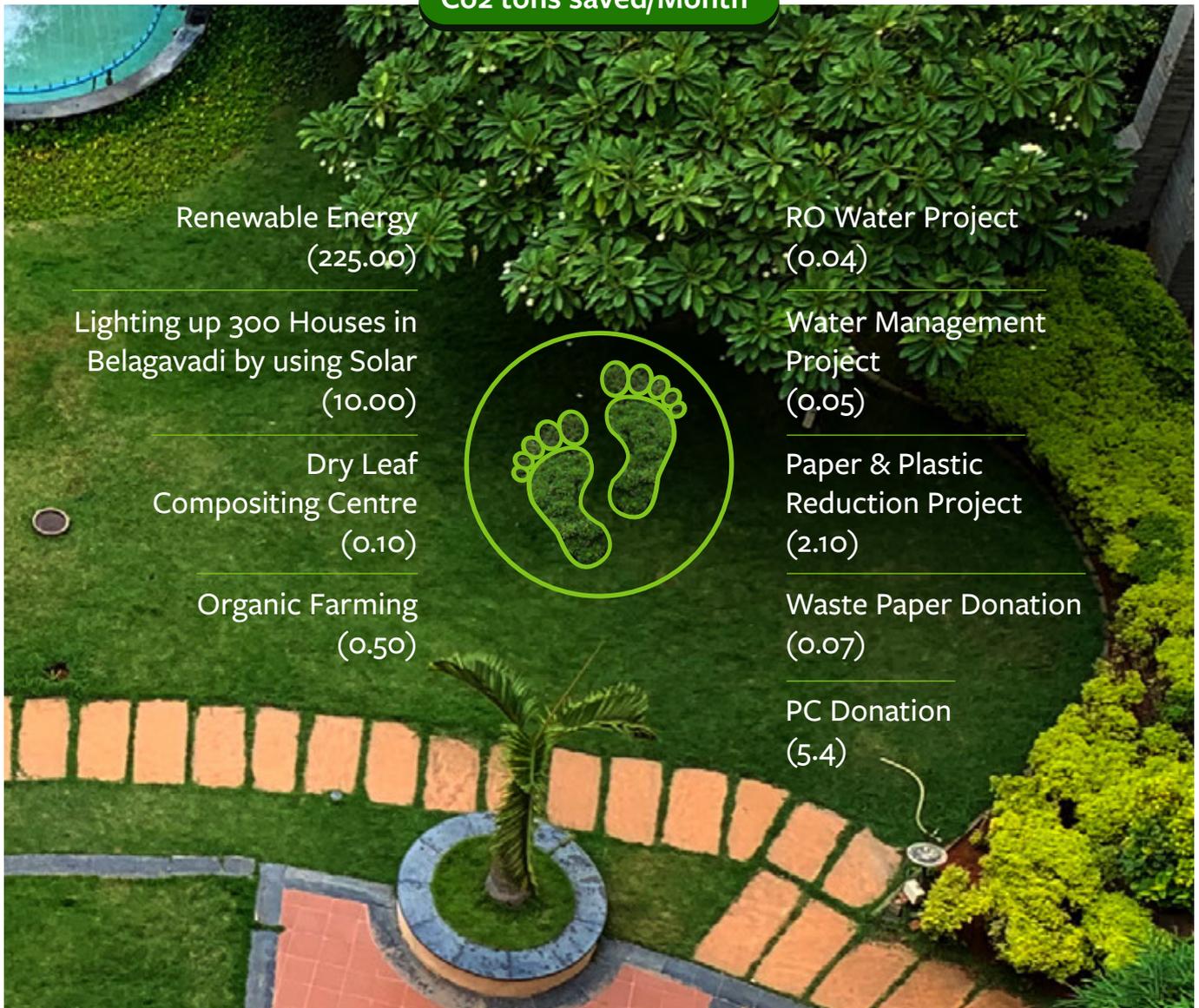
In volume this could be about 40 truckloads of dry leaves, reducing that much amount leaf burning and creating hazardous environment.

In turn the good quality of compost generated is given to residents and parks.

We plan to increase the quantity of compost to double during the year 2019.



Co2 tons saved/Month



At Sasken we always do our best to do our part in protecting mother earth. As the year pass by challenges have changed so also technologies. Being aware of what harm we are creating is essential. Through our robust process and policies, we are trying to make each employee of Sasken, its vendors, its customer aware of what we can contribute to this environment in a positive way. However small it is, we take pride in doing this. Over the years the results are showing that we are on right path in contributing our bit to save this beautiful plant. We promise to continue in this path, with more responsibility and with more assurance to make our future generation not to suffer for our mistakes.



Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has.

- Margaret Mead



Small but Sure Impacts:

While we have taken up a dozen of initiatives which have had a bigger impact, there were many other smaller initiatives through the year to compliment the bigger initiatives. Some of them are unique in nature and are listed below:

- 🌿 Echo Ganesha making workshop for employees
- 🌿 Garbage Man Day celebration for Paura Karmikas
- 🌿 World Environment Day celebration
- 🌿 Echo-Holi drive
- 🌿 Tree Plantation drive
- 🌿 Work shop for Making and using Natural cleaning agents
- 🌿 World Earth Day drives
- 🌿 Craft From Waste. Workshop
- 🌿 Learning module for Ecological Sustainability for all the new inductees to the organization



Co2 Reduction in Tons

Month	Co2 Reduction (Tons)
April	544
May	443
June	339
July	287
August	216
Sept	170

bE-Responsible

**GO PAPERLESS
BE ECO-FRIENDLY**

**REDUCE CLUTTER
AT DESK & HOME**

**GO DIGITAL
BE CONTEMPORARY**

Use get all the old school books/story books and stationery and drop in the boxes kept in each floor.

Donate Educate &

HAPPY Diwali
FESTIVAL OF LIGHTS



BUREAU VERITAS
Certification

SASKEN TECHNOLOGIES LTD.

HEAD OFFICE (SITE 1-FAC Z): NO.139/25, AMAR JYOTHI LAYOUT, INTERMEDIATE RING ROAD, DOMLUR, BANGALORE – 560 071, KARNATAKA, INDIA.

This is a multi-site certificate, additional site details are listed in the appendix to this certificate

Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organization has been audited and found to be in accordance with the requirements of the Management System standard detailed below.

Standard

ISO 14001:2015

Scope of certification

SOFTWARE DESIGN, DEVELOPMENT, TESTING, MAINTENANCE, EMBEDDED SOLUTIONS AND RELATED CONSULTING ACTIVITIES IN PRODUCT ENGINEERING AND DIGITAL IT SERVICES UNDER VARIOUS ENGAGEMENT MODELS INCLUDING OFFSHORE DEVELOPMENT CENTRE

Original cycle start date: **19 July 2006**

Expiry date of previous cycle: **18 July 2018**

Recertification Audit date: **13 April 2018**

Recertification cycle start date: **19 June 2018**

Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: **18 July 2021**

Certificate No. **IND18.8711U/E** Version: 1 Revision date: **25 June 2018**

Signed on behalf of BVCH SAS UK Branch
Ramesh KOREGAVE
Director, **CERTIFICATION**
South Asia Region



Certification body address: **5th Floor, 66 Prescot Street, London, E1 8HG, United Kingdom.**

Local office: **Bureau Veritas (India) Private Limited (Certification Business)**
72 Business Park, Marol Industrial Area, MIDC Cross Road "C",
Andheri (East), Mumbai – 400 093, India.

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Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization. To check this certificate validity please call **+91 22 6274 2000**.





SASKEN



Prakriti stands for the primordial state of all creations in the planet. It signifies life itself!

'Pra' means the beginning, while 'Kriti' stands for creation or composition. As humans, we have the responsibility to ensure that life extends beyond us.

Prakriti is a Sasken initiative to bring together ardent advocates of environmental and ecological sustenance.



Interested to know how Prakriti works in Sasken?
Write to us: prakriti@sasken.com