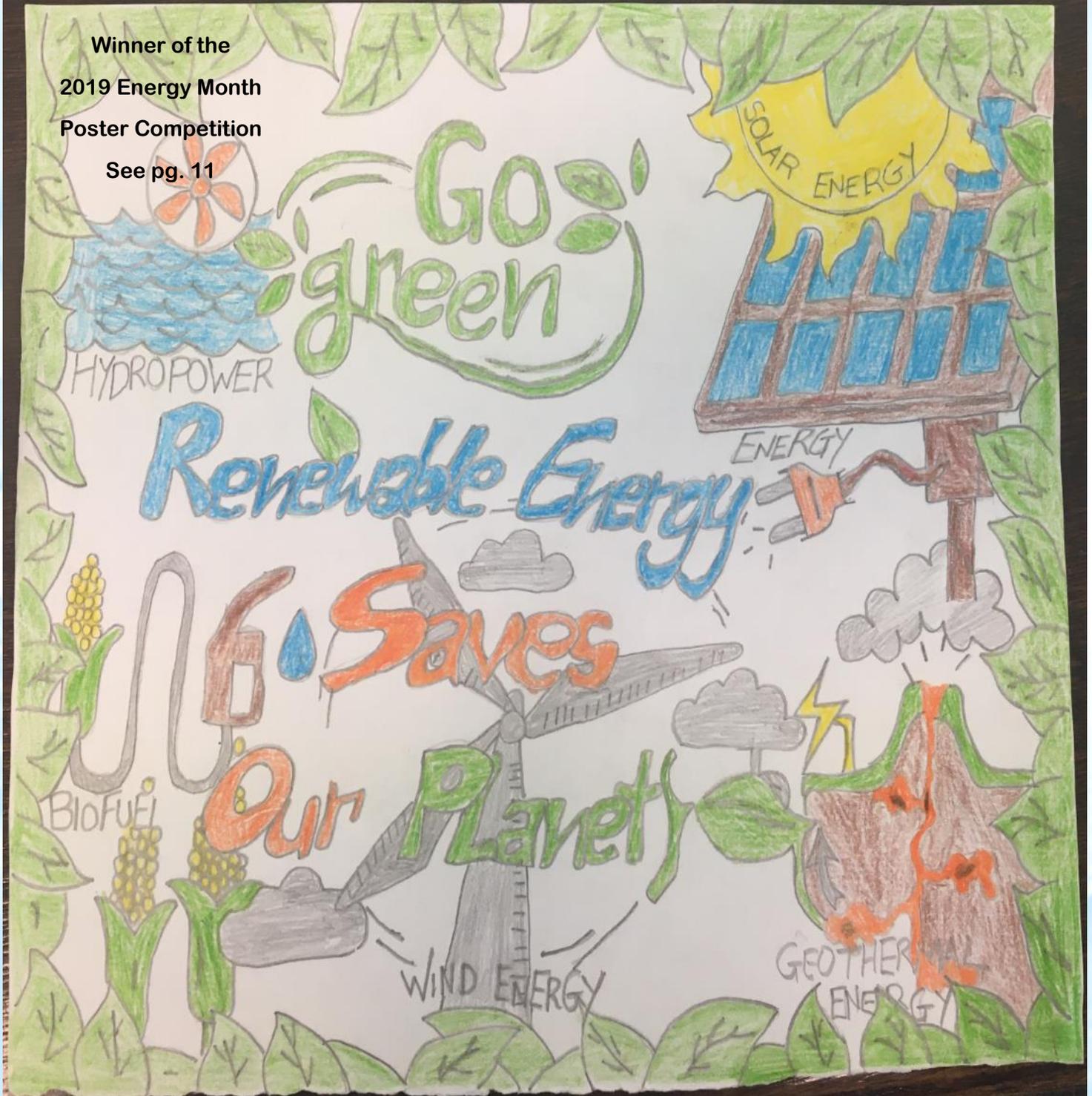


Energy Buzz

Winner of the
2019 Energy Month
Poster Competition
See pg. 11



Produced by the Energy Unit

Ministry of Communication, Works, Energy and Labour, Brades, MSR1110, Montserrat



INTRODUCTION

The Energy Unit of the Ministry of Communication, Works, Energy & Labour is rolling out the Energy Buzz Newsletter which would provide information on energy related activities on the island.

The Energy Buzz would provide readers with an insight into the activities of the Energy Unit, an update on local, regional and international trends and strategies for individuals and organization to conserve and improve their efficiency of energy consumption.

The Energy Buzz will be issued on a quarterly basis.

We welcome comments, feedback, suggestions, and/or article contributions.

These can be submit to Farrells@gov.ms

TOPICS

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OVERVIEW



The Montserrat Energy Unit is charged with the mandate of ensuring public awareness of energy efficiency and conservation, developing a modern reliable and sustainable energy infrastructure, maximizing the use of indigenous energy resources and establishing governance, institutional, legal and regulatory framework to support future energy sector development. All these activities are geared towards preserving the island's energy security.

The core functions of the Montserrat Energy Unit

To facilitate and accelerate the development and implementation of indigenous energy resources.

To advise and make recommendations regarding measures necessary to ensure the efficient management of energy in the public interest

To facilitate the implementation and periodic updating of Montserrat National Energy Policy and Action Plan

To monitor the performance of energy sector in Montserrat

Execute research into all sources of energy generation and securing more efficient utilization of energy and energy sources

To disseminate information relating to energy management, including energy conservation and the development and utilization of alternative energy sources

To collaborate with various regional and international development partners to facilitate the implementation of Energy Efficiency, Energy Conservation and Renewable Energy programs and projects.

WHAT'S GOING ON?

Energy Audits

Improving the efficiency of energy consumption is critical to the overall goal of reducing the consumption of fossil fuel on Montserrat. To enable this needed transition, an Own Use Reduction (OUR) program geared at improving energy consumption in Government occupied buildings was instituted. The Government of Montserrat spent a total of EC\$ 2,625,965¹ on utilities in 2018-2019 financial year with over 70% attributed to electricity consumption. Through the OUR Program, energy audits are being conducted on Government occupied buildings to assess ways to move forward in reducing their energy consumption. The OUR Program started in late February but was interrupted by the coronavirus pandemic, the program will recommence in August. The aim is to use the findings of the energy audit to provide insight and recommendations as to the best ways to reduce the energy consumption within the building. The wider goal is to use these buildings as an example for other business within the public and private sector to imitate in an effort to reduce the energy consumption of businesses and household on the island.

750kW and Storage Solar Energy Project

The 750kW solar PV with battery storage would not only serve to increase the penetration of renewable energy on the island, it will also increase the resilience of some of the island's most critical infrastructure by providing power to these facilities whenever there is an outage on the national grid. The project is earmarked to be installed at the John Osborne Airport and would improve the resilience of the Airport, DMCA and the Radio Link at Silver Hill. Installation work on the project has been hampered by the coronavirus pandemic, however it is expected to recommence shortly.



¹Source: <http://finance.gov.ms/wp-content/uploads/2020/06/Draft-Estimates-2020-21.pdf>

WHAT'S GOING ON!!!

Public Lighting Improvement Project

The proposed scope of the project covers the installation of Light Emitting Diode (LED) street lights at the Government of Montserrat compounds, Air and Sea ports, and the Little Bay playing Field lighting.

Installation work commenced in March with a significant number of LED lamps been installed along the major road way.

This project would not only increase the level of street lighting on the island but would increase the number of street lighting. This in turn will also reduce annual energy consumption attributed to street lighting.

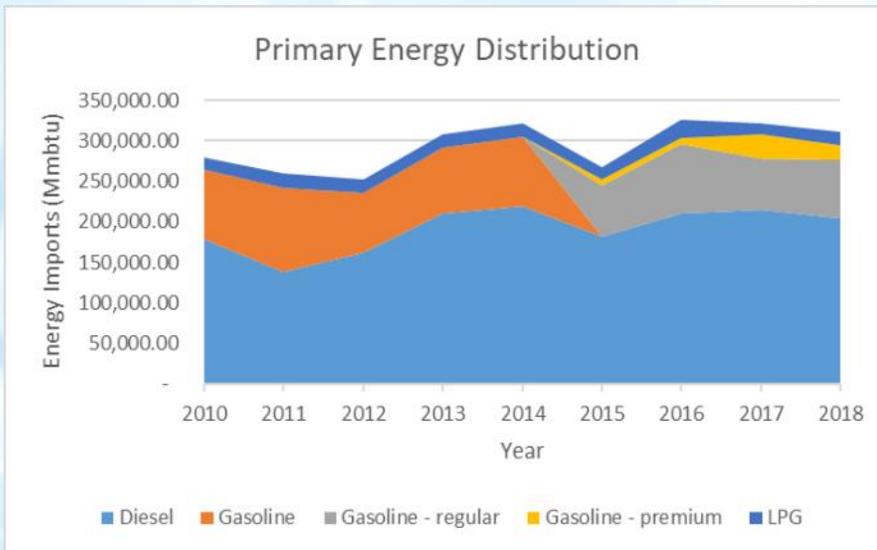
Geothermal

Geothermal Energy has the potential to transform the island's economy similar to the transition underwent by Iceland. Currently three (3) geothermal wells have been dug, with two (2) wells capable of producing a combined total of 4MW (megawatts) of electricity. The current electricity peak for the island stands at 2.3MW, hence the geothermal wells are capable of providing 74% excess demand capacity for the island. Since the completion of the wells, the Government of Montserrat has made a staunch effort to seek the necessary finance to complete this project. While it may appear as though the project has come to a standstill, significant effort is being made behind the scene to maximize the potential of this resource.

It also cannot be ignored that while electricity generation is the primary goal, there are other ways in which the geothermal potential can be utilised to benefit the country and its people. These alternative applications can be done in conjunction with electricity supply or stand-alone. With that said, a paper on alternative uses for geothermal energy is currently being drafted with the hopes of highlighting possible alternative pathways to maximize the benefits that can be derived from this recourse.



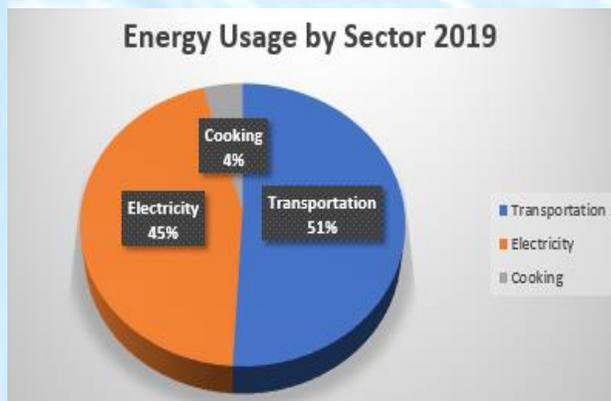
LOCAL ENERGY TRENDS



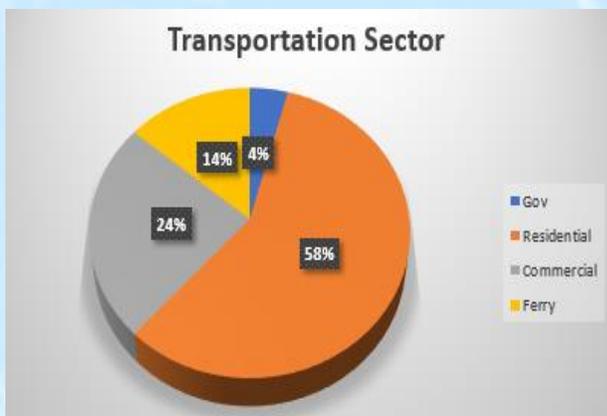
The graph shows a demarcation as of 2014, where premium and regular gasoline is separated as at that period, no distinction was made prior to 2014. The island's energy consumption over the period varied between 250-330 MMBtu annually with the variation in diesel consumption being the main influence in the islands energy consumption. The consumption of diesel and gasoline varied widely during the period, while the consumption of LPG remained relatively stable over the period except for a minor increase in 2016. Diesel accounts for 65% of the energy import into the island, while

gasoline and LPG contributed 29% and 6% respectively over the period.

Resulting from the reduction in global oil prices, Montserrat would have experience the lowest cost of fuel at the pumps and electricity costs in the last 5 years. Prices at the pump were \$9.40, Regular Gasoline and \$7.36, Diesel per gallon for the month of May 2020.



In 2019, the transportation sector is attributed with 51% of the overall energy consumption the island, while electricity generation and cooking (LPG) accounted for 45% and 4% respectively



Residential transportation account for 58% of the energy consumed in the transportation sector while Commercial, Ferry and Government accounts for 24%, 14% and 4% respectively. The value attributed to government exclude government owned vehicles since we are unable to disaggregate the consumption of these vehicles from commercial and residential consumption.

SAVINGS TIPS

Energy Tips for Homes:

1. Consider changing your incandescent light bulbs to LEDS
2. Defrost your refrigerator and freezer before ice buildup becomes 1/4 inch thick to ensure your appliances are running efficiently.
3. Refrigerators and freezers operate most efficiently when full, however, be careful not to overfill them as this will reduce airflow and cause the appliance to work harder.
4. Set your refrigerator temperature to the manufacturer's recommended temp. to avoid excessive cooling and wasting of energy.
5. Don't leave your mobile phone plugged in overnight. It only takes a few hours to charge.

Appliances Savings Tip:

- ◆ Avoid overfilling the kettle. Fill it to the amount that you need.
- ◆ Keep the heating element for the kettle clean
- ◆ Try and protect your fridge from high heat sources
- ◆ Organize and remove clutter from your refrigerator
- ◆ When reheating food in your microwave, stir or turn food regularly to reduce cooking time.
- ◆ Clean your fan regularly—dust buildup causes your fan to work harder to move the same amount of air.
- ◆ If your fan blade is less than 12 degrees, - It Is A Waste Of Energy
- ◆ Make sure your office/space is well insulated
- ◆ Keep your air conditioner air filters clean

Know Your Labels

When purchasing appliances look for the ENERGY RATING label.

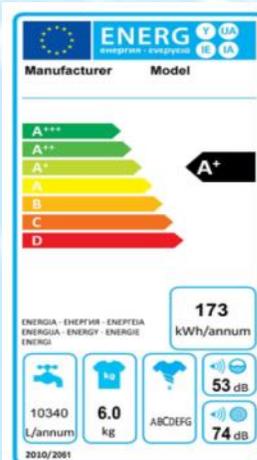
Make sure you keep abreast with your Energy Standards and Labels that meet the energy efficiency requirements



The EnergyGuide provides consumers with information about the energy consumption, efficiency, and operating costs of appliances and consumer products



ENERGY STAR is the trusted, government-backed symbol for energy efficiency helping us all save money and protect the environment through energy-efficient products and practices.



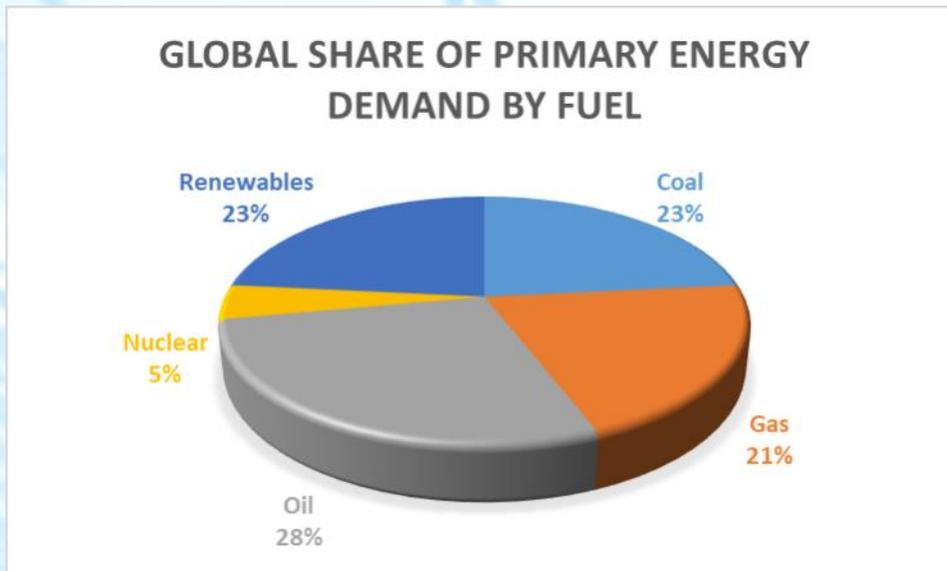
Energy labels show how the appliances sold or manufactured rank on a scale from A to G according to its energy consumption. Class A (green) is the most energy efficient and Class G (red) the least. Currently - once most appliances of a given type reach Class A - up to 3 further classes can be added to the scale; A+, A++ and A+++.

GLOBAL ENERGY TRENDS

Primary Energy

Global energy demand increased by 0.9% in 2019, well below the average rate since 2010. This deceleration was due mainly to slower global economic growth and the impact of milder weather on heating and cooling (IEA). The decline in energy demand growth between 2018 and 2019 was disproportionately felt by coal and gas, while Renewables and natural gas both gained market share, with gas breaching 23% and renewables 14%. Renewables underwent both the largest absolute growth and the fastest rate of growth in 2019, with their overall use increasing by 75 Mtoe or 3.7%. Wind power and solar photovoltaic (PV) power experienced another year of double-digit growth, although solar PV growth slowed.

Global share of total primary energy demand by fuel



Car sales in many key markets declined, however the sale of electric vehicle (EV) increased by 9%. Oil demand growth in 2019 would have been 0.1 mb/d higher without the increasing penetration of electric cars.

Carbon Dioxide (CO₂) emission

Global energy-related CO₂ emissions saw an insignificant change in 2019 at 33.2 gigatonnes (Gt), following two years of increases. This stabilisation resulted mainly from a sharp decline in CO₂ emissions from the power sector in advanced economies. Power sector emissions fell thanks to the expanding role of **renewable sources** (mainly wind and solar PV), fuel switching from coal to natural gas, and higher nuclear power output.

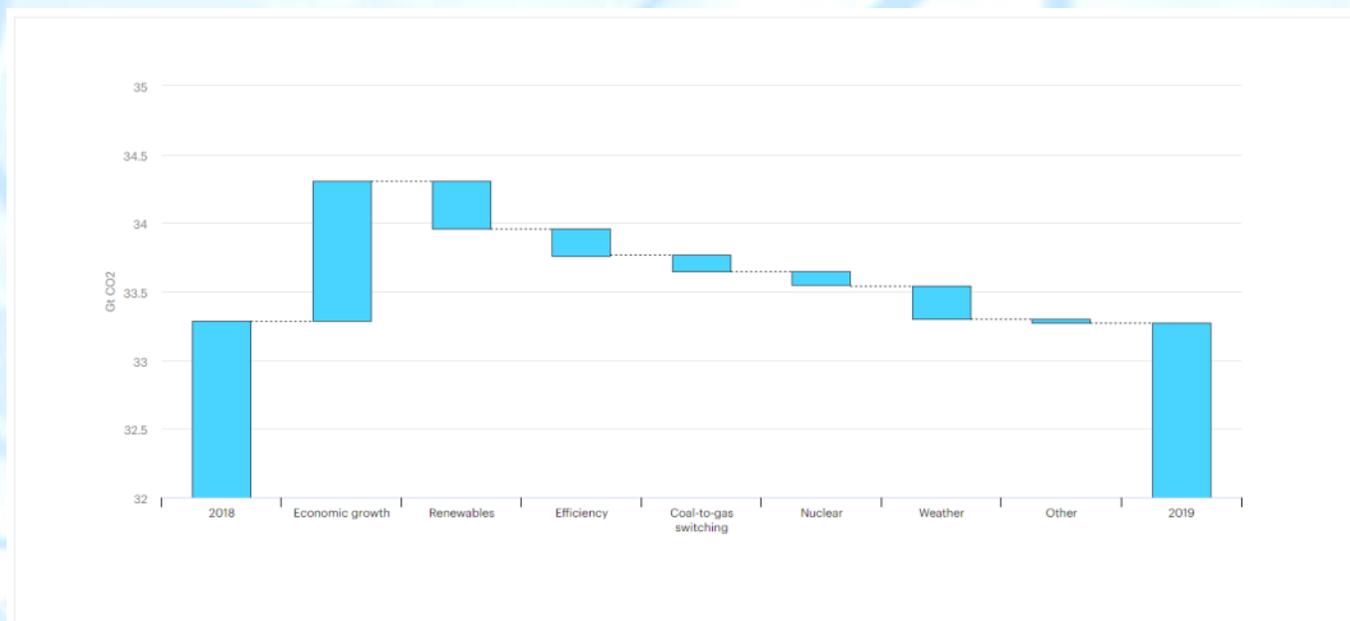
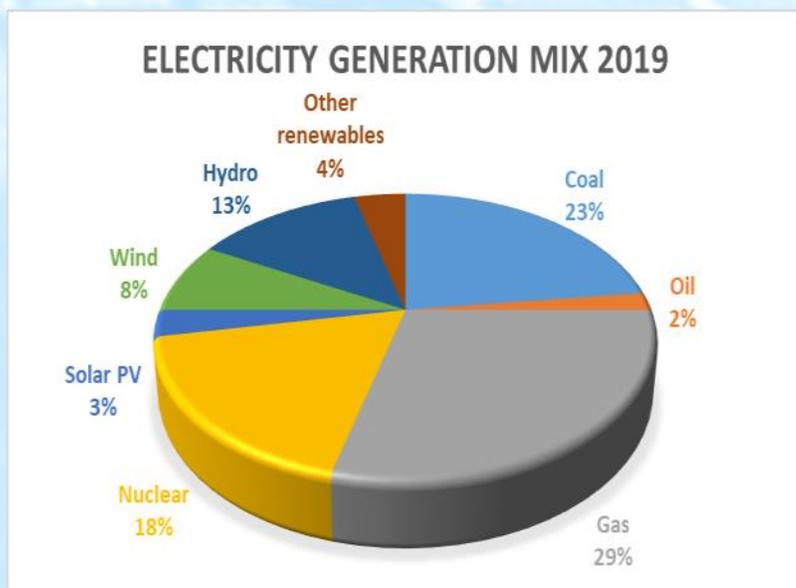


Figure 1 IEA, Change in global energy-related CO₂ emissions and avoided emissions, 2018 compared to 2019, IEA, Paris <https://www.iea.org/data-and-statistics/charts/change-in-global-energy-related-co2-emissions-and-avoided-emissions-2018-compared-to-2019>

Electricity Sector



Global electricity demand increased by just 1.4% in 2019, a significant drop from the 3.9% year-on-year growth the previous year. Slow demand growth paired with the strong growth of renewables and nuclear power drove down fossil-fuelled generation globally for the first time in four decades during times of economic expansion.

Renewable Energy

Renewable energy use increased by 3.7% in 2019 at the global level to 331TWh, up slightly from the previous year. The use of renewable energy in electricity supply accounted for the vast majority of the overall growth, due to widespread policy support and declining technology costs. Renewable energy uses in transport and heat production made incremental gains as well.

2020 thus far: Impact of Covid-19 crisis on global energy demand and CO₂ emissions

As a consequence of the efforts to slow the spread of the virus, Global energy demand declined by 3.8% in the first quarter of 2020. Based IEA analysis of daily data through mid-April shows that countries in full lockdown are experiencing an average 25% decline in energy demand per week and countries in partial lockdown an average 18% decline. This decline in consumption has resulted in a US\$20 slide in the cost of oil from \$65 at the start of the year.

As a consequence of global lockdown measures, mobility – 57% of global oil demand – has declined at an unprecedented scale. Road transport in regions with lockdowns in place has dropped between 50% and 75%, with global average road transport activity almost falling to 50% of the 2019 level by the end of March 2020.

Lockdown measures have significantly reduced electricity demand, affecting in turn the power mix. Increases in residential demand were far outweighed by reductions in commercial and industrial operations. On average. It was found, that every month of full lockdown reduced demand by 20% on average, or over 1.5% on an annual basis.



Energy Month Competition 2019

The Energy Unit put on a Competition to the wide public and within the Schools on the island. Highlighting the winners for their hard work and effort in this competition.

WINNERS OF THE POSTER COMPETITION



Jasmine Gilford

1st PLACE



Alana Kassie

2nd PLACE



Liana Green

3rd PLACE

WINNER OF THE VIDEO COMPETITION

Laurian Brand & Tancia Grant

Link for the Video:

<https://www.facebook.com/laurian.brand.5/videos/562642444533548/>

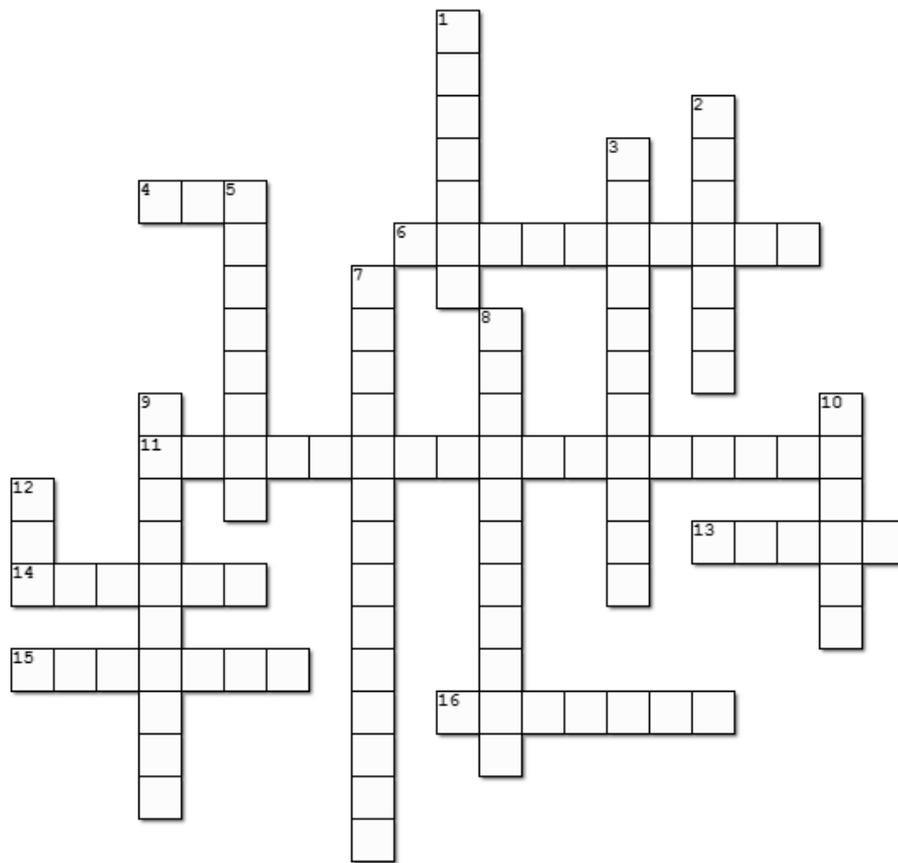
WINNER OF ESSAY COMPETITION

Aaliyah Giddings

An extract from Aaliyah's essay expressing her views

"Undoubtedly, the best means of empowering the people of Montserrat is by educating them. The provision of information helps people to make better decisions. Also, being educated gives one more control over his or her life when the knowledge gained is put to proper use."

Complete the crossword puzzle below



Across

- 4. Propane
- 6. Heat derived within the sub-surface of the earth
- 11. program geared at improving energy consumption in Government occupied buildings
- 13. Attributed with 14% of the transportation sector consumption
- 14. Largest amount of fossil fuel imported
- 15. Winner of Energy Month video competition
- 16. Winner of Energy Month essay Competition

Down

- 1. Next Issue
- 2. Winner of Energy Month poster competition
- 3. provides consumers with information about the energy consumption
- 5. refined petroleum used as fuel for internal combustion engines
- 7. Sector responsible for the greatest energy consumption on Montserrat
- 8. government-backed symbol for energy efficiency
- 9. The Emerald Isle of the Caribbean
- 10. quantitative property that must be transferred to an object in order to perform work
- 12. Efficient Lighting

Next Issue in October