SRM Institute of Science and Technology
Sustainability Initiatives

June 2018

SRM
INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

Our sustainability approach & journey...

How we approach our goal of making the university more sustainable.

"SUSTAINABLE DEVELOPMENT IS DEVELOPMENT THAT MEETS THE NEEDS OF THE PRESENT WITHOUT COMPROMISING THE ABILITY OF FUTURE GENERATIONS TO MEET THEIR OWN NEEDS."

–UNITED NATIONS, BRUNDTLAND COMMISSION, 1987

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Foreword

The SRMIST prides itself on the work it has done so far in meeting our sustainability responsibilities targets. This first Annual sustainability Report illustrates the excellent work our staff and students have delivered in helping us maintain our leading role in the sector.

This sustainability report provides an insight into the sustainability policy and results of SRMIST sustainability initiatives for the period 2012 to June 2018. We have made significant progress in fully integrating sustainability into our SRMIST. We achieved our interim targets for the first five-year period. Now, we have defined our goals and ambitions for the target year 2022.

We aim for an overall efficiency improvement of performance in all our targets as compared to 2012. Our approach to sustainability continued to evolve in the following years,

becoming more systematic and addressing an increasing number of environmental and social challenges along our value chain. SRMIST will continue to work on innovation and improvement directed to a healthy population and a healthy living environment using research, advice, and addressing implementation in 2015. Because we are committed to health and sustainability.

Chairman

Sustainability Management Board

SUSTAINABILITY

The SRMIST is committed to maximizing its positive impact and minimizing its negative environmental impact to help develop a more sustainable world. SRMIST have a healthy approach to sustainability, incorporating social economic and environmental principles that have been in place for nearly a decade. SRMIST has short and long-term objectives for sustainability.

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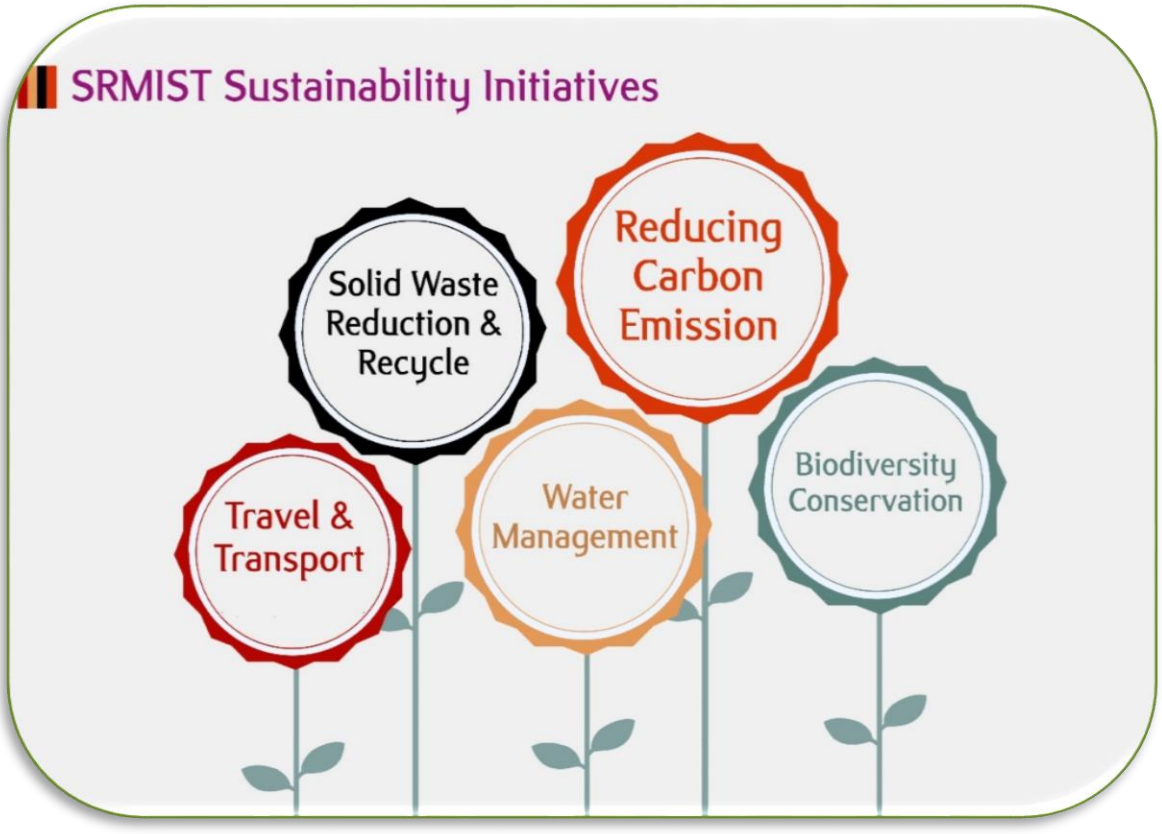
SRMIST SUSTAINABILITY OBJECTIVES:

1. Integrate and implement the environmental management and promote sustainability practices into our day-to-day operations.
2. Empower and motivate staff and students through environmental awareness and communication.
3. Undertake academic research to benefit environmental sustainability.
4. Implement a sustainable waste strategy to reduce volumes and divert from landfill.

5. Develop sustainability within academic courses to benefit students in their future careers and life.
6. Establish procedures to implement sustainable construction and green procurement.
7. Increasing alternatives and opportunities for sustainable travel for commuting and business.
8. Preserve and enhance the biodiversity of the estate and utilize sustainable design in construction and protect biodiversity in external spaces on campus.
9. Minimize energy and water usage by implementing effective management and technology to reduce our carbon emissions.
10. Develop our environmental management system as a mechanism for achieving the above through the adoption of formal objectives and targets.



SRMIST POLICY

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SUSTAINABILITY POLICY

1. Embed sustainability into the campus, curriculum, community, and culture of the university through the establishment of good leadership and management practices.
2. Raise sustainability and environmental awareness and promote sound environmentally and ethically responsible behaviors in all staff and students.
3. Develop and maintain the Estate, and the surrounding landscape, with due regard to environmental impact and social value.
4. Develop and implement effective and efficient utility and procurement management measures, policies and procedures.
5. Develop and implement waste management practices that prioritize disposal in line with the waste hierarchy to reduce the institutions waste output to landfill.

BIODIVERSITY POLICY

1. Undertake habitat and species surveys to ascertain the university's biodiversity baseline.
2. Identify the potential direct and indirect impacts of our activities on biodiversity, assess the risks, and take measures to minimize negative impacts and promote positive actions.
3. To consider the impact and opportunities for enhancement of biodiversity when planning building refurbishments, new building designs and all other construction activities.
4. To minimize the impact on biodiversity from grounds maintenance and landscaping work and prevent pollution by keeping the use of pesticides to a minimum.
5. To consider seasonality of species during projects and campus enhancement works to reduce the risk of plant loss and minimize the use of watering.
6. Recycle green waste whenever possible.

7. Aim to conserve and where possible enhance local biodiversity through the implementation of a biodiversity action plan.
8. Encourage the promotion of staff and student awareness of the biodiversity to be found on campus and any potential for this to be used as an educational resource, as well as the importance of biodiversity in general.
9. Increase interest and awareness of biodiversity issues using interpretation/information panels at strategic points through the estate.

ENVIRONMENTAL POLICY

1. Prevent the over-consumption of energy and other resource and reduce the production of waste, and the release of substances harmful to the biosphere.
2. Maintain purchasing policies which favor environmentally-benign, post-consumer, bio degradable, and non-toxic products wherever possible.
3. Encourage all members of the SRMIST to be environmentally aware and the university's Environmental Policy to be well publicized.
4. Encourage all members of the SRMIST to Re-think/Reduce/Re-use/Recycle. Given the costs that recycling entails, reduce and reuse options shall always be considered first.
5. Seek additional ways of achieving our goal of being environmentally safe and responsible.

WASTE MANAGEMENT POLICY

1. Ensuring that waste management is performed by all legislative waste requirements, including the duty of care, and to plan for future legislative changes and to mitigate their effects.
2. To minimize waste generation at the source and facilitate repair, reuse and recycling over the disposal of wastes, where it is cost-effective.

3. To provide clearly defined roles, responsibilities to identify, and coordinate each activity within the waste management chain.
4. To promote environmental awareness to increase and encourage waste minimization, reuse and recycling.
5. To secure where possible revenue for recyclable material to reinvest into the expansion of recycling opportunities on the campus and halls of residences.
6. To ensure the safe handling and storage of wastes on campus and halls of residences.
7. To provide appropriate training for staff, students and other stakeholders on waste management issues.
8. To promote industry waste management best practice.
9. To promote the use of recycled products.
10. To appoint a competent person(s) to provide waste management advice.

E-WASTE POLICY

The SRMIST has committed towards the maintenance of the friendly ecosystem of its campus. In order to maintain the wellbeing and healthy environment in the campus, the standard process for e-waste Management is put in practice for proper disposal of end of life, and non-functioning electronic computing equipment's after reducing, reusing and refurbishing to the maximum.

The broad policy guidelines are

- Each department to consolidate the end of life and non-functioning electronic and computing equipment's.
- To minimize the new procurement of IT Assets, the centralized ITKM department initiates the process for reusing through refurbishment/recycling of electronic and electrical components, replace the spares and repairing the non-functioning the IT assets to reduce the e-waste to the maximum.
- The centralized ITKM department to consolidate the final non-functioning electronic and computing components and put forward the proposal to purchase

committee once in a year for proper disposal of e-waste without causing any environmental problems.

PAPER POLICY

1. Purchasing paper with greater recycled and post-consumer content, when economically feasible;
2. Printing and copying double-sided, when appropriate;
3. Allowing and encouraging students to submit double-sided assignments by Encourage web-based assignments.

POLICY FRAMEWORK

SUSTAINABILITY MANAGEMENT BOARD (SMB)

The SMB is the group responsible for the development and reporting of the sustainability strategy and key actions of the university. Our SMB has responsibilities to help develop and implement our strategy and to help achieve our goals. The SMB has developed a framework that helps those with responsibility for delivering sustainability for better understanding how sustainability relates to their areas and others, the policies of the university, appropriate laws and reporting requirements and helps set benchmarks, targets and actions for improvements.

SRMIST SUSTAINABILITY MANAGEMENT BOARD

S.No	Name	Designation
1.	Prof. Kantha Deivi Arunachalam	Chairman–SMB
2.	Dr. V. Thirumurugan	Administrator
3.	Dr. Sathesh Kumar Annamalai	Manager & Co-ordinator
4.	Mr. Maruthamuthu	Affiliate Co-ordinator–Carbon Emissions
5.	Mr. Rajendran	Affiliate Co-ordinator–Solid Waste
6.	Mr. Durai Murugan	Affiliate Co-ordinator–Water
7.	Dr. Kumar	Affiliate Co-ordinator-Travel
8.		Affiliate Co-ordinator-Biodiversity

FURTHER INFORMATION

For further information, please contact the Sustainable management Unit:

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REDUCING CARBON EMISSIONS

The SRMIST is working hard to reduce energy consumption, increase efficiencies, use more renewable energy sources, and reduce its carbon footprint. We have ambitious targets to reduce our carbon emissions from our activities to reduce our impact on the natural environment.

To adequately address global warming, SRMIST has significantly reduced the amount of heat-trapping emissions we are putting into the atmosphere. By taking action to reduce emissions of the greenhouse gas pollution that warms our planet, we can reduce the risks we will face from future climate change. SRMIST has expanded the use of renewable energy and transform our energy system into one that is cleaner and less dependent on coal and other fossil fuels.

Why reduce carbon?

Carbon dioxide ($C0_2$) is the main heat-trapping greenhouse gas associated with human-induced global warming and climate change. Consequently, extreme weather events, like floods and droughts, are likely to happen more often with varying local and national effects. Climate change is not just about another bad day of weather. If we do not reduce carbon emission and limit global temperature rises to 2 °C, the impacts of climate change on water, agriculture, infrastructures, and economies will severely affect our lifestyles. Carbon emissions are the main contributor to climate change, so cutting carbon emissions and moving to a low carbon society is the primary solution.

WE AIM TO:

- Deliver 30 % reduction in CO_2e by 2020 from 2012 levels;
- Compensate for remaining emissions by developing research and low carbon technology solutions.

OUR PERFORMANCE

- We have reduced CO_2e emissions from gas and electricity by **18 %** since the base year 2012;

- We need to reduce our current emissions by a further **15 %**–based on our current consumption - to achieve our 2022 target.

WE'RE REDUCING CARBON EMISSIONS BY...

1. Generating our own energy from renewable sources such as
    - Solar panels;
    - Solar water heating and
    - Biogas Plants
2. Existing Lighting to be upgraded to LED lighting
3. Cutting down on the need for air conditioning
4. Increased utilization of Public Transport

The university spends over **100 Crores** per year on energy and is committed to reducing its energy consumption and carbon footprint.

SRMIST INITIATIVE TO REDUCE CARBON EMISSION

A 'carbon footprint' measures the total greenhouse gas emissions caused directly and indirectly by a person, organisation, event or product. At SRMIST, the most significant opportunities to reduce GHGs and demonstrate climate action leadership are in energy use, business travel, commuting, paper use and food. SRMIST has a vital role to play in reducing carbon (greenhouse gas) emissions not only through the management of its campus and operations but also through the engagement and education of its students and staff.

The following are some of the SRMIST initiatives to reduce the carbon emission.

Figure 1 : SRMIST initiative for carbon reduction

SOLAR PANELS AT SRMIST

Solar power can help reduce CO_2 emissions mainly by being a clean and renewable source of energy. Solar power is not dependent on burning fossil fuels or other products; instead, it uses electrons from captured from the sun's energy for energy creation. Therefore, solar energy does not create greenhouse gases for energy production.

The cost of energy resources has been on the rise from previous years. Now is the time to start looking into future technologies to make the SRM a more sustainable place. The implementation of a solar plan at the Institute of Science and Technology could be substantially beneficial for all parties involved. The large flat roof of a university building is a great place for solar panels to generate clean solar electricity to cut energy costs and make a lasting impression on students.

In 2016, SRM Institute of Science and Technology added 100 kilowatts (kW) of solar photovoltaics to Institute of Science and Technology. The installed solar arrays will

produce an estimated kilowatt hour each year, enough emissions-free energy to power the electrical usage.

TABLE -1 LIST OF INSTALLED SOLAR PANELS AT SRMIST

Year of Installation	Place of Installation	Capacity (in kW)	Type	No of Solar Panels	Total Installed Area (Sq.Ft)
2013	SRMIST ESB Block	5	250 Wp / Monocrystalline	20	550
2014	SRMIST Administrative Block	100	160Wp/ Mono-Crystalline	36	11,000
			250 Wp/ Mono &poly-crystalline	319	
			285Wp/ Poly-Crystalline	54	
2016	SRM College of Pharmacy	10	250 Wp / Poly-Crystalline	80	1100
2017	SRM Arts & Science College– MBA Annexure Block (Dept. of Visual Communication)	20	250Wp / Poly-Crystalline	80	2200
	SRM Valliammai Engineering College	30	250Wp / Poly-Crystalline	120	3300
2018	SRM IST-Basic Engineering Laboratory	55	315Wp / Poly-Crystalline	176	5500
	SRM Dental College	95	315Wp / Poly-Crystalline	304	9500
	SRM Medical College Hospital	95	315Wp / Poly-Crystalline	200	9500
			325Wp / Poly-Crystalline	100	

Overall, the arrays provide less than 5% of SRM Institute of Science and Technology ’s total electricity use. At the end of 2022, SRM Institute of Science and Technology targets

to increase the solar array to double the SRM Institute of Science and Technology 's total electricity use.

Figure 2 : 100 kW solar panel installed at University Building

Using electricity from a solar panel system on your roof can be cheaper than buying it from your electricity company, and it is one of the most significant activities your household can do to reduce your carbon footprint.

Figure 3 : 55 kW solar panel at Basic Engineering Block

TABLE -2 : SOLAR PANEL INSTALLED CAPACITY

Year	Installed capacity (KW)	Total electricity generation- annually (kWh)	Carbon dioxide emissions mitigated (In tons)	Equivalent Planting Teak trees
2013	5	7500	154	264
2014	100	150,000	3075	4920
2016	10	15000	308	492
2017	50	75,000	1538	2460
2018 **(till June)**	245	367,500	7534	12,054
Total	**410**	**615,000**	**12,609**	**20,190**

Note: Average solar irradiation in TAMIL NADU state is 1266.52 W / sq.m. 1kWp solar rooftop plant will generate on an average over the year 5.0 kWh of electricity per day (considering 5.5 sunshine hours)

TABLE 3: SOLAR PANEL CAPACITY AND ITS EQUIVALENT PLANTING

Installed Solar Panel Capacity (in the Year 2018)	440 kW
Approximate units per kW per day:	3.5 kWh
Total Electricity Generation from Solar Plant	615,000 kWh/Year
Financial Savings	Rs. 4920000 / Year
Carbon dioxide emissions mitigated is	12,609 tons
This installation will be equivalent to planting (Data from IISc)	**20190 Teak trees over the lifetime.**

Figure 4 : Solar Panels at the School of Pharmacy, SRMIST

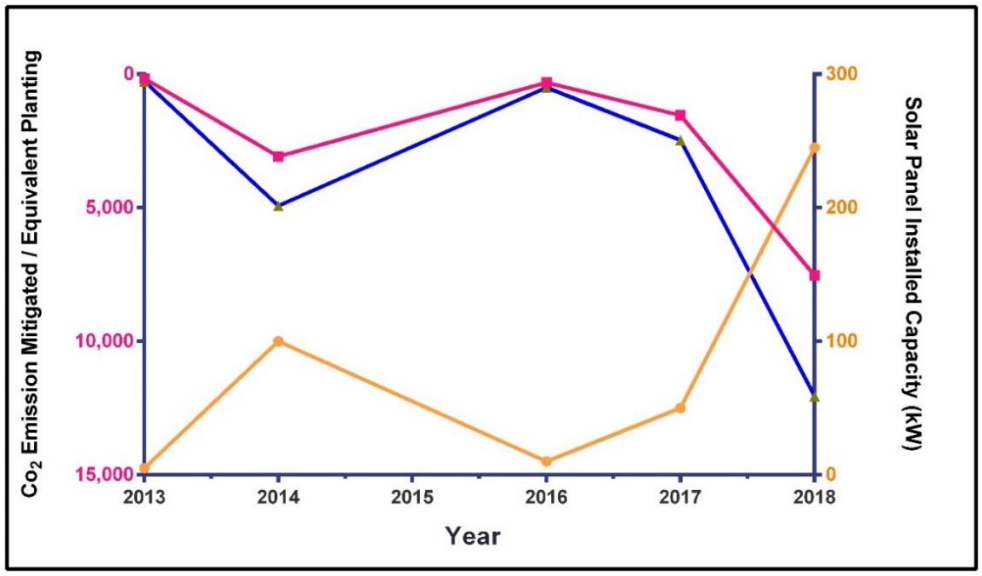


Figure 5 : Year wise solar panel installed and its carbon emission mitigation

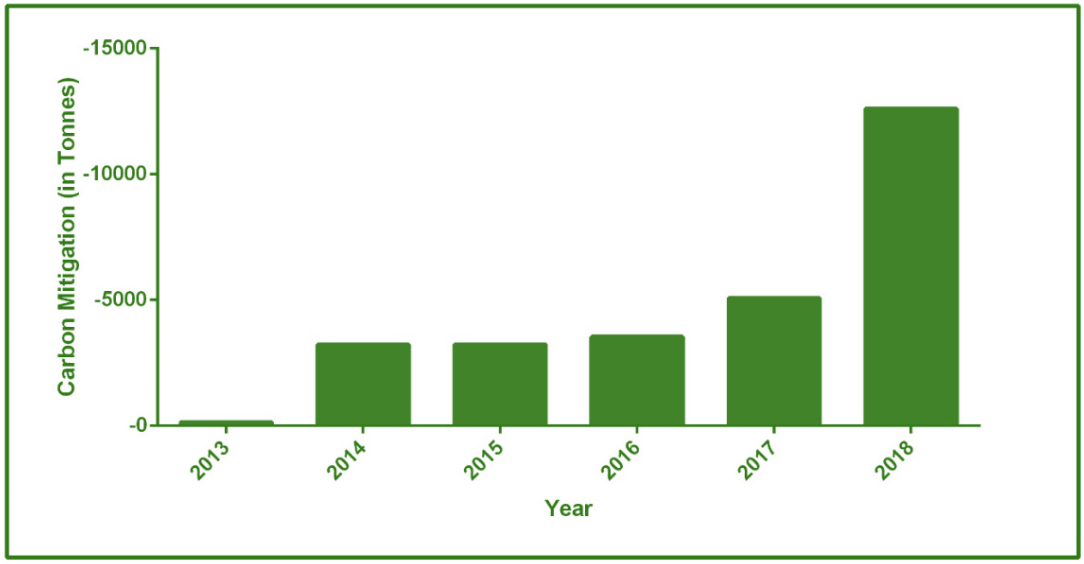


Figure 6: Carbon mitigation due to solar panel installation

By installing solar panels at SRMIST, we have mitigated 12k tons of carbon dioxide and which is equivalent to planting 20,190 teak trees over the lifetime

SOLAR STEAM GENERATORS

A solar steam generating system based on this technology comprises elliptically shaped parabolic solar concentrators arranged in pairs of sleeping and standing dishes in parallel modules, aligned in a perfect east-west direction. Receivers (heat exchangers painted black) are placed in the focus of each pair of dishes. SRM IST has implemented the Scheffler based system for the purpose of cooking application in the campus. The total system has 37 Nos of concentrators of each 16m2 area. The system was commissioned in February 2012 by M/s Thermax Limited, Pune. Prior to the implementation of the CST system our University was using LPG for cooking purpose. The system is integrated with CST & LPG.

The project is set up at a cost of Rs. 1.15 Crore Rupees with grant availed from MNRE of the order of Rs. 29.99 Lakh Rupees. (Subsidy excludes civil works cost). Above the receiver is a header pipe half-filled with water. Cold water enters the receiver through the inner pipe coming from the header. Solar rays falling onto the dishes are reflected and concentrated onto the receivers. Due to the high temperatures achieved, the water within the receiver is converted into steam.

The steam generated in the system is stored in the upper half (empty portion) of the header pipe, and if the steam is not drawn, the pressure of steam keeps on increasing. The steam is then drawn / sent to the kitchen for cooking food or to other units for a variety of applications including laundry, process heat, sterilization, air conditioning etc.

Configuration : 37 Nos of scheffler dishes of 16 m^2 reflector area
Application : Cooking
Year of Commissioning : 2012
Steam Generation : 1500 kg/day (maximum)
Operating Temperature : 130^oC to 140^oC
Operating pressure : 2.5 bar
System type : Scheffler type solar parabolic concentrator
Location : Hostel mess block, SRM IST, Chennai.
Total plant area : 1800 m^2

Figure 7 : Solar Steam Generators at SRMIST

A solar steam system comprising of 96 sq.m of dish area of this technology (6 dishes each of 16 sq. m) may generate around 150 to 200 kg of steam in a day depending on location, and various other features can save approximately 4,500 liters of diesel in a year.

Figure 8 : Solar Steam generator disk

SRM Institute of Science and Technology has installed solar powered lights, solar cooking system, Biogas plant, and a sewage treatment plant. From gardening to cooking,

only non-conventional sources of energy are now being used in the Kattankulathur campus. The fundamental principle is the conversion of water into steam energy, i.e. converting the solar energy into steam energy. The water flows through the pipes and the solar dishes concentrate the solar power on the concentrators. In the concentrators, the water is converted into steam, and that steam is utilized for cooking.

A large portion of the LPG consumption has been reduced because of solar steam. As per the present performance report, monthly saving possible through LPG reduction is around Rs 2 lakhs. The payback period came around 5 years.

Figure 9 : MNRE certificate for largest solar steam cooking system

Awarded for being the largest steam cooking system in the institutional sector during the year 2013 by MNRE, Govt. of India. Ministry of New and Renewable Energy, Govt. of India has awarded our SRM Institute for using the largest steam cooking system in the institutional sector. The prestigious award was received by Dean, School of Mechanical Engineering from the then Hon'ble Minister of New and Renewable Energy, Dr. Farooq Abdulla during a National Workshop on Solar Thermal Systems conducted by MNRE.

The workshop and award ceremony was held at Hotel Ashok, New Delhi on 17th of December 2013. Various stakeholders of solar water heating systems and concentrating solar technologies attended the national workshop and award presentation ceremony.

Figure 10 : MNRE certificate for effective use of CST system for cooking

Awarded for effective utilization of the steam cooking plant by MNRE, Govt. of India during the excellence award 2016 held at New Delhi. Ministry of New and Renewable Energy, Govt. of India has awarded our SRM Institute for using the largest steam cooking system in the institutional sector. The prestigious award was received by Dean, School of Mechanical Engineering from the then Hon'ble Minister of Power, Shri Piyush Goyal during a National Workshop on Concentrating Solar Technologies and Solar Cookers. The workshop and award ceremony was held at Hotel Ashok, New Delhi on 29th of April 2016.The installation of this system not only serves the purpose of catering our 5000 students with solar food but also gives an added advantage for our engineering students to have hands on experience for working and experimenting on this technical marvel.

TABLE 4: SOLAR STEAM GENERATORS AND ITS REDUCTION IN LPG CYLINDERS

Year	LPG Cylinder Utilization (19 kg)	The capacity of Solar Steam Generator (converted in terms of number of cylinders each with 19 kgs)	% reduction in LPG cylinder
2012	9500	635	6.7 %
2013	10,800	1203	12.0 %
2014	11,600	746	7.0 %
2015	13,700	780	6.0 %
2016	15,300	679	5.0 %
2017	15,427	596	4.0 %
2018 (till June)	7399	314	5.0 %

TABLE 5: REDUCTION IN LPG DUE TO SOLAR STEAM GENERATOR

Year	Total LPG Utilization (KG/Year)	CO_2 Emission Due to LPG Utilization (in Tons)	Reduction in LPG due to Solar Steam Generator (in KG/Year)	% Reduction in CO_2 Emission
2012	180500	538	12065	6.68
2013	205200	612	22857	11.13
2014	220400	657	14174	6.43
2015	260300	776	14820	5.69
2016	290700	867	12901	4.43
2017	293113	874	11324	3.86
2018 (till June)	140581	419	5966	4.24

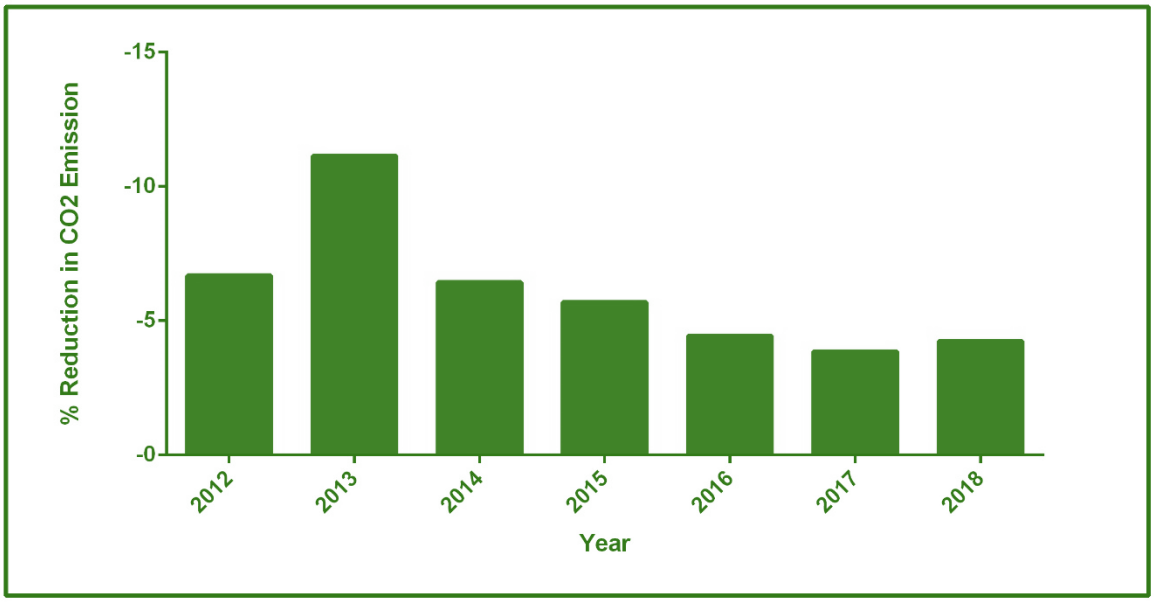


Figure 11: Reduction in Carbon Emission due to solar steam generators

SOLAR WATER HEATERS

Solar water heating is one of the most common and cost-effective uses of solar energy. Solar heating systems, convert the heat energy from the sun into useful energy by heating water or any thermic fluid for use in multiple applications as given below. Solar water heating systems use collector panels to capture the sun's radiation and convert it into useful heat in the form of hot water. A solar collector coupled with solar water storage reduces the fuel needed. The heated liquid is stored in an insulated storage unit made of stainless steel or low carbon steel with glass lining or directly transferred to process during the daytime without storage. Solar hot water collectors heat water for washing, showers, and other domestic uses.

Figure 12: Solar Water Heaters at SRM Hostels

SRM Institute of Science and Technology set up solar steam generation plant over the Terrace of Sannasi U.G. mess hostel in 2012 and the steam energy generated is utilized for cooking foods for hostel students. The plant is successfully functioning between 2.30 p.m. to 5.00 p.m. daily.

TABLE 6: SOLAR WATER HEATERS INSTALLED AT SRMIST HOSTELS

Year	Electricity Utilization for Water Heaters (kW)	The capacity of Solar water heaters Installed (kW)	Place of Installation	% Reduction in Electricity Consumption
2012	2050	300	All Hostels	14.63
2013	2100	350	,,	16.67
2014	2500	334	,,	13.36
2015	2750	334	,,	12.15
2016	3000	334	,,	11.13
2017	3500	307	,,	8.77
2018 **(till June)**	3500	206	,,	5.89

Figure 13 : Hot Water reservoir installed at SRM Hostel.

Figure 14 : Solar Water Heaters at SRM Medical College.

TABLE 7: SOLAR WATER HEATERS CARBON EMISSION MITIGATES AND ITS EQUIVALENT PLANTING

Year	Capacity (k.W)	Total Power Saving (kWh)	Financial Saving (in Lakhs)	Co_2 Emission Mitigated (in tons)	Equivalent to Planting
2012	300	450,000	36	9225	14,760
2013	350	525,000	42	10,763	17,220
2014	334	501,000	40.08	10,271	16,433
2015	334	501,000	40.08	10,271	16,433
2016	334	501,000	40.08	10,271	16,433
2017	307	460,500	36.84	9440	15,104
2018 (till June)	206	309,000	24.72	6335	10,135

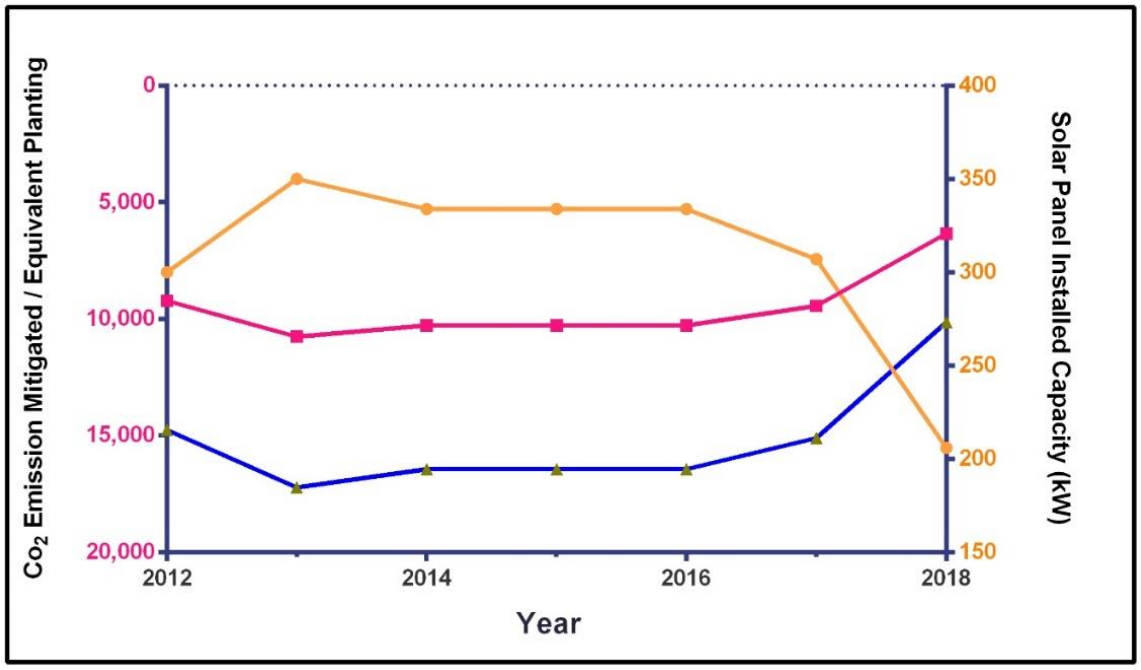


Figure 15 : Solar Water Heaters installed and its carbon mitigation at SRMIST

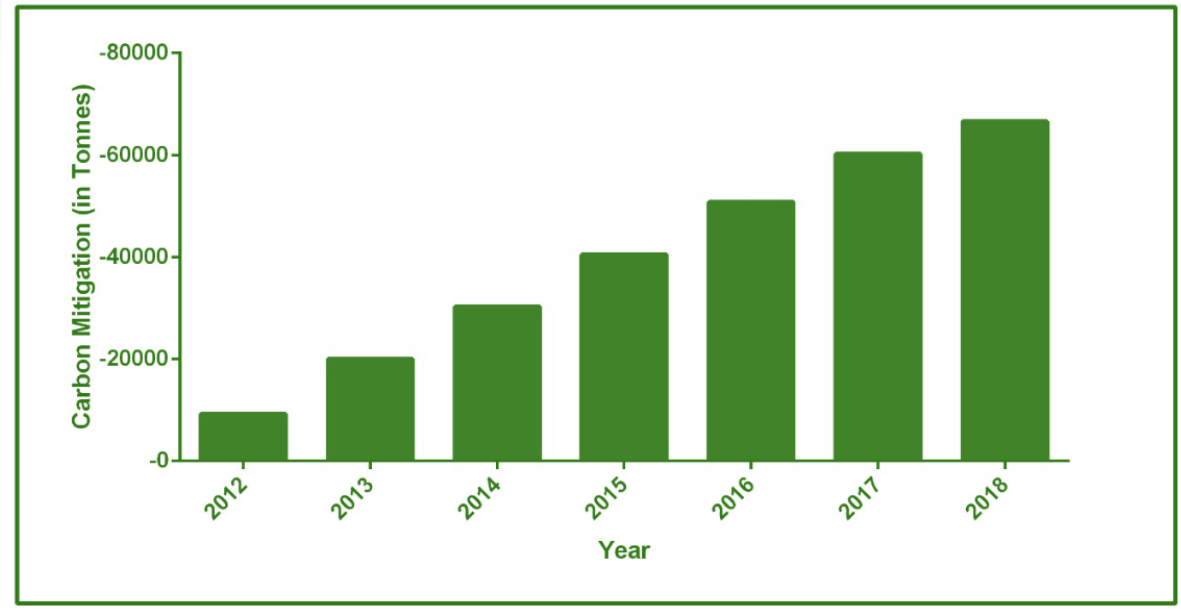
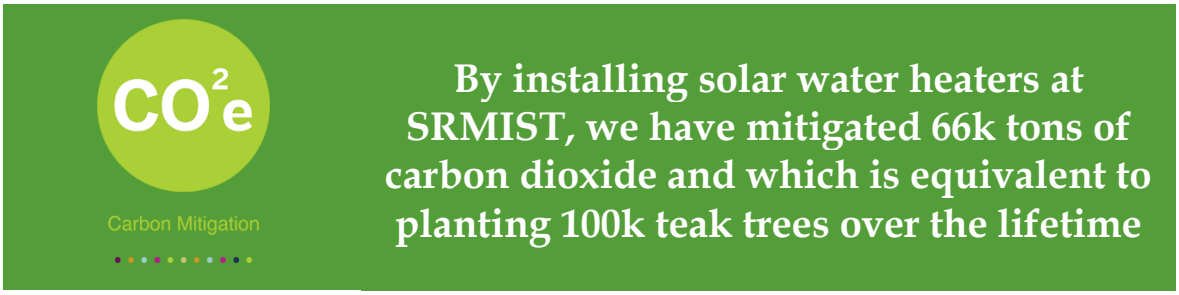


Figure 16 : Carbon Mitigation due to Solar Water Heaters



BIOGAS PLANTS

The purpose of the project is to contribute to the reduction of carbon dioxide and methane emissions into the atmosphere through the promotion of the use of biogas for cooking instead of LPG. Five biogas plants have been constructed and are operational.

A prototype anaerobic model of 90 m^3 was developed for the study of biogas production and biogas manure from the mixed kitchen waste generated from SRM Institute of Science and Technology hostels. SRM hostels consist of 12 Block with four kitchens cooking food for more than 9000 students. It was estimated that an average food waste (cooked and uncooked) per person was 200 gm.

TABLE 8 : BIOGAS PLANT INSTALLED AT SRMIST

Year	The capacity of Biogas plant installed (in M^3)	The total capacity of installed Biogas plant (in M^3)	Biogas generated (in M^3)
2009	90	90	65
2010	0	90	68
2011	165	255	130
2012	0	255	145
2013	0	255	138
2014	0	255	155
2015	0	255	169
2016	150	405	321
2017	0	405	316
2018	0	405	355

The option available for management of this enormous kitchen waste was open land disposal and as animal feed. The reactor was filled with 2/3 rd of its capacity with mixed kitchen waste, cow dung and sewage in definite proportional. The retention period was maintained for 40 days. The study was mainly based on biogas manure quality which was produced after the digestion of kitchen waste. The biogas manure which produced by kitchen waste is good of fertilizer.

Food Waste Collected in SRM Hostels

Food Waste Collected in SRM Hostels

Processing of Food Waste **Processing of Food Waste**

Figure 17 : Collection, Segregation and processing of food waste

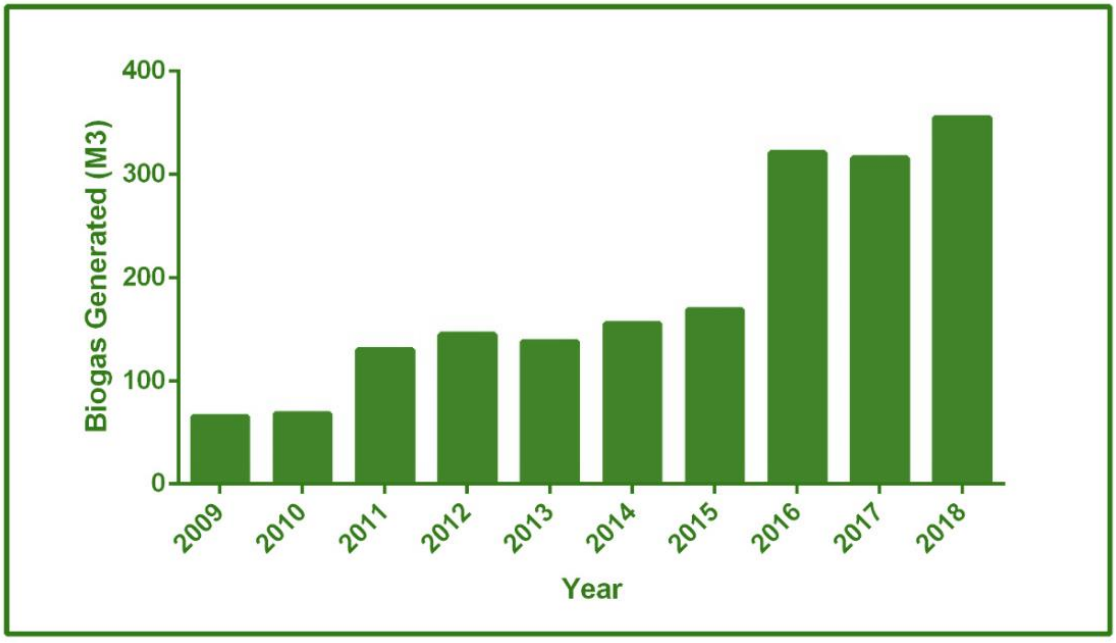


Figure 18: Biogas Generated from Food Waste

Sannasi Hostel Bio Gas Plant

Figure 18 : Biogas plant at Sannasi Hostel

Description and Specification

Location	=	Sannasi Hostel
Capacity	=	90 Cubie meter
Dia of Digestion Chamber	=	11.00 M
Depth of chamber	=	6.00 M
Structural walls	=	R.C.C Encased with Brick work.
Inlet chamber size	=	0.60 M X 0.60M
Outlet Chamber size	=	6.00 M X 6.50 M
Depth of outlet chamber	=	3.00 M
Feeding	=	Food Waste
Gas generated	=	Methane
Gas used by	=	Sannasi hostel mess
Year of commissioning	=	2009

Medical Bio Gas Plant No.01

Figure 19 : Biogas plant at Nursing College

Description and Specification

Location	=	Nursing College
Capacity	=	90 Cubie meter
Dia of Digestion chamber	=	7.00 M
Depth of chamber	=	5.00 M
Structural walls	=	R.C.C Encased with Brick work.
Inlet chamber size	=	0.75 M X 0.75M
Outlet chamber size	=	5.50 M X 5.00 M
Depth ofoutlet chamber	=	3.00 M
Feeding	=	Food waste
Gas generated	=	Methane
Gas used by	=	Nursing Ladies Hostel
Year of commissioning	=	2011

Medical Bio Gas Plant No.02

Figure 20 : Biogas plant at Nursing College -2

Description and Specification

Location	=	Nursing College-2
Capacity	=	75 M^3
Dia of Digestion Chamber	=	4.50 M
Depth of chamber	=	5.00 M
Structural Walls	=	R.C.C Encased with Brick work.
Inlet chamber size	=	0.75 M X 0.75M
Outlet chamber size	=	5.50 M X 3.60 M
Depth of outlet chamber	=	3.00 M
Feeding	=	Food waste
Gas generated	=	Methane
Gas used by	=	Nursing ladies hostel
Year of commissioning	=	2011

Bio Gas Plant behind Manoranjitham hostel

Figure 21 : Biogas plant at Manoranjitham Block

Description and Specification

Capacity	=	75 M^3
Dia of Digestion chamber	=	6.00 M
The depth of digestion chamber	=	5.00 M
Structural walls	=	R.C.C Encased with Brickwork.
Inlet chamber size	=	0.90 M X 0.90 M
Outlet chamber size	=	4.20 M X 4.20 M
Depth of outlet chamber	=	2.10 M
Feeding	=	Food Waste
Gas generated	=	Methane (Cooking Gas)
Gas to be used by	=	Agasthiyar mess
Year of construction	=	2016

Bio Gas Plant–Shenbagam hostel

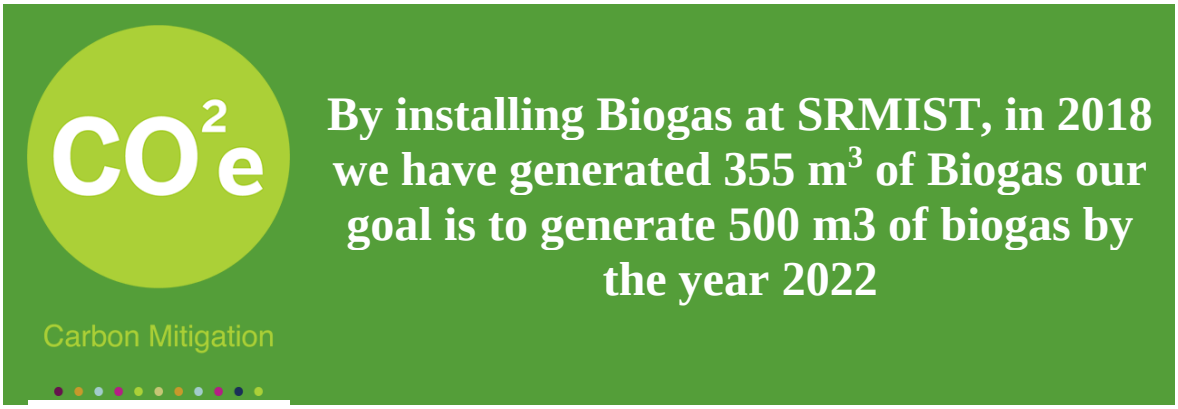
Figure 22 : Biogas plant at Shenbagam hostel

Description and Specification

Capacity	=	75 M^3
Dia of Digestion chamber	=	7.20 M
Depth of digestion chamber	=	4.50 M
Structural walls	=	R.C.C Encased with Brick work.
Inlet chamber size	=	0.60 M X 0.70 M
Outlet chamber size	=	5.00 M X 4.00 M
Depth of outlet chamber	=	2.10 M
Feeding	=	Food Waste
Gas generated	=	Methane (Cooking Gas)
Gas to be used by	=	Shenbagam hostel mess
Year of construction	=	2016

TABLE 9 : DETAILS OF THE BIOGAS PLANT

Year	Location	Capacity	Dia of digestion chamber (in M)	Depth of chamber	Structural walls	Inlet chamber size	Outlet Chamber size	The depth of outlet chamber (in M)	Feeding	Gas generated
2009	Sannasi Hostel	90	11	6.0	R.C.C Encased with Brickwork.	0.60 M X 0.60 M	6.00 M X 6.50 M	3.0	Food Waste	Methane
2011	Medical Bio Gas Plant No.01	90	7	5.0		0.75 M X 0.75 M	5.50 M X 5.00 M	3.0		
	Medical Bio Gas Plant No.02	75	4.5	5.0		0.75 M X 0.75 M	5.50 M X 3.60 M	3.0		
2016	Manoranjitham hostel	75	6.0	5.0		0.90 M X 0.90 M	4.20 M X 4.20 M	2.1		
	Shenbagam hostel	75	7.2	4.5		0.60 M X 0.70 M	5.00 M X 4.00 M	2.1		



REPLACING CFL LAMPS WITH LED

LEDs are well known for their efficiency, which translates to energy savings for the consumer energy savings for the consumer. Nevertheless, they have many other characteristics that make them the best choice from a sustainability perspective too. The replacement of these lights is part of a more significant energy saving initiative that also includes the retrofitting of interior light fixtures with more efficient bulbs across campus to create a unified standard of lighting. All the compact fluorescent (CFL) bulbs are planned to be replaced with LED's

Figure 23 : LED Solar Street Lamps at SRMIST

Figure 24 : 2x2 Drop Ceiling LED Light Fixtures

TABLE 10 : YEAR WISE LED LIGHT REPLACEMENT AT SRMIST

Year	Total CFL Lamps Installed	Replaced LED Lights	Power Utilized for CFL Maps (in KW)	% Reduction	Reduction in Carbon Emission (in Tons)
2013	15,400	1500	616	4	756
2014	13,900	1500	556	10	1891
2015	12,400	1500	496	16	3025
2016	10,900	1500	436	25	4727
2017	9400	1500	376	36	6807
2018	7900	1500	316	51	9644

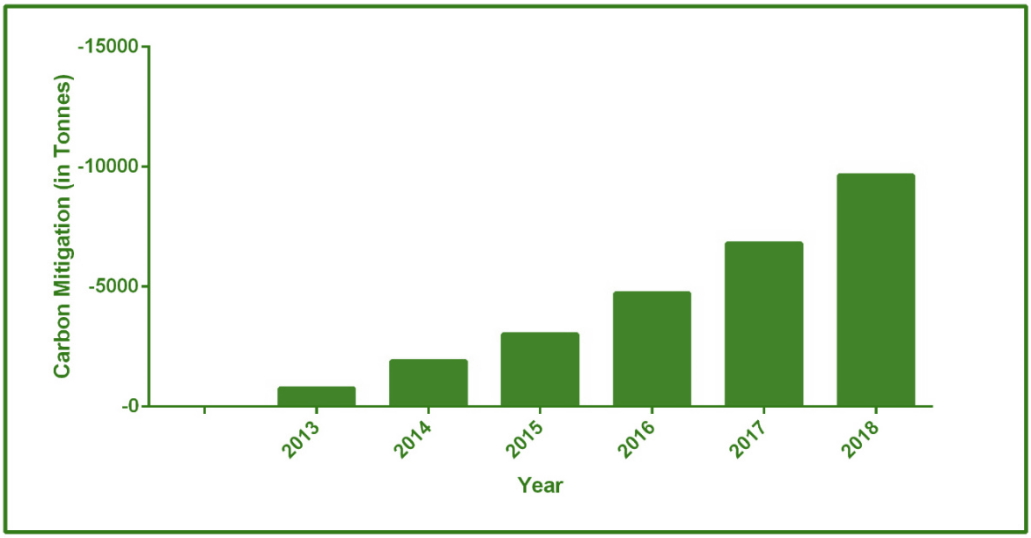


Figure 25: Carbon Mitigation due to the replacement of CFL to LED Lamps

By replacing the CFL lamps with LED lamps at SRMIST, we have mitigated 26k tons of carbon dioxide from the base year 2012

PASSIVE INFRARED MOTION SENSOR FOR LIGHTS

To optimize energy savings further, PIR (passive infrared) motion sensors are used in the faculty of engineering and technology, so the lights only operate when the presence of people is detected. The built-in Passive Infrared (PIR) Motion Sensor turns on the connected lighting system when it detects motion in its coverage area. You can reduce your electricity bills by using PIR Motion Sensors & Occupancy Sensors.

Figure 26 : Passive infrared Motion Sensors

GUIDE TO ENERGY SAVING IN THE OFFICE

- Encourage staff to adopt energy efficient behaviors;
- Schedule regular maintenance sessions, including reporting broken equipment;
- Turn off non-essential equipment at mains;
- Install timers on equipment like photocopiers, printers and scanners;
- Turn monitor screens off when not in use (few minutes and end of the day);
- Avoid unnecessary lighting, like in an unoccupied room or when there is sufficient sunlight;
- Make sure lights are switched off at the end of the day;
- Light personal desks/working space rather than the whole room where possible.

REDUCE, REUSE, RECYCLE

Waste management & Recycling supports the campus goal to reduce the volume of waste material entering the waste stream. There are more than 1,000 segregated recycling bins

on campus for biodegradable and non-bio degradable materials like paper, plastic, and aluminum cans, as well as a newspaper and cardboard drop-off.

REDUCE

Paper is the most significant component of the solid waste stream in the SRMIST by weight, comprising about 10-15% of total waste. The amount of paper used in office settings can be reduced by using less paper, to begin with, reusing where appropriate, and recycling.

REUSE

Get creative when it comes to reusing materials. Items like plastic bags and packaging can have a variety of uses once they serve their original purpose. Single sided printed paper can be reused to print drafts or for scratch paper or shredded and used as packing material. Unwanted magazines and books can also be donated to libraries or local schools to be reread.

The Institute of Science and Technology diverts more than 50 % of its waste from landfills, but the goal is to reach 70% before 2020.

SOLID WASTE REDUCTION & RECYCLE

SRMIST is committed to reducing the volume of waste generated in addition to increasing the proportion of waste which is recycled.

WE AIM TO:

- Deliver a 40 % reduction in solid waste by 2022 from 2012 levels;
- Recycle 50% of our waste by 2022;
- Compensate for remaining emissions by developing research and low carbon technology solutions

OUR PERFORMANCE

- We have reduced solid waste generation by recycling the **34 % of the total waste,** since the base year 2012;
- We need to reduce our solid waste by a further **16%**–based on our current recycling - to achieve our 2022 target.

WE'RE REDUCING SOLID WASTE & E-WASTE BY...

- Composting food waste;
- Recycling IT equipment through our IT supplier;
- Composting garden waste;
- Reducing / Banning disposables & straws at Cafes

By managing your waste, you can help to decrease the impact that the university's operations have on the environment, by reducing the waste we send to landfill. SRM recognizes the importance of its societal role in working with its supply chain and help others to minimize waste generation and working in close with the authorities for waste collection. We are committed to good practice in reducing and managing waste effectively, innovatively and integrating the policy within all departments at all levels.

TABLE 11 : TOTAL WASTE GENERATED AND RECYCLED AT SRMIST

Years	2013	2014	2015	2016	2017	2018 Up to June
Total wastage generated	1,14,400	1,70,400	2,02,800	1,20,900	218,809	125,105
Plastic	17,070	7,550	4,920	7,600	10,277	6952

Papers	17,000	50,800	39,800	58,400	62,775	32,232
Total waste Recycled	34,070	58,350	44,720	66,000	73,052	39,184
Percentage of waste Recycled	30%	34%	22%	55%	33%	31%

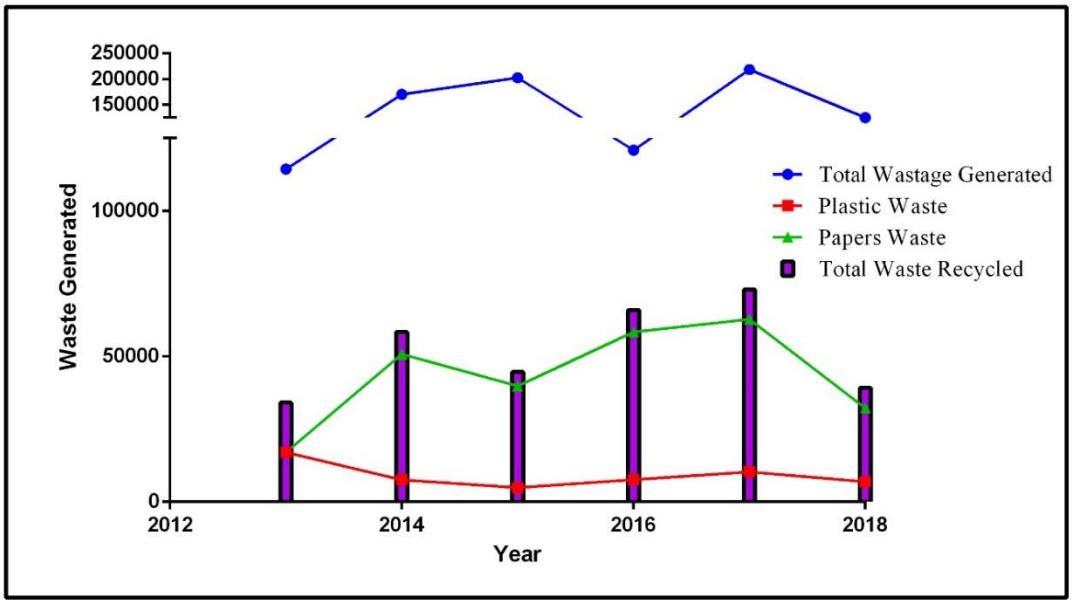


Figure 27: Waste Generated and Waste recycled at SRMIST

CO^2e

Carbon Mitigation

We have recycled an average of 34 % waste, and our goal is to recycle 50% of the waste by 2022.

WASTE SEGREGATION BINS AT SRM

Color of BIN	White Bin	Yellow Bin	Blue Bin	Black Bin
Types of Waste	Paper waste	Glass, Metal Waste and E-waste.	Plastic Waste	Food Waste
Reduce	• Print and copy on both sides; • Use email to exchange documents and memos instead of	• Broken items may be recycled as scrap wood or metal.	• Just say no to straws & disposables inside the campus	• Engage with students to find out what could be improved and recruit them to sample new food items

	printing or faxing; • Use electronic data storage instead of hard copy files.			you'd like to offer. • Awareness posters
Recycle	• Reuse paper printed on one side for internal memos, "draft" documents or scratch pads; • Use recycled-content, chlorine-free paper products, and use soy or other agri-based inks for printing projects.	• E-waste is segregated and send to vendors for recycling; • Recycling depots for recyclable containers are found inside and outside campus buildings.	• Use a reusable bottle for drinks and use your backpack when carrying extra items, instead of using plastic and paper bags	• Compost food waste for gardens. • Provide food scraps to farmers;

Figure 28 : Installed Waste Collection Bin at SRM

DONATION OF BOOKS

At the end of every semester exams, the donation box for books is available in all hostels to collect the books and the books will be re-distributed and available to needy students. For request for collection of books contact the **Directorate of Student Affair,** Room #8, 9, 4th Floor, University Library Building, SRM IST, SRM Nagar, Potheri–603203 Contact : 044–27,417,320

Figure 29 : Donation Box for Book Drop at Campus

BOOK SWAPPING AT SRMIST

Students of SRMIST came together for networking through a healthy exchange of books. Book swap was a successful and interactive initiative where the students have to go with books in hand. Swapping allows you to have the items you want, give someone else the things they have been searching for, while saving you both the cost of buying entirely new products. Trading your items also helps the environment, because you are not helping to create the need for more products to be made.

These new products require new packaging, which eventually ends up in landfills. If you bypass the new products when you are able to swap for the same items, you are not contributing to that cycle.

Figure 30 : Book Swapping events at SRM

BIO COMPOST

Biodegradable material such as paper waste, organic waste generated within the campus is converted into biofertilizer. The environmental benefits of diverting organic materials from landfill include reduced methane emissions (a potent greenhouse gas), and decreased leachate quantities from landfills.

Figure 31 : Bio compost Process at SRM

Collection and Transportation to Dump yard

Classification of Waste

Dumping

Composing

Biofertilizer

Figure 31 : Collection and processing of Solid waster

The Institute of Science and Technology has set up one solid waste management yard at East Potheri, where engaging outsourcing segregates solid wastes generated from the campus. The segregated recyclable wastes are disposed off by sale.

TABLE 12 : BIOFERTILIZER GENERATED AND ITS COST BENEFIT

Year	Biofertilizer Generated	Cost Benefit	
2013			
2014			
2015			
2016			
2017			
2018			

In SRMIST we have generated the revenue of Rs. -------- by converting the waste to wealth in year 2018.

STEPS TAKEN TO REDUCE WASTE IN OFFICES OF SRMIST

- Use a ceramic mug for tea / coffee in your office;
- Reduce your paper consumption by printing on both sides of the paper;

- Scan and email instead of photocopying and sending in the post/ Circulars;
- Write on both sides of the pages in a notebook;
- Only print what you need to File–No Draft Prints

SRM INITIATIVES TO REDUCE PAPER WASTE:

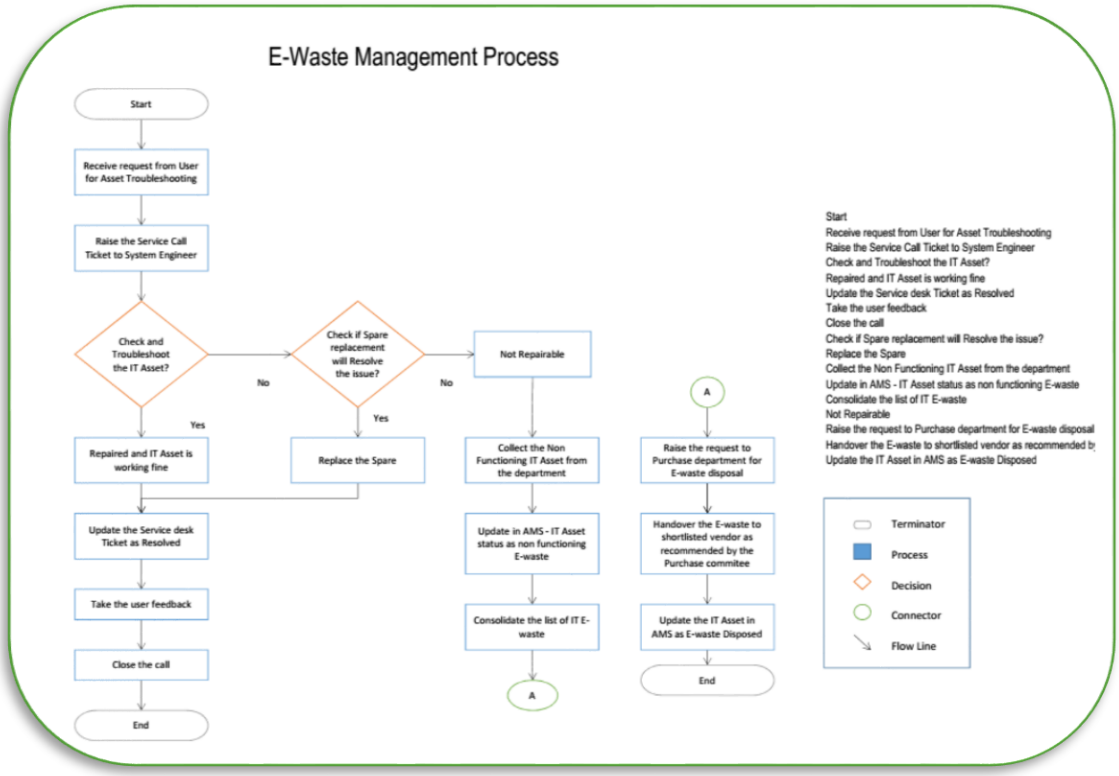
For Students	For Faculties
1. Use Email to send & receive documents.	1. Use email to exchange documents and memos instead of printing or faxing.
2. Always print and copy double side.	2. Allow students to submit coursework electronically, if a hard copy is necessary, insist on it being double-sided.
3. Reuse discarded single sided paper.	3. Reuse discarded single sided paper by printing on the other side or use for notes taking.
4. Research information on the internet and store on a USB stick or CD–avoid printing out documents at all times.	4. Bring laptops to meetings and lectures–avoid using paper at all times.
5. Printing of invitations and posters for events is banned.	6. Make use of online information tools for communications.

REDUCTION OF E-WASTE AND RECYCLING

Students are instructed, motivated and encouraged to dispose of any unwanted electronics in conjunction with Information Technology and Knowledge Management (ITKM). The E-waste collected from the hostels and from other sites will be transferred for recycling to the local vendors on a monthly basis. **The E-waste for recycling can be submitted to the ITKM Department between Monday to Friday, 08.00 a.m. to 16.00 p.m.**

MINIMIZING E-WASTE

- Re-evaluate. Do you really need that extra gadget? Try finding one device with multiple functions.
- Extend the life of your electronics. Buy a case, keep your device clean, and avoid overcharging the battery.
- Buy environmentally friendly electronics. Look for products labeled Energy Star or certified by the Electronic Product Environmental Assessment Tool.



- Donate used electronics to social programs—and help victims of domestic violence, children safety initiatives, environmental causes, and more.

There is no charge to bring electronics to this facility. Examples of electronic waste include, but not limited to:

- TVs, computer monitors, printers, scanners, keyboards, mice, cables, circuit boards, lamps, clocks, flashlight, calculators, phones, answering machines, digital/video cameras, radios, VCRs, DVD players, MP3 and CD players
- Kitchen equipment (toasters, coffee makers, microwave ovens)
- Laboratory equipment** (hot plates, microscopes, calorimeters)
- Broken computer monitors, television tubes (CRTs)

For Further Information Contact

Coordinator (E-waste)
Office of ITKM.
Room No. 20, 4th Floor, University Library Building,
SRM IST, **SRM** Nagar, Potheri–603203
Contact: 044–27,417,320

For disposal of equipment's for recycle, the respective department lab supervisors are requested to contact the ITKM for collection. The collected items will be sent to local retailers for recycling services.

TABLE 13: E-WASTE COLLECTED AND RECYCLING

Year	E-waste Collected	E-Waste Recycling through retailers
2012	CRT Monitors & TFT Monitors 448 Nos Keyboards 7Nos UPS seven Nos Inkjet Printers–10 Nos Dot-matrix Printers–16 Nos LaserJet Printers–24 Nos CPU cabinets–240 Nos	Balamurugan Traders
2013	Canon / HP Used Cartridges–135 Nos	Janani Computer
2015	CPU Cabinets Units–304 Nos CRT monitors –73 Nos TFT Monitors–262 Nos HDD–255 Nos CD Writers–24 Nos RAM–225 Nos Printers–14 Nos Laptop Battery–34 Nos Motherboards without processor– 277Nos SMPS Units–237 Nos Keyboards & Mouse–176No Networking Passive Cables, Switches, Racks, Hubs–130 nos	Balamurugan Traders
2016	Canon / HP Used Cartridges–225 Nos	Janani Computer
2018	HP/Cannon Empty Used Cartridges–382 Nos	M/S Janani Computers

Our goal is to reduce the E-waste generation and recycle the 100% of the E-waste Generated.

WATER MANAGEMENT

SRM IST has a long-term commitment for conservation for water. The Institute of Science and Technology will regularly monitor the use of water with frequent meter

readings to enable a rapid response to potential leaks in the system before damage, excessive use and expense occur. Overnight leak tests by taking meter readings before and after a period of no occupancy will identify any leaks and/or overflows in the building.

Water Management

The specification and design of all water systems to monitor remotely by the management staff. While the excellent design of water systems will reduce the amount of water used at SRM, the behavior of the students and faculty at the Institute of Science and Technology will carry the most influence. Therefore, occupant education is a crucial factor in the reduction of water use. Institute of Science and Technology has operated an irrigation monitoring program specifically designed to conserve water and reduce runoff from campus. The irrigation schedule is administered by an advanced automated central control system based upon historical irrigation practices.

WE AIM TO:

- Reduce water consumption by 15 % at the end of 2022;
- Maintain water-consuming equipment at its optimum efficiency in all buildings and facilities;

- Reduce consumption through tighter control and elimination of leakages;
- Avoid unnecessary expenditure on water consumption.

OUR PERFORMANCE:

- **Our goal to reduce water consumption per student is near the target, with consumption per student currently at around 3.7m3. Water use per user including staff is 3.3m3.**

HOW WE'RE RECYCLING WATER

Water Recycling

1. To reduce the unit cost of water.
2. To reduce the volume of mains water used.
3. Water Monitoring.
4. To investigate its own sources.

Reduce consumption by 15% by 2022

SRMIST INITIATIVE FOR WASTER WATER TREATMENT

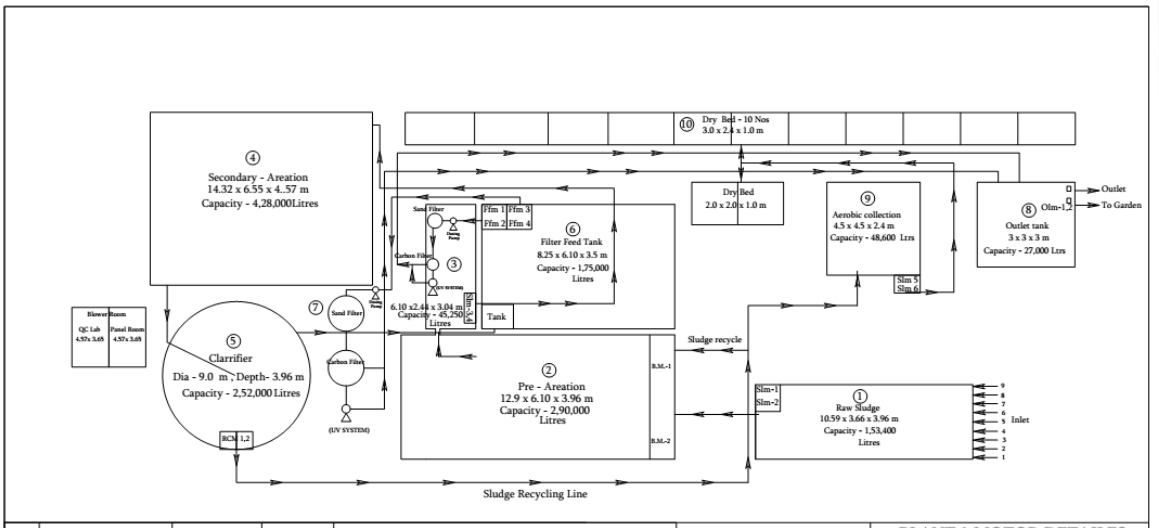
Water treatment describes industrial-scale processes used to make water more acceptable for the desired end use. The goal of all water treatment processes is to remove existing contaminants in the water or reduce the concentration of such contaminants, so the water becomes fit for its desired end use. The processes involved in treating water

for drinking may be solids separation using physical processes such as settling and filtration, and chemical processes such as disinfection and coagulation. The quality of the water treatment process is maintained by certified operators monitoring results of the analytic test performed every four hours and aided by online recording monitors.

The average wastewater generated in the campus is 4600 M^3 (or) 46, 00,000 Lit. The average water treated in the 3 STPs is 4140 M^3 (or) 41, 40,000 Lit. The treated water is used for watering the gardens and lawns maintained in the campus. The sludge settled in the STPs are removed four times a month and composed as manure for the gardens. Thus, the entire wastewater generated in the campus is treated and used for zero discharge.

We aim to reduce the average wastewater generation by 10% by 2020 and increase the quantity of water to 95 % before 2022 from 90 % in 2016.

WATER TREATMENT FACILITY AT SRM



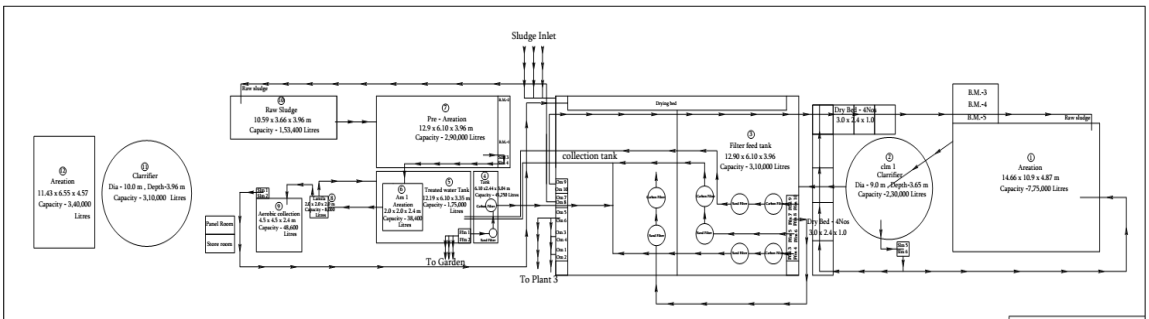
Sl.No	Description	Size in 'M'	Qty in Ltrs
1	Raw Sludge	10.59x3.66x3.96	1,53,400
2	Pre - Aeration	12.9x6.1x3.96	2,90,000
3	Aeration Tank	6.1x2.44x3.04	45,250
4	Secondary - Areation	14.32x6.55x4.57	4,28,000
5	Clarrifier	Dia-9.0 / D-3.96	2,52,000
6	Filter Feed Tank	8.25x6.1x3.5	1,75,000
7	Pressure Sand Filter, Activated Carbon Filter	2m(dia)x2.5m-h	
8	Outlet Tank	3.0x3.0x3.0	27,000
9	Aerobic Collection	4.5x4.5x2.4	48,600
10	Drying bed	3.0x2.4x1.0=10Nos	

BUILDING WISE INLET LINE DETAILS	
Sl.No	Building Name
1.	Hospital A , F Block
2.	Hospital C , G Block
3.	OP Canteen
4.	Staff Quarters 'A' Block
5.	Staff Quarters 'B' Block
6.	Staff Quarters 'D' Block
7.	Dean Quarters & M/c Ladies Hostel
8.	Medical College A,B Block
9.	Mortuary & Store Room

Note:
Am - Aeration Motor
Bm - Blower Motor
Olm - Outlet Motor
Slm - Sludge Motor
Ffm - Filter Feed Motor

PLANT 1 MOTOR DETAILES	
Am 1	= 5hp -1no
Olm 1,2	= 7.5hp -2no"s
Slm 1to Slm 4	= 5hp -4no"s
Bm 1,2,3,4,5	=10hp-3no"s&20hp-2no"s
RCM 1,2	= 5 hp - 2no"s
Ffm 1,2,3,4	= 7.5hp-4no"s
PLANT 1TREATED CAPACITY	
Plant A = 10,00,000 Litres	
Inlet sewage water- 9,00,000/day	

Figure 32 : layout of Waste Water Treatment Facility–1



Sl.No	Description	Size in 'M'	Qty in Ltrs	Sl.No	Description	Size in 'M'	Qty in Ltrs	Sl.No	Description	Size in 'M'	Qty in Ltrs
1	Areation	14.66x10.9x4.87	7,75,000	7	Pre - Areation	12.9x6.1x3.96	2,90,000	PROPOSED			
2	Clarrifier	Dia-9.0 / D-3.65	2,50,000	8	Lamda	2.0x2.0x2.0	8,000	11	Clarrifier	Dia-10.0 / D-3.96	3,10,000
3	Filter Feed Tank	12.9x6.1x3.96	3,10,000	9	Aerobic Collection	4.5x4.5x2.4	48,600	12	Areation	11.43x6.55x4.57	3,40,000
4	Tank	6.1x2.44x3.04	45,250	10	Raw Sludge	10.59x3.66x3.96	1,53,400		TOTAL (B)		6,50,000
5	Treated Water Tank	12.19x6.1x3.35	1,75,000		TOTAL (A)		20,73,000		GRAND TOTAL (A+B)		27,23,000
6	Areation	2.0x2.0x2.4	38,400								

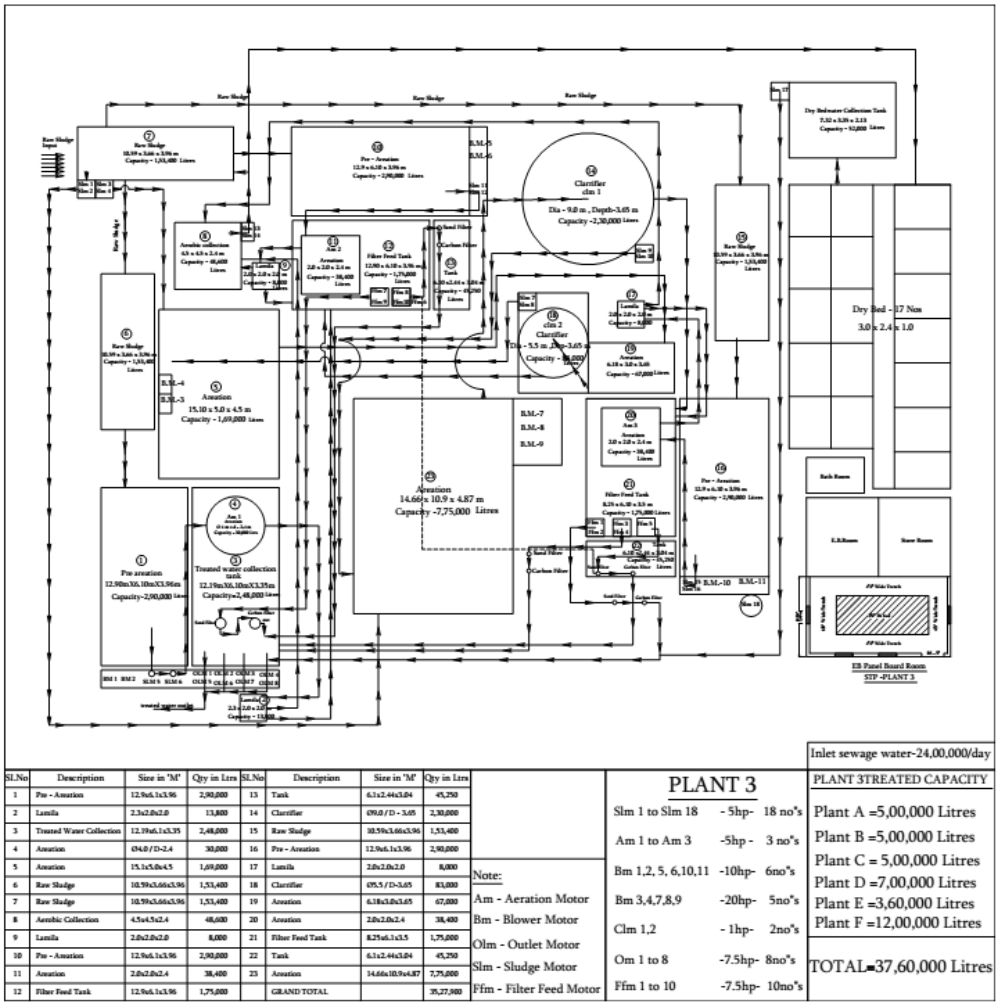
Note:
Ffm - Filter Feed Motor
Slm - Sludge Motor
Olm - Outlet Motor
Bm - Blower Motor
Am - Aeration Motor

PLANT 2 MOTOR DETAILES	
Ffm 1 to 10	=7.5hp-10no"s
Cm 1	=1hp -1no
Bm 3 to Bm 5	=20hp-3no"s
Bm 1,2	=10hp-2no"s
Slm 1to Slm 6	= 5hp -6no"s
Am 1	=5hp -1no

Inlet sewage water-15,00,000/day
Plant A =5,00,000 Litres
Plant B =5,00,000 Litres
Plant C = 7,00,000 Litres
TOTAL=17,00,000 Litres
PLANT 2 TREATED CAPACITY

Figure 33 : The layout of Waste Water Treatment Facility -2

SRM INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)



Inlet sewage water-24,00,000/day

SL.No	Description	Size in 'M'	Qty in Ltrs	SL.No	Description	Size in 'M'	Qty in Ltrs
1	Pre - Aeration	12.9x6.1x3.96	2,90,000	13	Tank	6.1x2.44x3.04	45,250
2	Lamila	2.3x2.0x2.0	13,800	14	Clarifier	Ø9.0 / D - 3.65	2,30,000
3	Treated Water Collection	12.19x6.1x3.35	2,48,000	15	Raw Sludge	10.59x3.66x3.96	1,53,400
4	Aeration	Ø4.0 / D=2.4	30,000	16	Pre - Aeration	12.9x6.1x3.96	2,90,000
5	Aeration	15.1x5.0x4.5	1,69,000	17	Lamila	2.0x2.0x2.0	8,000
6	Raw Sludge	10.59x3.66x3.96	1,53,400	18	Clarifier	Ø5.5 / D=3.65	83,000
7	Raw Sludge	10.59x3.66x3.96	1,53,400	19	Aeration	6.18x3.0x3.65	67,000
8	Aerobic Collection	4.5x4.5x2.4	48,600	20	Aeration	2.0x2.0x2.4	38,400
9	Lamila	2.0x2.0x2.0	8,000	21	Filter Feed Tank	8.25x6.1x3.5	1,75,000
10	Pre - Aeration	12.9x6.1x3.96	2,90,000	22	Tank	6.1x2.44x3.04	45,250
11	Aeration	2.0x2.0x2.4	38,400	23	Aeration	14.66x10.9x4.87	7,75,000
12	Filter Feed Tank	12.9x6.1x3.96	1,75,000		GRAND TOTAL		39,27,900

Note:
Am - Aeration Motor
Bm - Blower Motor
Olm - Outlet Motor
Slm - Sludge Motor
Ffm - Filter Feed Motor

PLANT 3

Slm 1 to Slm 18	- 5hp-	18 no"s
Am 1 to Am 3	-5hp -	3 no"s
Bm 1,2, 5, 6,10,11	-10hp-	6no"s
Bm 3,4,7,8,9	-20hp-	5no"s
Clm 1,2	- 1hp-	2no"s
Om 1 to 8	-7.5hp-	8no"s
Ffm 1 to 10	-7.5hp-	10no"s

PLANT 3TREATED CAPACITY

Plant A =5,00,000 Litres
Plant B =5,00,000 Litres
Plant C = 5,00,000 Litres
Plant D =7,00,000 Litres
Plant E =3,60,000 Litres
Plant F =12,00,000 Litres

TOTAL=37,60,000 Litres

Figure 34 : layout of the Waste Water Treatment facility at SRMIST–Plant 3

TABLE 14 : PERCENTAGE OF WASTE WATER RECYCLED

Year	Total wastewater collected	Waste water recycled	R.O. Reject generated	% waste water recycled
2013				
2014				
2015				
2016				
2015				
2016				
2017				

Figure 35: Wastewater treatment plant at SRMIST

Figure 36 : Effluent Treatment plant at SRMIST

Figure 37: Clarifier tank in wastewater treatment process

REVERSE OSMOSIS PLANTS (R.O. PLANTS)

Reverse osmosis (RO) is a membrane separation process, driven by a pressure gradient, in which the membrane separates the solvent (generally water) from other components of a solution. The membrane configuration is usually cross-flow. The Institute of Science and Technology has provided purified R.O. drinking water to all the students and staff residing in the campus by setting up the R.O plants in the hostels and academic buildings. In additional to drinking purpose, R.O water is provided to the hostel mess for cooking foods. The details of R.O. plants in the university are furnished below.

TABLE 15 : RO PLANTS INSTALLED AT SRMIST

S. No	Campus / Blocks	Total No of R.O Plants	Capacity	Number of Hours Run	Remark
Institution					
1	Main Campus	2 No	1000 L / Hour	10 Hrs	
2	Annexure Campus	7 No	1000 L / Hour	10 Hrs	
Hostels					
3	Green Pearl Apartment	1 No	1000 L / Hour	10 Hrs	
4	Engineering Hostels	13 No	1000 L / Hour and 2000 L / Hour	10 Hrs	12 No = 1000 L 01 No = 2000 L
5	Medical College and Hospital	7 No	1000 L / Hour and 2000 L / Hour	8 to 10 Hours	06 No = 1000 L 01 No = 2000 L

Figure 38: RO Plant installed at SRMIST

RAINWATER HARVESTING

Capturing rainwater can be a valuable way to reduce and aim to eliminate a building's use of municipal potable water, without requiring reductions in water use by occupants. However, it is, of course, more effective in rainy climates than dry ones.

ROOFTOP RAINWATER HARVESTING

SRM has initiated and executed the rooftop rainwater harvesting in all the buildings of the Institute of Science and Technology, including hostels, guesthouse and hospitals. The rainwater collected from building rooftops of buildings connected to a standard header and led to a trickling sand filter. The filtered water is used for domestic purposes after chlorination. Rainwater harvesting is also done by diverting stormwater drains and runoff from rooftops to bore wells for recharge. For this, a pit of size 2m x 2m x 2m is excavated around the dry bore well, and the casing pipe is fitted with a v-wire filter. Filter media is filled in the pit around the well. The stormwater drains and rooftop rainwater are diverted into this pit gets filtered into the borewell through the v-wire filter.

Rainwater is collected from the roof and stored in large tanks. The water is then used for the flushing of toilets and prevents the drinking water from the mains being used. There are many advantages to harvesting rainwater, mainly by providing an independent and local water supply, which is not impacted by regional water restrictions and which reduces the demand on local water infrastructure

.

RAINWATER HARVESTING AT SRMIST

Total rooftop and surface area: square metres (sq m)

Average annual rainfall in Tamil Nadu: millimetres (mm)

Total volume of rainwater harvested: cubic meters (m^3) or litres.

This represents XX per cent of total rainwater harvesting potential

SURFACE RUNOFF HARVESTING

TABLE 15 : RAINWATER HARVESTING PLANTS AT SRMIST

S.No	Campus	Blocks	Number of Rainwater Harvesting	Quantity of Water Collected
1	Annexure Campus	Dental Ground	3	15000
2	Annexure Campus	SRM Hospital	4	15000
3	Annexure Campus	SRM Medical College	2	15000
4	Annexure Campus	SRM PC Roy Hostel	1	15000

TABLE 16 : QUANTITY OF RAINWATER HARVESTED

Year	Quantity of rainwater harvested
2012	
2013	
2014	
2015	

2016	
2017	
2018	

Figure 39: Rail water Harvesting Facility at SRMIST

At SRM we have harvested approximately 6,00,000 Liters of rainwater, our goal is to double the rate of rainwater harvesting by 2022.

WATER USE REDUCTION IN LABORATORIES & OFFICES

1. Recirculate water used for cooling
2. Ensure water-using equipment has as high loadings as possible
3. Use water efficiently for cleaning and rinsing
4. Efficient use of water baths and heating blocks
5. Efficient use of purified water
6. Raise awareness of the environmental impact of water usage

TRAVEL AND TRANSPORT

The university aims to facilitate staff, students and visitors to travel as sustainably as possible to and from campus, to help cut carbon emissions and pollution, and improve health and wellbeing. We particularly encourage to use of active travel such as walking and cycling, as well as public transport, car-sharing, e-vehicles, and avoiding the need to travel by using online meetings or conference calls.

WE AIM TO:

- To provide real and affordable travel choices for staff and students traveling to the university, and between university sites;
- To further reduce the number of cars arriving at the university;
- To manage the demand for car parking within current levels of provision;
- To be a good neighbor to local residents and the wider community.

OUR PERFORMANCE:

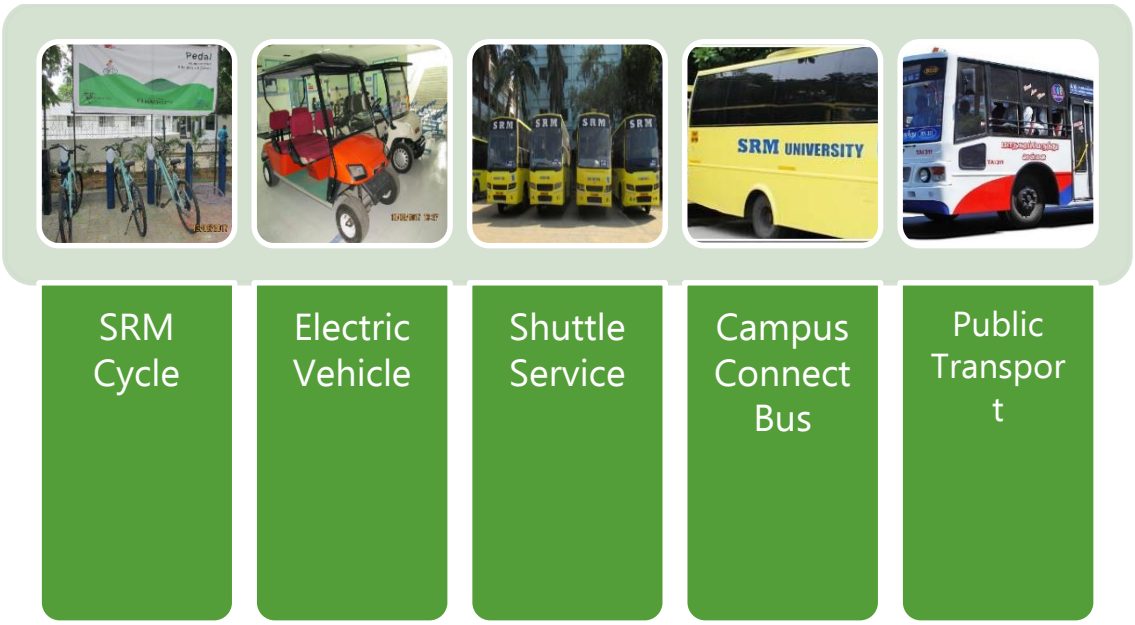
- The university improves for sustainable travel options by reducing the own car usage by staffs is 9.9 %, and students are 1.4% in 2017, but the goal is to minimize personal car usage by staff to 5 % and student by 0.5 % before 2022;
- This can be achieved by increasing the utilization of campus connect buses by 30 % by 2022 from 19.81 % in 2016.

HOW WE'RE ACHIEVING SUSTAINABLE TRAVEL

The objective transport strategies seek to reduce the number of car journeys on the network, promote and improve the range and journey experience of sustainable transport, and reduce the university's emissions of carbon and air pollution by vehicles.

SRMIST INITIATIVE FOR SUSTAINABLE TRAVEL

The Environmental sustainability at SRM provides information and services designed to help staff and students make sustainable travel choices on a day-to-day basis and contribute to the reduction of carbon footprint in the university by:



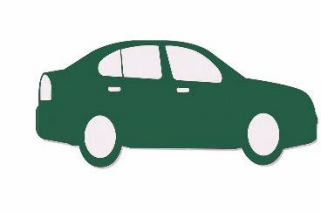
1. **SRM Cycles–Pedal**
2. **Electric Vehicles**
3. **Shuttle Services**
4. **Campus Connect Buses**
5. **Public Transport**

The university seeks to understand the requirement of transport for its users, staff and supply chain to prepare targets to reduce the environmental influence of transport related to college activities

TABLE 17 : MODE OF TRANSPORT BY STUDENTS AND STAFF OF SRMIST

Mode of Transport	2013		2014		2015		2016		2017		2018	
	Staff	Student	Staff	Student	Staff	Student	Staff	Student	Staff	Student	Staff	Student
Car Driving	10.5	1.42	9.53	1.45	9.85	1.47	9.90	1.44	9.62	1.60	9.85	1.56

Motor Cycle	23.2	5.86	21.4	6.51	20.68	6.59	20.73	6.67	18.9	6.70	18.2	6.42
Walking	7.54	28.20	6.57	27.36	6.24	26.61	6.54	26.00	10.0	25.80	11.0	26.00
Cycling	1.13	1.17	1.06	1.23	1.17	1.25	1.59	1.26	1.90	1.38	1.94	2.54
Public Transport	31.4	34.49	32.2	34.34	32.78	34.62	31.75	34.91	28.5	35.78	27.1	36.32
Campus Connect Buses	19.1	19.13	18.0	19.32	18.54	19.64	18.67	19.81	19.0	19.20	20.1	17.23
Taxi / Others	7.04	9.72	11.2	9.79	10.73	9.82	10.83	9.90	11.8	9.55	11.4	9.86



The university improves for sustainable travel options by reducing the own car usage by staffs is 9.9 %, and students are 1.4% in 2017, but the goal is to reduce own car usage by staff to 5 % and student by 0.5 % before 2022.

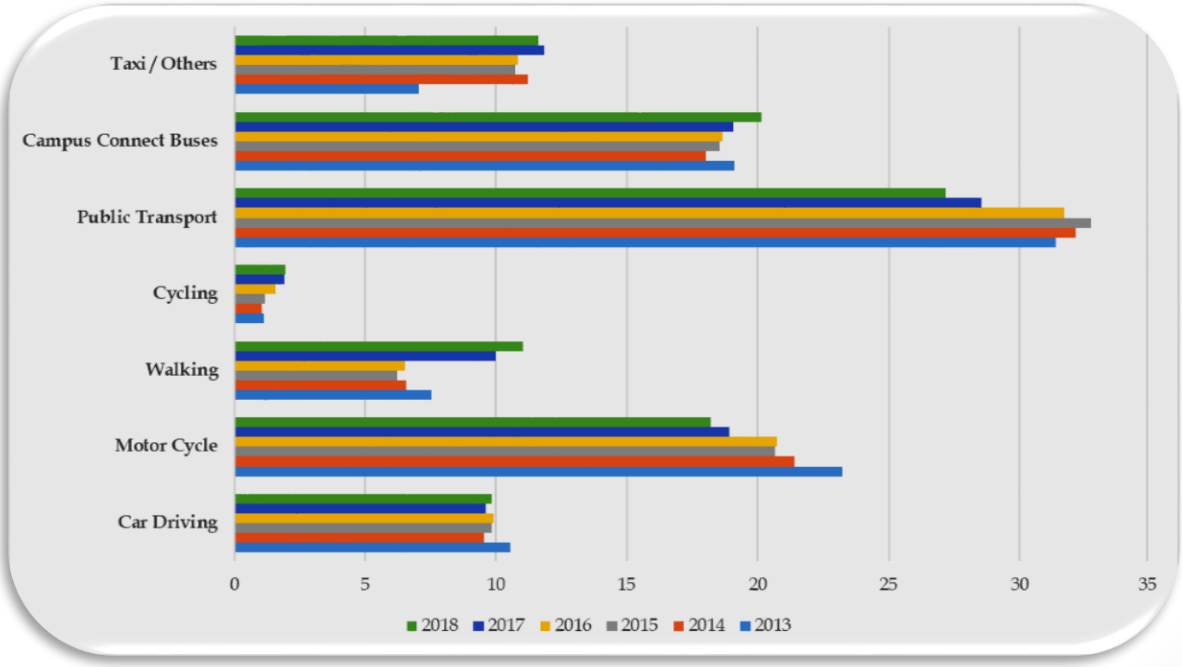


Figure 40 : Over all Staff transportation details

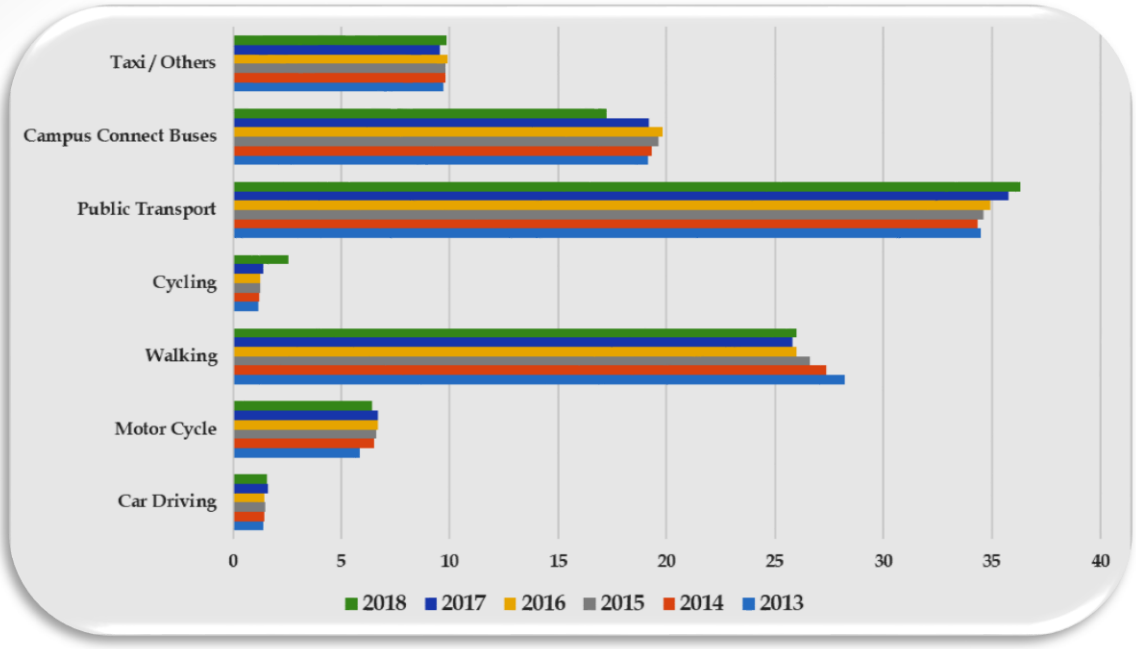


Figure 41 : Over all Student transportation details

SRM CYCLES–PEDAL

"Pedal", an automated cycle sharing system–In search of an eco-friendly, sharable transport, the team targeted the ecosystem around them, SRM Institute of Science and Technology develops a mode of transportation that help students to move around the campuses conveniently. The pedal is completely automated and can be monitored from an application. Directly approach a hub and swipe your smart card for a cycle to be unlocked. Push the cycle back into a center closest to your destination to complete your

ride. Billed by the minute, the system is of minimal costs and fulfills the need for a green and efficient system. To support and encourage cycling the SRM Institute of Science and Technology has installed cycles for students to commute between hostels and university campuses. SRM has initiated a dedicated place for cycle parking across the campus. Regular cycling can improve your health, save money and reduce environmental impact.

Figure 42 : SRM Cycles Pedals at SRMIST

The Staff usage of the cycle is 1.59 %, and Student usage is 1.26 % in 2016, the goal of SRM is to increase the cycle usage to 5 % at the end of 2020

ELECTRIC VEHICLES

Electric cars save many lives from air pollution, but only if they're powered by renewable energy, not energy from coal considering the CO_2 emission SRM has installed the electrically powered vehicles to commute inside the campus.

Figure 43 : Electric Cars utilized in SRM Hospital

SHUTTLE SERVICES

Students, faculties, and staff can ride free shuttles that serve the campus, medical centers, hostels that connect key points in the university. The shuttles operate from Monday to Saturday between morning 07.00 a.m. to 20.00 p.m. with every 20 minutes frequency, and during the weekend the shuttle operates based on the need and the demand.

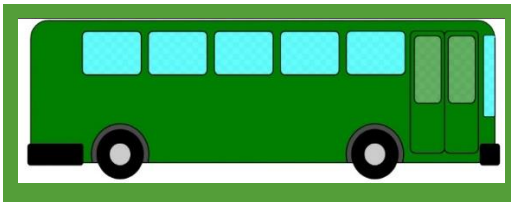
Figure 44 : Shuttle Buses at SRMIST

Figure 45 : Shuttle Vans at SRMIST

CAMPUS CONNECT BUSES

The SRM group runs air-conditioned buses for transporting students and faculties to and from almost all parts of the city including smaller vans and several cars.

Figure 46: Air Conditioned Campus Connect buses



The goal of SRM is to increase the utilization of campus connects buses by 30 % by 2020 from 19.81 % in 2016.

SRM INSTITUTE OF SCIENCE & TECHNOLOGY

FACULTY OF ENGINEERING AND TECHNOLOGY
BUS TIME - FOR STUDENT & STAFF (II SPELL) : 2018-19

ROUTE NO: E – 1	
PLACE	Time (am)
Avadi	6.40
Thirumullaivoyal	6.45
Ambattur OT	6.50
Ambattur Estate	6.55
Vavin	7.00
Golden Flats	7.05
Collector Nagar	7.07
Waves	7.10
Porur Toll Plaza	7.25

ROUTE NO: E - 3	
PLACE	Time (am)
Porur Roundana	6.50
Sakthi Nagar	6.52
Ramapuram (MIOT)	6.55
Butt Road	6.58
Mount Subway	7.00
Jeyalakshmi Theatre	7.02
Vanuvampet	7.05
2nd Main Rd	7.08
Pallavaram	7.15

Route No. E-5 A	
Place	Time (am)
Pallikaranai	7.03
Medavakkam	7.08
Medavakkam X Road	7.08
Gowrivakkam	7.10
Kamarajapuram	7.12
Mahalakshmi Nagar	7.15
Camp Road	7.15
Selaiyur	7.20
Christ King	7.20

Route No. E-8 ***	
Place	
Kasi Theatre	Only Drop @ 5.10 pm
K.K Nagar Depot	
Pondichery Guest House	
Avichi	
Virugambakkam	
Valarasavakkam	

ROUTE NO: E-2	
PLACE	Time (am)
Mylapore Tank	6.30
Mandaveli Depot	6.32
Adayar Aavin	6.40
Adayar Canal	6.45
Anna University	6.47
Guindy	6.50
Perungalathur	7.25

Route No. E-4	
Place	Time (am)
SAF	6.55
Ambika Empire	6.57
Vadapalani Sivan koil	6.59
Ashok Pillar	7.02
Kasi Theatre	7.05
Ekkaduthangal	7.07
Chrompet	7.25
MEPZ	7.30
Tambaram(Hindu Mission)	7.35

Route No. E-6	
Place	Time (am)
Korattur	6.40
Padi X road	6.45
Nathamuni Theatre	6.47
ICF	6.52
K4 police Station	6.55
Anna Nagar Roundana	6.57
Anna Arch	7.00
Arumbakkam	7.03
Nerkundram	7.06
Maduravoyal (Erikkarai)	7.08

Route No. E-9 ***	
Place	
Chinnamalai	Only Drop @ 5.10 pm
Saidapet	
Nandanam Signal	
Teynampet (DMS)	
Churchpark	
Shanthi Theatre	
Forte Rly Station	
Beach Station	
Kalmandabam	
Kasimedu (Beach Rd)	
N4 Police Station (Beach Rd)	
Toll Gate (Beach Rd)	
Raja Kadai (Beach Rd)	
Kaladi Pet (Beach Rd)	
Ellaiamman Koil (Beach Rd)	

ROUTE NO: E-2 A ***	
PLACE	
Guindy	Only Drop @ 5.10 pm
Adayar Canal	
Indira Nagar Pillayar Koil	
Indira Nagar Water Tank	
Adyar Bus Depot	
Vannandurai	
RBI Qrts	
Besant Nagar Bus Stand	

ROUTE NO: E-5	
PLACE	Time (am)
Neelankarai	6.40
Palavakkam	6.43
Kottivakkam	6.45
RTO Office (ECR)	6.48
Thiruvanmiyur Kovil	6.50
SRP Tools	6.55
Baby Nagar	6.58
Vijaya Nagar	7.00
Kalveli	7.02
Kamachi Hospital	7.05
Echankadu	7.10

Route No. E-7 ***	
Place	
Ambedkar Nagar	Only Drop @ 5.10 pm
Retteri (Cake Waves)	
Kolathur (Moogambigai)	
Thiru Vi Ka Nagar	
Perambur (Brindha Theatre)	
Moolakadai	
Manali	

NOTE :

1. CAMPUS ARRIVAL / DEPARTURE TIME @ 8.10 Am / 5.10 Pm (E1 To E6)
2. *** Only Drop @ 5.10 pm (E2A,E7,E8,E9)

SRM
INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

SRM FACULTY OF SCIENCE AND HUMANITIES - BUS TIME : 2018-19

ROUTE NO: SH – 1	
PLACE	Time (am)
Avadi	6.45
Ambattur	6.55
Ambattur Estate	7.00
Vavin	7.10

ROUTE NO: SH – 1 A	
PLACE	Time (am)
Waves	6.55
Collector Nagar	6.57
Golden Flats	7.00
Maduravoyal (Bypass Road)	7.10
Toll Gate	7.15

ROUTE NO: SH - 2	
PLACE	Time (am)
New College	6.40
Ajanta	6.45
Valluvar Statue	6.47
Mylapore Tank	6.52
Mandaveli	6.55
Billroth Hospital (R A Puram)	6.57
Crown Plaza	7.00
Kotturpuram	7.02
Guindy	7.10
Chromepet	7.20
MIT	7.22

ROUTE NO: SH - 3	
PLACE	Time (am)
AVM	6.45
Avichi School	6.50
Virugambakkam	6.52
Alwar Thirunagar	6.54
Kesavardhini	6.58
Valasaravakkam	7.00
Porur Roundana	7.05
Ramapuram (MIOT)	7.10
Butt Road	7.15

ROUTE NO:SH -4	
PLACE	Time (am)
Panagal Park	6.40
Pondy Bazzar	6.43
Hindi Prachara Sabha	6.50
Burkit Road	6.52
Kannamapettai	6.55
Aranganathan Subway	6.57
Srinivasa Theatre	6.58
Ashok Pillar	7.00
Ekkaduthangal	7.05
Shanthi Bunk	7.15
Pallavaram	7.25
Tambaram	7.35

ROUTE NO:SH -5	
PLACE	Time (am)
Neelankarai	6.50
Palavakkam	6.52
Kottivakkam	6.54
RTO Office (ECR)	6.56
Thiruvanmiyur Kovil	6.58
SRP Tools	7.00
Vijaya Nagar	7.10

ROUTE NO:SH -5 A	
PLACE	Time (am)
Pallikaranai	7.10
Medavakkam	7.13
Medavakkam X Road	7.15
Gowrivakkam	7.18
Kamarajapuram	7.20
Mahalakshmi Nagar	7.22
Camp Road	7.24
Selaiyur	7.26
Christ King	7.28

ROUTE NO:SH -6	
PLACE	Time (am)
Valluvar Kottam	6.38
Loyola College	6.40
Metha Nagar	6.42
Ampa Mall	6.44
Anna Nagar Roundana	6.49
Blue Star	6.52
Koyambedu	6.55
SAF	6.57
MMDA (100 Feet Road)	7.00
Ambika Empire	7.05
Vadapalani Sivan Kovil	7.07

ROUTE NO:SH -7	
PLACE	Time (am)
Sekar Emporium	6.40
Power House	6.43
Ashok Nagar Police Station	6.45
Amman Koil	6.50
Pondicherry Guest House	6.52
Nesapakkam	6.55
M.G.R Nagar	6.58
K.K. Nagar Depot	7.00
Kasi Theatre	7.05
Sanatorium	7.30

ROUTE N0:SH – 8	
PLACE	TIME (AM)
Rathna Cafe	6.30
Santhome	6.40
Pattinapakkam	6.45
Adyar Aavin	6.48
Besant Nagar	6.50
Vannandurai	6.55
Indira Nagar	7.00
Adayar Canal	7.05
IIT	7.10
GUNIDY	7.20

ROUTE NO. SH - 9	
PLACE	Time (am)
Thiruvottiryur (Beach Rd)	6.00
Toll Gate (Beach Rd)	6.05
Kasi Medu (Beach Rd)	6.10
Kalmandapam	6.15
Beach Station	6.20
Parrys	6.25
Shanthi Theatre	6.30
Thousand Light	6.35
DMS	6.40
Nandanam Signal	6.45
Saidapet	6.50
Chinnamalai	7.00

ROUTE N0:SH - 10	
PLACE	Time (am)
Rettari	6.22
Kolathur	6.24
Welding Shop	6.26
Peravallur (Kamaraj Statue)	6.30
Perambur Rly Station	6.35

ROUTE N0:SH - 11	
PLACE	TIME (AM)
Oteri	6.45
Ayanavaram Noor Hotel	6.47
ICF	6.55
Nathamuni	7.00
Anna Nagar West Depot	7.05

ROUTE NO: SH -12(STAFF)	
PLACE	TIME (AM)
Vijaya Nagar	7.05
Pallikaranai	7.10
Medavakkam X Road	7.15
Vijayanagaram	7.18
Santhosapuram	7.20
Sembakkam	7.25
Kamarajapuram	7.30
Gowrivakkam	7.32
Camp Road	7.35
M C C	7.38
Perungalathur	7.40

INSTRUCTIONS

1.BUS FEE -Rs.50,000/-DD IN FAVOUR OF ''SRMIST'' PAYABLE AT CHENNAI.
2.BUS BOOKING WILL BE MADE AFTER OBTAINNING ID CARD (For First year)
3.SEATS WILL BE ALLOTTED SUBJECT TO AVAILABILITY
4.BUS FEE ONCE PAID WILL NOT BE REFUNDED / ADJUSTED UNDER ANY CIRCUMSTANCES
5.CAMPUS ARRIVAL / DEPARTURE TIME @8.15 am / 3.50 pm

SRM FACULTY OF HEALTH SCIENCES - BUS TIME : 2018-19

Route No: PM1	
Boarding Point	Time (am)
Avadi	6.05
Thirumullaivoyal	6.10
Ambattur OT	6.15
Nathamuni	6.28
ICF	6.33
Anna Nagar Roundana	6.43
Thirumangalam	6.48
Maduravoyal (Erikkarai)	6.55
Vandalur	7.35

Route No: PM2	
Boarding Point	Time (am)
Luz	6.40
Mylapore Tank	6.42
Mandaveli	6.45
Indira Nagar Water Tank	6.55
Madhya Kailash	7.00
IIT	7.03
Gandhi Mandapam	7.06
Guindy	7.10
Shanthi Bunk	7.15
Chrompet	7.25
Perungalathur	7.35

Route No: PM3	
Boarding Point	Time (am)
Avichi	6.45
Alwar Thiru Nagar	6.48
Kesavardhini	6.50
Valasaravakkam	6.55
Porur Roundana	7.00
Mugalivakkam	7.02
MIOT Hospital	7.05
Butt Road	7.10
MIT	7.30
Sanatorium (MEPZ)	7.33

ROUTE NO: PM 4	
PLACE	TIMING
Anna Nagar West Depot	6.45
Thirumangalam	6.47
Koyambedu	6.50
MMDA 100ft Road	6.53
Ashok Pillar	7.00
Kasi Theatre	7.02
Pallavaram	7.20

INSTRUCTIONS

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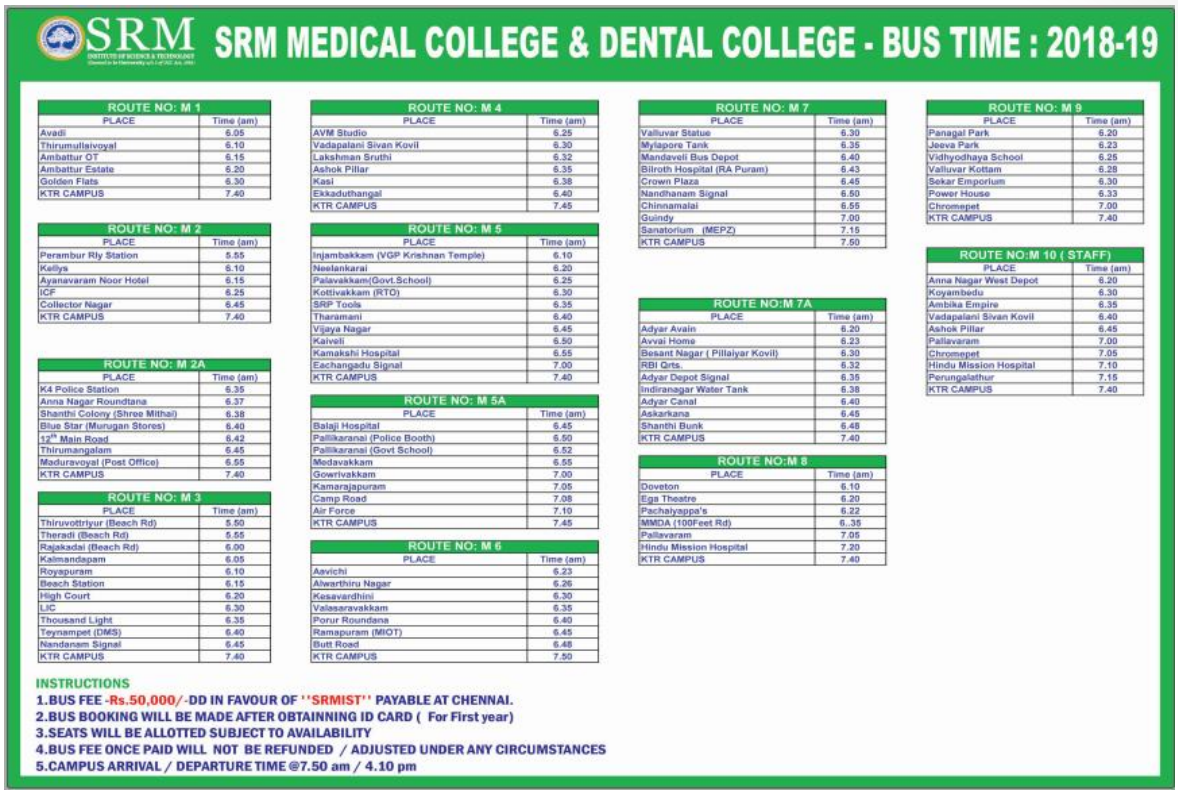
2.BUS BOOKING WILL BE MADE AFTER OBTAINNING ID CARD (For First year)
3.SEATS WILL BE ALLOTTED SUBJECT TO AVAILABILITY
4.BUS FEE ONCE PAID WILL NOT BE REFUNDED / ADJUSTED UNDER ANY CIRCUMSTANCES
5.CAMPUS ARRIVAL / DEPARTURE TIME @8.15am / 3.40 pm



SRM INSTITUTE OF SCIENCE & TECHNOLOGY

SRM MEDICAL COLLEGE & DENTAL COLLEGE - BUS TIME : 2018-19

ROUTE NO: M 1

PLACE	Time (am)
Avadi	6.05
Thirumullaivoyal	6.10
Ambattur OT	6.15
Ambattur Estate	6.20
Golden Flats	6.30
KTR CAMPUS	7.40

ROUTE NO: M 2

PLACE	Time (am)
Perambur Rly Station	5.55
Kellys	6.10
Ayanavaram Noor Hotel	6.15
ICF	6.25
Collector Nagar	6.45
KTR CAMPUS	7.40

ROUTE NO: M 2A

PLACE	Time (am)
K4 Police Station	6.35
Anna Nagar Roundtana	6.37
Shanthi Colony (Shree Mithai)	6.38
Blue Star (Murugan Stores)	6.40
12th Main Road	6.42
Thirumangalam	6.45
Maduravoyal (Post Office)	6.55
KTR CAMPUS	7.40

ROUTE NO: M 3

PLACE	Time (am)
Thiruvottriyur (Beach Rd)	5.50
Theradi (Beach Rd)	5.55
Rajakadai (Beach Rd)	6.00
Kalmandapam	6.05
Royapuram	6.10
Beach Station	6.15
High Court	6.20
LIC	6.30
Thousand Light	6.35
Teynampet (DMS)	6.40
Nandanam Signal	6.45
KTR CAMPUS	7.40

ROUTE NO: M 4

PLACE	Time (am)
AVM Studio	6.25
Vadapalani Sivan Kovil	6.30
Lakshman Sruthi	6.32
Ashok Pillar	6.35
Kasi	6.38
Ekkaduthangal	6.40
KTR CAMPUS	7.45

ROUTE NO: M 5

PLACE	Time (am)
Injambakkam (VGP Krishnan Temple)	6.10
Neelankarai	6.20
Palavakkam(Govt.School)	6.25
Kottivakkam (RTO)	6.30
SRP Tools	6.35
Tharamani	6.40
Vijaya Nagar	6.45
Kalveli	6.50
Kamakshi Hospital	6.55
Eachangadu Signal	7.00
KTR CAMPUS	7.40

ROUTE NO: M 5A

PLACE	Time (am)
Balaji Hospital	6.45
Pallikaranai (Police Booth)	6.50
Pallikaranai (Govt School)	6.52
Medavakkam	6.55
Gowrivakkam	7.00
Kamarajapuram	7.05
Camp Road	7.08
Air Force	7.10
KTR CAMPUS	7.45

ROUTE NO: M 6

PLACE	Time (am)
Aavichi	6.23
Alwarthiru Nagar	6.26
Kesavardhini	6.30
Valasaravakkam	6.35
Porur Roundana	6.40
Ramapuram (MIOT)	6.45
Butt Road	6.48
KTR CAMPUS	7.50

ROUTE NO: M 7

PLACE	Time (am)
Valluvar Statue	6.30
Mylapore Tank	6.35
Mandaveli Bus Depot	6.40
Biliroth Hospital (RA Puram)	6.43
Crown Plaza	6.45
Nandhanam Signal	6.50
Chinnamalai	6.55
Guindy	7.00
Sanatorium (MEPZ)	7.15
KTR CAMPUS	7.50

ROUTE NO:M 7A

PLACE	Time (am)
Adyar Avain	6.20
Avvai Home	6.23
Besant Nagar (Pillaiyar Kovil)	6.30
RBI Qrts.	6.32
Adyar Depot Signal	6.35
Indiranagar Water Tank	6.38
Adyar Canal	6.40
Askarkana	6.45
Shanthi Bunk	6.48
KTR CAMPUS	7.40

ROUTE NO:M 8

PLACE	Time (am)
Doveton	6.10
Ega Theatre	6.20
Pachaiyappa's	6.22
MMDA (100Feet Rd)	6..35
Pallavaram	7.05
Hindu Mission Hospital	7.20
KTR CAMPUS	7.40

ROUTE NO: M 9

PLACE	Time (am)
Panagal Park	6.20
Jeeva Park	6.23
Vidhyodhaya School	6.25
Valluvar Kottam	6.28
Sekar Emporium	6.30
Power House	6.33
Chromepet	7.00
KTR CAMPUS	7.40

ROUTE NO:M 10 (STAFF)

PLACE	Time (am)
Anna Nagar West Depot	6.20
Koyambedu	6.30
Ambika Empire	6.35
Vadapalani Sivan Kovil	6.40
Ashok Pillar	6.45
Pallavaram	7.00
Chromepet	7.05
Hindu Mission Hospital	7.10
Perungalathur	7.15
KTR CAMPUS	7.40

INSTRUCTIONS

1. BUS FEE -Rs.50,000/-DD IN FAVOUR OF ''SRMIST'' PAYABLE AT CHENNAI.
2. BUS BOOKING WILL BE MADE AFTER OBTAINNING ID CARD (For First year)
3. SEATS WILL BE ALLOTTED SUBJECT TO AVAILABILITY
4. BUS FEE ONCE PAID WILL NOT BE REFUNDED / ADJUSTED UNDER ANY CIRCUMSTANCES
5. CAMPUS ARRIVAL / DEPARTURE TIME @7.50 am / 4.10 pm

PUBLIC TRANSPORT

Students & Staffs are encouraged to utilize the public transportation available at the university entrance. The students and staff can then use the following public transport system

1. By Metro Train
2. By MTC Buses

METRO TRAINS

Totally 75 trains are flying between Potheri and Tambaram from 04.15 a.m. till 23.30 p.m. and 76 trains flying between Tambaram and Potheri 04.45 a.m. till 23.45 p.m.

Figure 47 : View of Metro Trains

Trains from Potheri (SRM Institute of Science and technology) to Tambaram

Train timings from pother to Tambaram

Trains From Station–POTHERI (POTI) to TAMBARAM (TBM)														
Train Number	Train Name	From Station	Depart. Time	To Station	Arrival Time	Travel Time	Running Days						
							Su	Mo	Tu	We	Th	Fr	Sa
40602	CGL MSB LOCAL	POTI	04:16	TBM	04:45	00:29H	Y	X	X	X	X	X	X
40502	CGL MSB LOCAL	POTI	04:16	TBM	04:53	00:37H	X	Y	Y	Y	Y	Y	Y
40504	CGL MSB LOCAL	POTI	04:51	TBM	05:25	00:34H	X	Y	Y	Y	Y	Y	Y
40604	CGL MSB LOCAL	POTI	04:51	TBM	05:25	00:34H	Y	X	X	X	X	X	X
40606	CGL MSB LOCAL	POTI	05:06	TBM	05:33	00:27H	Y	X	X	X	X	X	X
40506	CGL MSB LOCAL	POTI	05:06	TBM	05:43	00:37H	X	Y	Y	Y	Y	Y	Y
40508	CGL MSB LOCAL	POTI	05:31	TBM	06:00	00:29H	X	Y	Y	Y	Y	Y	Y
40608	CGL MSB LOCAL	POTI	05:31	TBM	06:00	00:29H	Y	X	X	X	X	X	X
40510	CGL MSB LOCAL	POTI	06:16	TBM	06:43	00:27H	X	Y	Y	Y	Y	Y	Y
40610	CGL MSB LOCAL	POTI	06:16	TBM	06:43	00:27H	Y	X	X	X	X	X	X
40702	TMLP MSB LOCAL	POTI	06:41	TBM	07:15	00:34H	Y	Y	Y	Y	Y	Y	Y
40512	CGL MSB LOCAL	POTI	06:56	TBM	07:20	00:24H	X	Y	Y	Y	Y	Y	Y

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40612	CGL MSB LOCAL	POTI	06:56	TBM	07:33	00:37H	Y	X	X	X	X	X	X
40614	CGL MSB LOCAL	POTI	07:21	TBM	07:53	00:32H	Y	X	X	X	X	X	X
40514	CGL MSB FAST	POTI	07:21	TBM	07:43	00:22H	X	Y	Y	Y	Y	Y	Y
40516	CGL MSB FAST	POTI	07:46	TBM	08:08	00:22H	X	Y	Y	Y	Y	Y	Y
40616	CGL MSB LOCAL	POTI	07:46	TBM	08:23	00:37H	Y	X	X	X	X	X	X
40618	CGL MSB LOCAL	POTI	08:01	TBM	08:33	00:32H	Y	X	X	X	X	X	X
40518	CGL MSB FAST	POTI	08:06	TBM	08:28	00:22H	X	Y	Y	Y	Y	Y	Y
40520	CGL MSB FAST	POTI	08:26	TBM	08:48	00:22H	X	Y	Y	Y	Y	Y	Y
40754	TMLP MSB LOCAL	POTI	08:31	TBM	08:59	00:28H	Y	X	X	X	X	X	X
40622	CGL MSB LOCAL	POTI	08:46	TBM	09:08	00:22H	Y	X	X	X	X	X	X
40522	CGL MSB FAST	POTI	08:46	TBM	09:08	00:22H	X	Y	Y	Y	Y	Y	Y
40524	CGL MSB LOCAL	POTI	09:01	TBM	09:23	00:22H	X	Y	Y	Y	Y	Y	Y
40624	CGL MSB LOCAL	POTI	09:06	TBM	09:28	00:22H	Y	X	X	X	X	X	X
40526	CGL MSB FAST	POTI	09:11	TBM	09:32	00:21H	X	Y	Y	Y	Y	Y	Y
40626	CGL MSB LOCAL	POTI	10:01	TBM	10:25	00:24H	Y	X	X	X	X	X	X
40528	CGL MSB LOCAL	POTI	10:01	TBM	10:30	00:29H	X	Y	Y	Y	Y	Y	Y
40802	CJ MSB LOCAL	POTI	10:26	TBM	10:50	00:24H	X	Y	Y	Y	Y	Y	Y

40532	CGL MSB LOCAL	POTI	11:06	TBM	11:28	00:22H	X	Y	Y	Y	Y	Y	Y
40628	CGL MSB LOCAL	POTI	11:06	TBM	11:28	00:22H	Y	X	X	X	X	X	X
40708	TMLP MSB LOCAL	POTI	11:51	TBM	12:12	00:21H	Y	Y	Y	Y	Y	Y	Y
40534	CGL MSB LOCAL	POTI	12:01	TBM	12:23	00:22H	X	Y	Y	Y	Y	Y	Y
40630	CGL MSB LOCAL	POTI	12:01	TBM	12:23	00:22H	Y	X	X	X	X	X	X
40536	CGL MSB LOCAL	POTI	12:36	TBM	12:58	00:22H	X	Y	Y	Y	Y	Y	Y
40632	CGL MSB LOCAL	POTI	12:36	TBM	12:58	00:22H	Y	X	X	X	X	X	X
40634	CGL MSB LOCAL	POTI	13:21	TBM	13:43	00:22H	Y	X	X	X	X	X	X
40538	CGL MSB LOCAL	POTI	13:21	TBM	13:45	00:24H	X	Y	Y	Y	Y	Y	Y
40540	CGL MSB LOCAL	POTI	14:11	TBM	14:33	00:22H	X	Y	Y	Y	Y	Y	Y
40636	CGL MSB LOCAL	POTI	14:11	TBM	14:28	00:17H	Y	X	X	X	X	X	X
40542	CGL MSB LOCAL	POTI	14:46	TBM	15:13	00:27H	X	Y	Y	Y	Y	Y	Y
40638	CGL MSB LOCAL	POTI	14:46	TBM	15:08	00:22H	Y	X	X	X	X	X	X
66042	TMLP MSB LOCAL	POTI	15:11	TBM	15:38	00:27H	Y	Y	Y	Y	Y	Y	Y
40640	CGL MSB LOCAL	POTI	15:26	TBM	15:48	00:22H	Y	X	X	X	X	X	X
40544	CGL MSB LOCAL	POTI	15:26	TBM	15:48	00:22H	X	Y	Y	Y	Y	Y	Y
40642	CGL MSB LOCAL	POTI	16:01	TBM	16:25	00:24H	Y	X	X	X	X	X	X

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40548	CGL MSB LOCAL	POTI	16:01	TBM	16:25	00:24H	X	Y	Y	Y	Y	Y	Y
66044	MLMR MSB MEMU	POTI	16:31	TBM	16:58	00:27H	Y	Y	Y	Y	Y	Y	Y
40550	CGL MSB LOCAL	POTI	16:56	TBM	17:28	00:32H	X	Y	Y	Y	Y	Y	Y
40644	CGL MSB LOCAL	POTI	16:56	TBM	17:33	00:37H	Y	X	X	X	X	X	X
40646	CGL MSB LOCAL	POTI	17:21	TBM	17:48	00:27H	Y	X	X	X	X	X	X
40552	CGL MSB LOCAL	POTI	17:21	TBM	17:42	00:21H	X	Y	Y	Y	Y	Y	Y
40648	CGL MSB LOCAL	POTI	17:49	TBM	18:08	00:19H	Y	X	X	X	X	X	X
40554	CGL MSB LOCAL	POTI	17:51	TBM	18:13	00:22H	X	Y	Y	Y	Y	Y	Y
40650	CGL MSB LOCAL	POTI	18:24	TBM	18:53	00:29H	Y	X	X	X	X	X	X
40556	CGL MSB LOCAL	POTI	18:26	TBM	18:48	00:22H	X	Y	Y	Y	Y	Y	Y
40712	TMLP MSB LOCAL	POTI	18:51	TBM	19:20	00:29H	Y	Y	Y	Y	Y	Y	Y
40558	CGL MSB LOCAL	POTI	19:01	TBM	19:25	00:24H	X	Y	Y	Y	Y	Y	Y
40652	CGL MSB LOCAL	POTI	19:01	TBM	19:28	00:27H	Y	X	X	X	X	X	X
40560	CGL MSB LOCAL	POTI	19:21	TBM	19:48	00:27H	X	Y	Y	Y	Y	Y	Y
40654	CGL MSB LOCAL	POTI	19:46	TBM	20:08	00:22H	Y	X	X	X	X	X	X
40562	CGL MSB LOCAL	POTI	19:46	TBM	20:07	00:21H	X	Y	Y	Y	Y	Y	Y
40564	CGL MSB LOCAL	POTI	20:06	TBM	20:35	00:29H	X	Y	Y	Y	Y	Y	Y

40656	CGL MSB LOCAL	POTI	20:06	TBM	20:33	00:27H	Y	X	X	X	X	X	X
40566	CGL MSB LOCAL	POTI	20:31	TBM	20:53	00:22H	X	Y	Y	Y	Y	Y	Y
40658	CGL MSB LOCAL	POTI	20:46	TBM	21:13	00:27H	Y	X	X	X	X	X	X
40804	CJ MSB LOCAL	POTI	20:46	TBM	21:08	00:22H	X	Y	Y	Y	Y	Y	Y
40568	CGL MSB LOCAL	POTI	21:06	TBM	21:33	00:27H	X	Y	Y	Y	Y	Y	Y
40660	CGL MSB LOCAL	POTI	21:06	TBM	21:28	00:22H	Y	X	X	X	X	X	X
40662	CGL MSB LOCAL	POTI	21:31	TBM	22:03	00:32H	Y	X	X	X	X	X	X
40570	CGL MSB LOCAL	POTI	21:36	TBM	22:00	00:24H	X	Y	Y	Y	Y	Y	Y
40572	CGL MSB LOCAL	POTI	22:36	TBM	23:00	00:24H	X	Y	Y	Y	Y	Y	Y
40664	CGL MSB LOCAL	POTI	22:36	TBM	22:58	00:22H	Y	X	X	X	X	X	X
40666	CGL MSB LOCAL	POTI	23:31	TBM	23:53	00:22H	Y	X	X	X	X	X	X
40574	CGL MSB LOCAL	POTI	23:31	TBM	23:53	00:22H	X	Y	Y	Y	Y	Y	Y

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Trains from Tambaram to Potheri (SRM Institute of Science and Technology)

Train timings from Tambaram to potheri

Trains From Station–TAMBARAM (TBM) to POTHERI (POTI)

Train Number	Train Name	From Station	Depart. Time	To Station	Arrival Time	Travel Time	Running Days						
							Su	Mo	Tu	We	Th	Fr	Sa
40601	MSB CGL LOCAL	TBM	04:50	POTI	05:09	00:19H	Y	X	X	X	X	X	X
40501	MSB CGL LOCAL	TBM	04:50	POTI	05:09	00:19H	X	Y	Y	Y	Y	Y	Y
40603	MSB CGL LOCAL	TBM	05:35	POTI	05:54	00:19H	Y	X	X	X	X	X	X
40503	MSB CGL LOCAL	TBM	05:35	POTI	05:54	00:19H	X	Y	Y	Y	Y	Y	Y
40505	MSB CGL LOCAL	TBM	05:55	POTI	06:14	00:19H	X	Y	Y	Y	Y	Y	Y
40605	MSB CGL LOCAL	TBM	05:55	POTI	06:14	00:19H	Y	X	X	X	X	X	X
40607	MSB CGL LOCAL	TBM	06:15	POTI	06:34	00:19H	Y	X	X	X	X	X	X
40507	MSB CGL LOCAL	TBM	06:15	POTI	06:34	00:19H	X	Y	Y	Y	Y	Y	Y
40801	MSB CJ LOCAL	TBM	06:35	POTI	06:54	00:19H	X	Y	Y	Y	Y	Y	Y
40609	MSB CGL LOCAL	TBM	06:50	POTI	07:09	00:19H	Y	X	X	X	X	X	X
40509	MSB CGL LOCAL	TBM	06:50	POTI	07:09	00:19H	X	Y	Y	Y	Y	Y	Y
40511	MSB CGL LOCAL	TBM	07:05	POTI	07:24	00:19H	X	Y	Y	Y	Y	Y	Y

40513	MSB CGL LOCAL	TBM	07:25	POTI	07:44	00:19H	X	Y	Y	Y	Y	Y	Y
40613	MSB CGL LOCAL	TBM	07:25	POTI	07:44	00:19H	Y	X	X	X	X	X	X
40615	MSB CGL LOCAL	TBM	07:40	POTI	07:59	00:19H	Y	X	X	X	X	X	X
40515	MSB CGL LOCAL	TBM	07:40	POTI	07:59	00:19H	X	Y	Y	Y	Y	Y	Y
40517	MSB CGL LOCAL	TBM	07:50	POTI	08:09	00:19H	X	Y	Y	Y	Y	Y	Y
40701	MSB TMLP LOCAL	TBM	08:00	POTI	08:19	00:19H	Y	Y	Y	Y	Y	Y	Y
40519	MSB CGL LOCAL	TBM	08:35	POTI	08:54	00:19H	X	Y	Y	Y	Y	Y	Y
40617	MSB CGL LOCAL	TBM	08:40	POTI	08:59	00:19H	Y	X	X	X	X	X	X
66043	MSB MLMR MEMU	TBM	09:20	POTI	09:39	00:19H	Y	Y	Y	Y	Y	Y	Y
40523	MSB CGL LOCAL	TBM	09:51	POTI	10:10	00:19H	X	Y	Y	Y	Y	Y	Y
40619	MSB CGL LOCAL	TBM	09:55	POTI	10:14	00:19H	Y	X	X	X	X	X	X
40621	MSB CGL LOCAL	TBM	10:33	POTI	10:52	00:19H	Y	X	X	X	X	X	X
40525	MSB CGL LOCAL	TBM	10:34	POTI	10:53	00:19H	X	Y	Y	Y	Y	Y	Y
66041	MSB TMLP LOCAL	TBM	10:49	POTI	11:08	00:19H	Y	Y	Y	Y	Y	Y	Y
40527	MSB CGL LOCAL	TBM	11:10	POTI	11:29	00:19H	X	Y	Y	Y	Y	Y	Y
40623	MSB CGL LOCAL	TBM	11:10	POTI	11:29	00:19H	Y	X	X	X	X	X	X
40705	MSB TMLP LOCAL	TBM	11:45	POTI	12:04	00:19H	X	Y	Y	Y	Y	Y	Y
40529	MSB CGL LOCAL	TBM	11:57	POTI	12:16	00:19H	X	Y	Y	Y	Y	Y	Y
40625	MSB CGL LOCAL	TBM	11:57	POTI	12:16	00:19H	Y	X	X	X	X	X	X

40531	MSB CGL LOCAL	TBM	12:50	POTI	13:09	00:19H	X	Y	Y	Y	Y	Y	Y
40627	MSB CGL LOCAL	TBM	12:55	POTI	13:14	00:19H	Y	X	X	X	X	X	X
40629	MSB CGL LOCAL	TBM	13:25	POTI	13:44	00:19H	Y	X	X	X	X	X	X
40533	MSB CGL LOCAL	TBM	13:25	POTI	13:44	00:19H	X	Y	Y	Y	Y	Y	Y
40535	MSB CGL LOCAL	TBM	14:05	POTI	14:24	00:19H	X	Y	Y	Y	Y	Y	Y
40631	MSB CGL LOCAL	TBM	14:10	POTI	14:29	00:19H	Y	X	X	X	X	X	X
40755	MSB TMLP LOCAL	TBM	14:25	POTI	14:44	00:19H	Y	X	X	X	X	X	X
40633	MSB CGL LOCAL	TBM	14:42	POTI	15:01	00:19H	Y	X	X	X	X	X	X
40539	MSB CGL LOCAL	TBM	14:42	POTI	15:01	00:19H	X	Y	Y	Y	Y	Y	Y
40635	MSB CGL LOCAL	TBM	15:10	POTI	15:29	00:19H	Y	X	X	X	X	X	X
40541	MSB CGL LOCAL	TBM	15:13	POTI	15:32	00:19H	X	Y	Y	Y	Y	Y	Y
40637	MSB CGL LOCAL	TBM	15:42	POTI	16:01	00:19H	Y	X	X	X	X	X	X
40543	MSB CGL LOCAL	TBM	15:42	POTI	16:01	00:19H	X	Y	Y	Y	Y	Y	Y
40803	MSB CJ LOCAL	TBM	16:20	POTI	16:39	00:19H	X	Y	Y	Y	Y	Y	Y
40545	MSB CGL LOCAL	TBM	16:30	POTI	16:49	00:19H	X	Y	Y	Y	Y	Y	Y
40639	MSB CGL LOCAL	TBM	16:35	POTI	16:54	00:19H	Y	X	X	X	X	X	X
40641	MSB CGL LOCAL	TBM	17:10	POTI	17:29	00:19H	Y	X	X	X	X	X	X
40547	MSB CGL LOCAL	TBM	17:10	POTI	17:29	00:19H	X	Y	Y	Y	Y	Y	Y
40549	MSB CGL LOCAL	TBM	17:27	POTI	17:46	00:19H	X	Y	Y	Y	Y	Y	Y
40643	MSB CGL LOCAL	TBM	17:45	POTI	18:04	00:19H	Y	X	X	X	X	X	X

40551	MSB CGL LOCAL	TBM	17:45	POTI	18:04	00:19H	X	Y	Y	Y	Y	Y	Y
40645	MSB CGL LOCAL	TBM	18:10	POTI	18:29	00:19H	Y	X	X	X	X	X	X
40553	MSB CGL LOCAL	TBM	18:15	POTI	18:34	00:19H	X	Y	Y	Y	Y	Y	Y
40555	MSB CGL LOCAL	TBM	18:33	POTI	18:52	00:19H	X	Y	Y	Y	Y	Y	Y
40647	MSB CGL LOCAL	TBM	18:35	POTI	18:54	00:19H	Y	X	X	X	X	X	X
40649	MSB CGL LOCAL	TBM	18:55	POTI	19:14	00:19H	Y	X	X	X	X	X	X
40557	MSB CGL LOCAL	TBM	19:05	POTI	19:24	00:19H	X	Y	Y	Y	Y	Y	Y
40559	MSB CGL FAST	TBM	19:16	POTI	19:36	00:20H	X	Y	Y	Y	Y	Y	Y
40651	MSB CGL LOCAL	TBM	19:25	POTI	19:44	00:19H	Y	X	X	X	X	X	X
40561	MSB CGL LOCAL	TBM	19:35	POTI	19:54	00:19H	X	Y	Y	Y	Y	Y	Y
40653	MSB CGL LOCAL	TBM	19:45	POTI	20:04	00:19H	Y	X	X	X	X	X	X
40709	MSB TMLP LOCAL	TBM	20:04	POTI	20:27	00:23H	Y	Y	Y	Y	Y	Y	Y
40563	MSB CGL LOCAL	TBM	20:30	POTI	20:49	00:19H	X	Y	Y	Y	Y	Y	Y
40655	MSB CGL LOCAL	TBM	20:35	POTI	20:54	00:19H	Y	X	X	X	X	X	X
40565	MSB CGL LOCAL	TBM	20:56	POTI	21:15	00:19H	X	Y	Y	Y	Y	Y	Y
40657	MSB CGL LOCAL	TBM	21:05	POTI	21:24	00:19H	Y	X	X	X	X	X	X
40711	MSB TMLP FAST	TBM	21:05	POTI	21:24	00:19H	X	Y	Y	Y	Y	Y	Y
40761	MSB TMLP LOCAL	TBM	21:15	POTI	21:34	00:19H	Y	X	X	X	X	X	X
40567	MSB CGL LOCAL	TBM	21:47	POTI	22:06	00:19H	X	Y	Y	Y	Y	Y	Y

40659	MSB CGL LOCAL	TBM	21:47	POTI	22:06	00:19H	Y	X	X	X	X	X	X
40569	MSB CGL LOCAL	TBM	22:17	POTI	22:36	00:19H	X	Y	Y	Y	Y	Y	Y
40661	MSB CGL LOCAL	TBM	22:25	POTI	22:44	00:19H	Y	X	X	X	X	X	X
40571	MSB CGL LOCAL	TBM	22:40	POTI	22:59	00:19H	X	Y	Y	Y	Y	Y	Y
40663	MSB CGL LOCAL	TBM	22:40	POTI	22:59	00:19H	Y	X	X	X	X	X	X
40573	MSB CGL LOCAL	TBM	23:40	POTI	23:59	00:19H	X	Y	Y	Y	Y	Y	Y
40665	MSB CGL LOCAL	TBM	23:45	POTI	00:04	00:19H	Y	X	X	X	X	X	X

MTC BUSES

The annual pass provides 365 consecutive days of travel on bus routes. The passes are available for the city fare zone and the wider bus network area

Figure 48 : MTC Buses

BIODIVERSITY CONSERVATION

SRMIST strive to preserve and protect natural habitats and biodiversity on our campuses, creating new opportunities for wildlife on campus wherever possible. In addition to

nurturing local habitats, our biodiversity work helps create a better environment for the university community, promoting staff and student wellbeing, and increasing enjoyment of our campuses.

WE AIM TO:

- The improve the biodiversity and preserve and protect the natural habitats in an around the campus.

HOW WE'RE ACHIEVING BIODIVERSITY CONSERVATION

The university takes great pride in its estates and makes the following actions to maintain and enhance its biodiversity:

- To preserve and improve existing valuable habitats;
- Identify specialist measures for vulnerable species.
- Erect interpretive signs by valuable habitats;
- Reduce the use of residual pesticides,
- Zero green waste policy;
- Stimulate natural habitats by leaving ‘eco-strips’ near streams and woodland edges.

SWACHH BHARAT ABHIYAN

Swachh Bharat Abhiyan is also called as the Clean India Mission or Clean India drive or Swachh Bharat Campaign. It is a national level campaign run by the Indian Government to cover all the backward statutory towns to make them clean. This campaign involves the construction of latrines, promoting sanitation programmes in the rural areas, cleaning streets, roads and changing the infrastructure of the country to lead the country ahead. SRMIST is keen in participating the Swachh Bharat Abhiyan program through the following initiatives.

SRMIST INITIATIVE FOR BIODIVERSITY CONSERVATION

1. Pond Renovation
2. Swachh Baharat program
3. Social responsibility–oil spill at the marina
4. National service scheme (NSS)
5. SRM environment club
6. SRM tree plantation drive
7. SRM lake cleanup (Keezhkattalai lake)
8. SRM Earth Day celebrations
9. SRM environmental day celebrations

POND RENOVATION

The Campus is divided by a water body namely Potheri Tangal (Chitteri) for an extent of 11.89 hec. The tank ceases to be an irrigation source and is maintained as a storage water body. The collector of Kancheepuram District has permitted the management to carry out the renovation of this tank. The tank has been deepened, strengthened and renovated for walkways, garden and lawns around the tank.

Figure 49 : Pond renovation activities carried out by SRMIST Students

SWACHH BHARAT PROGRAM

India celebrating the 3rd anniversary of ‘Swachh Bharat’ where the higher educational institutions had to contribute and follow the policy ’Swatchhta Hi Seva’ the NSS unit of SRM IST campus organized a cleaning drive in and around the campus, also they involved in cleaning the Municipal Park and streets.

Figure 50 : Swachh Bharat Campaign by students of SRMIST

Figure 51 : Potheri Railway Station Cleanup by students of SRMIST

Figure 52 : Cleaning activity at Perungalathur lake by students

SOCIAL RESPONSIBILITY–OIL SPILL AT ENNORE

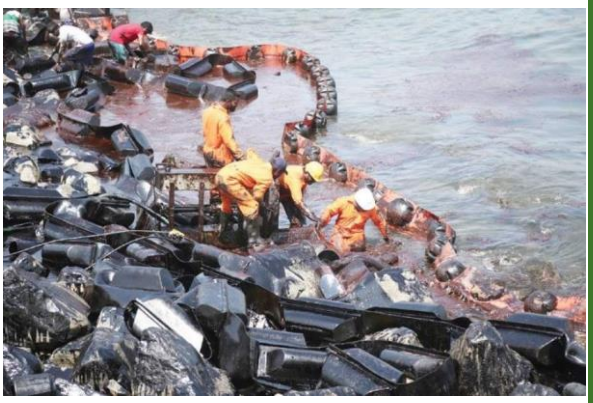
Two ships, the Dawn Kanchipuram and the BW Maple, collided off Ennore on January 28 causing an oil spill of 251.46 tonnes. More than 35 km of Chennai's coastline was affected by the oil spill, with Ernavoor as the 'epicentre'. Blobs of oil were found along the coastline of Puducherry and Devanampattinam too. MT Dawn Kanchipuram reportedly had 584.14 MT of bunker oil. More than 2,000 people, including volunteers, were engaged in the clean-up operations. In this regard, oil spills were cleaned my many volunteers including HIMT Students, Port Authorities and Local Fishermen's.

As a social responsibility SRM has conducted the health camp at Hindustan Institute of Maritime Training (HIMT), Vengampakkam, Kalpakkam, Tamil Nadu 603102 and the Local Fisherman who involved in the oil pollution cleanup. The entire study has been carried out by School of Public Health & Center for Environmental Nuclear Research, SRM University to study the health impact of the volunteers. Also to evaluate and compare the health risk of employees 50 employees from CPCL has be recruited to estimate the benzene exposure in low-level environment under strict adherence to industrial standards.

The levels of benzene if any in the blood and urine samples has been analyzed from the CPCL employees. This values of minimal exposure CPCL group will be compared with the values of high exposure volunteers group involved in the Ennore

coastal oil spill cleaning work. We have already collected the samples from this group. The studies was sponsored by SRM University.

Clean Up of Oil Spill at Marina



Clean Up of Oil Spill at Marina

Volunteers Involve in Oilspill Clean Up at Marina are undergoing Medical Check Up.

Volunteers Involve in Oilspill Clean Up at Marina are undergoing Medical Check Up.

Volunteers at CPCL for Blood & Urine Collection

Health Checkup camp at HIMT, Vengampakkam, Kalpakkam

Figure 53 : Oil spill Cleanup and medical camp organized conducted by SRMIST

LITER OF LIGHT CAMPAIGN AT SRMIST

This campaign at SRMIST has aimed at lighting up the lives of people who lived in the rural parts of Chennai. A group of leaders were chosen and the team monitored two areas in the Guduvancherry. The team gave out a solar powered light to 15 residents of the aforementioned wards. The construction was basic and could easily be used by people of different age groups. It is through initiatives like these that we can help build the society. Being an integral part of a developing nation, it gives us immense happiness when we put a smile on the faces of those less fortunate.

Figure 54 : Liter of light recipient residents

EARTH HOUR CELEBRATIONS AT SRMIST

Earth Hour is a worldwide movement organized by the World Wide Fund for Nature (WWF). The event is held annually encouraging individuals, communities, households and businesses to turn off their non-essential lights for one hour, from 8:30 to 9:30 p.m. towards the end of March, as a symbol for their commitment to the planet. It was started as a lights-off event in Sydney, Australia, in 2007. Since then, it has grown to engage more than 7000 cities and towns worldwide. We love this planet. That's why each Earth Hour we make as noise as possible for action on climate change. We couldn't think of a better way of making ourselves heard than to host events and generally celebrate this amazing planet we call "home."

Figure 55 : Earth hour celebrations at SRMIST

The celebrations begins: 8:30pm on 25 March of every year. This day, unlike any other day, we turned it off. We switched off every utility linked to electricity, not just to cut costs, but also to increase the longitivity of the environment. In one hour, we saved enough electricity to power the campus for a straight month, imagine what you could do just by saving. Imagine what such small steps build up to. They say that the amount of energy saved during this 1 hour could light up the world for generations to come. Here is to a world moving towards Sustainable Development Goals.

Figure 56 : Candle lights burning to create awareness on earth hour celebrations

SRM ECO RUN

Grasping the need for living in a pristine environment at the grass root level, SRM organized an eco run on the morning of the Independence Day of India to make people aware about the importance of environment conservation. With the motto of 'Go Clean, Go green', the Aaruush team from SRM Institute of Science and Technology (formerly known as SRM University) organized the 5km long run as an attempt to break the Limca Book of Records for the "Biggest Eco Run" and observed around 1181 registrations.

Figure 57 : Inauguration of Eco run at SRMIST

In order to encourage the crowd to contribute towards a clean and green environment, the Bring Your Own Bottle(BYOB) Campaign was also implemented in order to reduce plastic water bottle usage to minimal. This campaign ensured that no packaged plastic bottles were provided to the participants, hence spreading the motto. As part of the eco run the registered participants were also encouraged to sign a petition for "Switch to 100% Renewable Energy" with the aim to move towards an eco-friendly environment. The event noticed participation from not just the students but also from many faculty members of the University.

Figure 58 : Students and Staff involved in Ecorun Event

NATIONAL SERVICE SCHEME (NSS)

The NSS unit at SRM IST has more than 1000 registered students. Prof L.R Ganapathi Subramaniam, School of Mechanical Engineering, is the Program Co-ordinator. The NSS volunteers at SRM are involved in a broad spectrum of activities such as

- Social service–the community around the campus
- Cleaning the SRM IST campus
- Planting trees
- Conducting health camps in rural areas
- Organizing blood donation camps
- Advocacy on community health
- Creating AIDs awareness, helping NGOs to raise sponsorship and funds
- Working with tsunami victims in rehabilitation etc.

The NSS unit also adopts government schools in Chengelpet district and works closely with the school authorities and students.

SRM ENVIRONMENT CLUB

SRM INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

SRM Environment Club

SRM Environment Club (SEC), has actively strived toward saving the deteriorating environment, within and outside the campus of SRM IST. We invite people from all spheres to put in their innovative minds, to protect our environment and make it a better place to live and laugh out without any fear.

Figure 59 : Environmental Club at SRM IST

Figure 60 : Campus Clean Up Drive by SEC

SRM TREE PLANTATION DRIVE

Figure 61 : Tree Plantation drive by SEC at SRMIST

Tree plantation drive by SEC on 5th Nov, 2016 at Shivananda Rajaram senior secondary school, Maraimalainagar. Totally 101 plants has been planted and regularly maintained by students of SEC, SRMIST.

LAKE CLEANUP (KEEZHKATTALAI LAKE)

Figure 62 : Keezhkattalai lake clean drive

As a part of NCC activities students of SRMIST has involved in the cleaning and renovation of the Keezhkattalai lake. Every year the lakes and ponds near SRM are renovated and cleaned.

SRM EARTH DAY CELEBRATIONS

The 22nd of April has been marked as an Earth Day to make the human race aware of the importance of their planet. The people celebrate world Earth Day every year as an annual event all across the world in order to increase the awareness among people about the environmental safety as well as to demonstrate the environmental protection measures.

Figure 63 : Earth day Celebrations at SRMIST

In this 45th year of Earth Day celebration students of SRM IHM under the support of Director Principal & Vice Principal Chef Ramesh took the initiative of planting new trees inside the premises of SRM IST & beautifying it. Mr B Sridhar (Asst Revenue Manager, Radisson Blu Hotel Chennai) was invited to grace the occasion. As this year's Earth Day theme states ' it's our turn to lead ' the students wanted to raise awareness about the importance of planting trees & the effects of deforestation on our planet.

SRM ENVIRONMENTAL DAY CELEBRATIONS

India is the global host of 2018 World Environment Day, which will take place on June 5, 2018. With "Beat Plastic Pollution" as the theme for this year's edition, the world is coming together to combat single-use plastic pollution. Every year SRMIST is celebrating the environmental day for a week-long (May 30th to June 5th).

Walkathon cum Environment Audit (May 30th)

Tree Plantation at Mamandoor (May 31st)

Stop Plastic Campaign (June 1st)

Ground Level Awareness for Plastic Pollution at Besant Nagar Beach (June 3rd)

Plastic Pollution awareness to School Children through drawing, Essay and oratorical competitions (June 4th)

Installation of Air quality Monitor & Clock Tower Inauguration

Figure 64 : Environmental Day Celebrations

RALLY ON GLOBAL WARMING AND CLIMATE CHANGE

SRMIST has organized a rally on Global warming and climate change on 16th march 2018 every year. This event is to promote awareness among the staff and students of SRMIST on Global warming and Climate Change. The Main theme and slogan of rally will be “Mother Earth is in danger owing to negligence of human beings. The erratic behavior of nature is because of increase in pollution. It is the duty of everyone to reduce

it," "Friendship should not be limited to just people known to us but should extend to Mother Nature and to humanity at large so that we survive together."

Figure 65: Rally on Global warming and climate change

SUSTAINABILITY EDUCATION

"Education for Sustainable Development allows every human being to acquire the knowledge, skills, attitudes, and values necessary to shape a sustainable future. Education for Sustainable Development means including key sustainable development issues into teaching and learning; for example, climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. Education for sustainability (EfS) is essential to help people to understand and accept the need for significant changes in the way we operate socially and economically, in order to ensure a sustainable future for everyone. However, sustainable development can only be successful if it is embedded into the organization's curriculum, teaching and learning practices, as well as its estate management and community relations.

SUSTAINABILITY IN THE SRMIST CURRICULUM

At SRMIST, we take the approach that there is no definitive knowledge content that should be included in a curriculum addressing sustainability or sustainable development. we point to indicative curricular themes that may be more or less relevant

to each disciplinary area and which might be used and adapted as ‘entry points’ to develop sustainability education further. Through our academic and professional courses, we’re creating a global network of leaders and thinkers who have the capacity to collaborate, lead and deliver positive change.

COMPULSORY COURSE FOR B.TECH CURRICULUM IN ALL DISCIPLES

15CY102 - Principles of Environmental Science

ELECTIVE SOUSES FOR B.TECH CURRICULUM

15ME343E Solar Energy Utilization
15ME370E Environmental Pollution And Abatement
15ME433E Sustainable Energy Systems
15BT302 Environmental Biotechnology
15BT310E Industrial Waste Management
15BT317E Bioremediation Technology

M.TECH ENVIRONMENTAL ENGINEERING COURSES OFFERED.

EN2001 TRANSPORT OF WATER AND WASTE WATER
EN2002 ENVIRONMENTAL MICROBIOLOGY AND ECOLOGY
EN2003 SOLID WASTE MANAGEMENT
EN2004 UNIT OPERATION AND PROCESSES IN WATER AND WASTE WATER TREATMENT
EN2005 AIR & WATER QUALITY MODELING
EN2006 DESIGN AND OPERATION OF WATER AND WASTE WATER
EN2101 INDUSTRIAL WASTE WATER TREATMENT
EN2103 HAZARDOUS WASTE MANAGEMENT
EN2105 ECOLOGICAL ENGINEERING
EN2106 ENVIRONMENTAL IMPACT ASSESSMENT
EN2107 BIOLOGICAL TREATMENT OF WASTEWATER
EN2110 GROUND WATER CONTAMINATION AND TRANSPORT MODELING
EN2113 MARINE POLLUTION MONITORING
EN2115 PHYSICAL AND CHEMICAL TREATMENT OF WATER AND WASTEWATER
EN2118 AIR POLLUTION CONTROL

AWARENESS WORKSHOP ON ENVIRONMENTAL SUSTAINABILITY

One day Awareness Workshop on Environmental Sustainability has been planned and organized in association with Gothe Institute Chennai on the eve of World Ozone Day held at SRM Institute of Science and Technology (formerly known as SRM University), Kattankulathur, Chennai, on 20th of September 2016. Several technical talks on

numerous topics by very well renowned persons were arranged around 75 students participants were selected to attend this workshop out of 500 applications received. Mostly from nearby Schools, Polytechnic and Engineering colleges were selected. The event started off with the auspicious lamp lightening ceremony by our honorable chief guest Dr. J. Daniel Chellappa, [Senior scientist (TCW), BARC, Government of India and Technical Coordinator, Central Expert Group on Kudankulam Nuclear Power Project (KKNPP), Government of India, Chennai and he delivered the inaugural address and stressed upon the need of this kind of awareness workshops.

Figure 66 : Awareness Workshop on Environmental Sustainability

INDIAN BIODIVERSITY CONGRESS (IBC)

SRMIST has organized the Indian biodiversity Congress from 18-20th Dec 2014, focal theme of the seminar was "Biodiversity for Poverty Eradication. Dr. K Rosaiah, the honorable Governor of Tamil Nadu, Dr. Nanditha Krishna, Director, CPR Environmental Education Centre, Chennai, and Dr. G. G. Gangadharan, President, CISSA has ingaurated and addressed the gatherings.

Indian Biodiversity Congress (IBC) is the largest conglomeration of scientists, conservationists, environmentalists, civil society groups and local communities in India, a platform to discuss the current status of biodiversity in India and an inclusive colloquium to forward strategies and policies to conserve the rich biodiversity heritage of the country. The major objective of IBC is to formulate a vision and alternate strategic

plan for the conservation of biodiversity in the context of prevailing concept of "development at any cost".

Figure 67 : Indian Biodiversity Congress Inauguration

SRMIST threw light on the strong research framework of the University which deals with tribal health, maternal and child health and the like. Dr. K Rosaiah, the honorable Governor of Tamil Nadu in his inaugral speech, pointed out that such platforms should not only be for the exchange of experiences and expertise, but also help in framing of feasible strategies and formulation of plans for conservation and sustainability of the biological diversity across the globe. It is high time to create and inculcate the massive level awareness among the masses.

SRMIST SUSTAINABILITY RESEARCH CENTER

SRM will set up Centre's of Excellence (COE) in areas which address critical issues and cuts across multiple disciplines. Center for Environment and sustainability will be established. This center goal is to take an inter-disciplinary approach to the analysis of sustainable systems, integrating strong, engineering-based approaches with insights from the social sciences to develop action-oriented, policy-relevant responses to long-term environmental and social issues.

Figure 68 : Centre's of Excellence (COE) in SRMIST

This will aims to develop the next generation of environment and sustainability leaders and to improve the quality of research publications by investing in faculty development, increasing the number of post graduate and doctorate students and extensively building a network of partnerships with leading local and global institutions. SRM IST is well positioned to address such challenges given its presence across the various disciplines. Also the work done in the CoEs also address most of the Sustainable Development Goals such as Quality Education, Good Health, No Hunger, Affordable and Clean Energy, Sustainable Cities and Communities, Climate Action, Peace, Justice and Social Institutions

Figure 69 : Indian Mission and Sustainable development goals

SRM IST will setup Centre's of Excellence to focus on research areas that are of national importance and which will need collaboration from multiple disciplines. The CoE's that will setup will be a combination of existing CoEs being transformed to make it more holistic and new CoEs in emerging areas of research.

The center will accomplish this goal through research, teaching, training, public outreach, and much more. The center will become one of the best places to conduct or sponsor research in environmental sustainability because it brings together some of the best researchers and environmental research institutions in the world to tackle problems in environmental sustainability. Center's Mission is to achieve environmental sustainability in our lifetimes through research and education, and we can do this if we join together to build and sustain the robust environment needed to secure a bright and bold future for life on Earth.

Any questions relating to the content of this report please get in touch as below

The university is committed to providing information in accessible formats. If you require information from this guide in an alternative format, please contact:

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