**From the Sufficiency Economy Philosophy to Sustainable Development Goals February 8, 2019**

Good evening dear Thai citizens.

The Office of the National Economic and Social Development Board (NESDB) issued a report on Thailand’s economic growth for the past 5 years (2014-2018), highlighting the country’s strengths and weaknesses. Let me share with you some of the findings.

The country’s economy during the 5-year period expanded significantly. Its gross domestic product grew from 1 percent in 2014 to 4.2 percent in 2018, higher than the global economic expansion which grew at the rate of 3.7 percent. Thailand’s GDP increased from 13 trillion baht in 2014 to 16 trillion baht last year.

However, there remain some risk factors aside from the global economic slump such as the ongoing trade dispute between the USA and China, the impending withdrawal of the United Kingdom from the European Union, known as Brexit, and the US’s interest rate policy. Events taking place around the world are somehow connected.

To reform the economy, the Government initiated the Eastern Economic Corridor (EEC) project, a place that harbors future investments and industries. The EEC has been able to create 700 billion baht worth of New S-Curve industries. This includes joint investments by the Government and the private sector or so called public-private partnership (PPP).

In addition, the Thailand 4.0 policy has helped increase the country’s competitiveness based on innovations, and added value through creativity and emerging technology. This includes the Thailand Plus 1 policy to work with neighboring countries and other economic blocs.

The promotion of SMEs has contributed to an increase in the number of businesses from 39.7% in 2016 to 42.6% in 2018. To become a developed nation, the proportion of SMEs must be between 60-70%.

The acceleration in the development of basic infrastructure that became stagnant for more than a decade also helped. We were able to invest 2.44 trillion baht in this segment. Irrigation zones increased by 3 million rai. Natural gas management and concessions have helped the country save 500 billion baht.

The promotion of local economy and the creation of economic opportunities led to the implementation of the large-scale farming campaign across 5.4 million rai of farmland, with more than 300,000 participating farmers.

The Thai Niyom Yangyuen campaign addresses the needs of local people, enabling communities to improve themselves and address several problems including informal debts, repurchase deals, land allocation, water supply, and other short-, medium-, and long-term projects including all forms of agriculture.

Some issues need immediate responses while some require more stable measures including farming, fishing, and livestock. As for retail, we all have to make adjustments. We have our own market. Low income earners can buy from retail stores. Retail stores can offer discounts to the low income earners.

As for tourism, Thailand is at world’s number one and is ranked fourth in terms of tourism revenue. Looking at the past 10 years (2008-2018), Thailand has seen an increase in the number of foreign visitors from 14 million to 40 million people. With that said, we still have to be mindful of environmental effects. We must find a way to manage 70 million citizens and 40 million visitors who are using the same natural resources.

We have to focus on this matter because it will increase the country’s earnings, on top of waste management, security, the utilization of natural resources, and the environment, given that it creates an enormous value to the economy.

Fellow citizens, in regard to the ongoing smog situation, I would like to take this opportunity to raise awareness about the environment which concerns all of us who must take responsibility. Environmental issues are stressed by politicians, administrators, economists, developers, scholars, and the general public who should lend a helping hand in bringing an end to the problem through cooperation in the form of Pracharat mechanism. Environmental issues are linked to our health and wellbeing, both directly and indirectly. Although the Government has been able to address the issue of people’s wellbeing, health is also an important topic. Environmental deterioration and pollution factors are more serious than we might have thought. Neglecting this problem will reflect in high medical cost.

Climate change is not about daily changes in the weather, but a permanent change that causes extreme cold, hot, drought, and storms stemming from human activities around the world including Thailand.

We are witnessing the climate change. For example, Australia is battered by a heatwave causing temperatures to reach 50 degrees Celsius, while the USA and Canada are encountering a life-threatening polar vortex that causes the temperature to drop to -40 to -50 degrees Celsius. Large cities around the world including Bangkok and its vicinity are facing air pollution caused by PM2.5 and hazardous smog.

All are related to global warming and climate change. Another alarming statistic highlights the fact that the world could see a significant increase in the ocean’s temperature and the rise in sea level by 1 meter towards the end of this century, which could potentially lead to extreme inundation in Bangkok and other cities. The invading saltwater will destroy the ecological balance, farmland, and water supply for consumption.

During the 2019 World Economic Forum in Davos -Klosters, Switzerland, the meeting stress great importance on several issues concerning the environment and sustainable development as the Global Risks Report 2019 indicated that extreme weather events are caused by the world’s failure to stop climate change. Natural disasters are imminent threats to economic development and human survival.

As the G20 Group declared environmental issues as its most important agenda for this year’s gathering while pushing forward environment protection undertakings especially marine debris, the Intergovernmental Panel on Climate Change (IPCC) last October reported that in order to maintain global climate balance, the rise in average temperature must not exceed 1.5 degrees Celsius, meaning all nations must cut the emissions of greenhouse gases by half in the next 12 years. This goal will be achieved when all countries and sectors make changes to economic formats. Generally speaking, we must rely on fossil fuel as little as possible.

Everything takes time. We must continue what we’ve been doing and at a faster pace.

Fellow Thais, you can see that our generation is at an important “tipping point” in that our actions in the next few years will inevitably have a significant impact on the next generations.

This Government therefore places great importance on sustainable development, which is consistent with the United Nations Sustainable Development Goals (SDG). It has established a national strategy for 20 years and plans to reform the country in all dimensions based on “green development” and the King’s Philosophy.

Throughout the past 4 years, important policies regarding the environment are such as (1) Strictly overseeing the discharge of water and air pollution by factories and industrial estates (2) Pushing for new laws to promote and maintain environmental quality, including the management of product waste, electrical appliances, and electronic equipment.

(3) Making the disposal of solid waste a national agenda, focusing on waste management from the source and increasing role of local administrations in handling waste from 27 million tons to 30 million.

(4) Campaigning to reduce the use of plastic bags and foam by cooperating with shopping centers, supermarkets, and convenience stores, resulting in a reduction of 370 million pieces.

(5) Reducing plastic cap seals on water bottles by over 2,600 million pieces per year or about 520 tons per year.

(6) Banning smoking along beaches and public areas.

(7) Appropriate management of 60,000 tons of hazardous waste in communities out of 600,000 tons, (8) Significantly improving the air quality in the northern region, reducing the number of hotspots by more than 40 percent while reducing the number of days with dust exceeding standards.

The Government has cooperated with 5 Mekong Sub-regional countries in order to solve the problem of cross-border haze sustainably. Undertaking these challenges are possible with the help of everyone. Blaming each other cannot help anything.

Respected citizens, the current air pollution situation as seen in air quality index (AQI) readings show high levels of PM2.5 particles that have a long term effect on the public for the next 10 or 20 years ahead.

However, PM2.5 immediately affects at-risk groups such as small children, the elderly, pregnant women, and patients with chronic diseases such as allergies, asthma, and heart disease etc.

As for PM2.5 dust in Bangkok, 50% of the problem is caused by diesel exhaust (as with every major city with heavy traffic, and 35% from biomass waste incineration (including burning in sugarcane, rice, and corn fields), which I recommend using other methods such as plowing then adding water-based organic fertilizer to water or EM microorganisms which will help increase nutrients in the soil in addition to preventing pollution.

Part of the smog is from construction projects and factories (which total in the hundreds of thousands, with 1,700 at risky levels and 600 requiring immediate attention).

Other activities that cause more smog are such as incense, candles, smoking, which should all be reduced. We all are suffered from this crisis. Before making any decision (regarding this crisis), the Government always takes into its consideration private businesses and farmers. However, the Government must put the general public first. Relevant laws must be complied. Transport is an important activity as its move products from places to places, to and through Bangkok. Therefore, we must consider all these dimensions.

Under times of crisis in our country, such as the Wild Boar Football Team rescue operation, Tropic Storm Pabuk, as well as the current air pollution crisis, we have always seen cooperation of people.

This includes using drones and airplanes to spray water, spraying water at high-rise buildings, volunteer vocational projects, the setting up of fix-it centers to check the condition of the car exhausts and air filters, designing water spray machines and tunnels to help trap smoke, mobile air pollution control design, including clearing roads and reducing dust in the construction areas etc.

This is the overall picture of solving the PM2.5 and PM10 air pollution crisis. None of these solutions alone yield immediate results, but we must focus our efforts on traffic and burning activities that result in fine dust particles. In addressing any issue, we must first examine the source of the problem.

The Government has informed its measures to address the fine dust particles issue throughout this week.

The measures contain urgent, medium and long-term measures These measures require cooperation from everyone.

For example, diesel cars, the BMTA, and government vehicles must switch to B20, which will likely benefit the country’s biodiesel market, creating a B20 value chain from producing to selling. B20 is a choice for consumers.

The aforesaid vehicles must change air filters, diesel filters, and engine oil filters as well as having their nozzle cleaned. Please switch off the engine and refraining from open burning.

The Government will accelerate the development of the public transport networks to connect all systems according to its plan, providing alternative mode of transport to personal cars and accelerate the plan to change the buses of the Bangkok Mass Transit Authority (BMTA) to low emission vehicles.

As for Tropical Storm Pabuk, the Government has assisted in the repair of over 50,000 homes, with around 330 that require total reconstruction. The Government are reviewing the budgets on what can be paid or not paid by the Government. Donation budget is an option for what cannot be paid by the Government.

In addition, His Majesty King has graciously donated 300 million bahts from the winter festival on the restoration efforts from Tropical Storm Pabuk.

I would like everyone to understand that we must use of this amount appropriately in accordance with His Majesty’s wishes.

I would like this money to be directed towards reconstructing homes, caring for fishermen, providing fishing equipment, and other efforts that benefits the people directly.

We must make sure that it is in accordance with the law and principles that were intended.

Finally, I would like to present part of our long-term measure in solving dust and air pollution problems, something that is in accordance to direction of global development, which is electric vehicles.

The first video will be a roadmap for the direction of the development of the Thai automotive industry into a production and export base for electric vehicles, known as the "EV Hub" of the region and the world in the days ahead.

The second topic is the project to modify used cars into electric cars at a cost not exceeding 200,000 baht as an alternative for those who are unable to buy a new EV car that are still expensive.

In addition to saving about 45,000 baht per year in fuel costs for the country, we will be able to reduce greenhouse gas emissions by nearly 50 percent.

I’ve learned about a private entity that is preparing to launch a fully electric bus system to better our transportation system while being cost effective and environmentally friendly.

I would like to commend and encourage this enterprise which we will hopefully see on the roads soon. Please make sure that the vehicles pass safety and quality standards.

The most expensive part of the electric car is the battery. We need to accelerate development in this area. Other countries also have problems in terms of battery life as well. Cheaper batteries are lower quality while quality batteries may be too expensive.

Therefore, Thailand is developing batteries and electric trains in the EEC area, as part of the Government’s fast track project.

Thank you and please help preserve our environment the same way we are taking care of our own health and make sure that all of your family members and people around you are happy since we all are living in Thailand. Sawasdee krub.

**VTR 1**

Global warming is affecting the environment and wildlife species around the world. The main cause of global warming is greenhouse gases which come from the emission of carbon dioxide in the transportation sector. Thailand, by Prime Minister Gen. Prayut Chan-o-cha, pledged to ratify the Paris Agreement in September 2016 to reduce greenhouse gases by 20-25% within 2030.

This has led to the development of “zero emission” electric vehicles with a focus on saving the environment under the Thailand 4.0 strategy. Thailand imposes excise taxes based on the amount of carbon dioxide a vehicle releases and safety standards.

Car producers are obligated to make vehicles that meet the “ECO Sticker” regulation, pushing them to bring in advanced technologies into the country for auto production. This will prepare Thailand for the development of auto production hub in the future.

The Ministry of Industry is working with relevant agencies and the private sector to promote the auto industry of the future in line with the Pracharat approach, covering all areas including 1) measures to encourage investments, 2) measures to boost domestic consumption of electric vehicles, 3) preparing needed infrastructure, 4) lifting electric vehicle standards, and 5) better management of used batteries.

1) Measures to support the production of electric vehicles in Thailand.

The Cabinet on 28 March 2017 greenlighted a proposed measure to streamline the production of electric vehicles in the Kingdom. The measure serves as a roadmap for the country to enhance its auto production sector, turning Thailand into the producer and exporter of electric vehicles and parts while at the same time gaining technological advances.

Since taking office, the Government has accomplished several tasks, as follows,

1) The electric vehicle promotion campaign has been joined by 7 companies producing more than 269,700 hybrid electric vehicles and plug-in hybrid electric vehicles on a yearly basis, with a combined investment value of 29.459 billion baht. These vehicles are being made.

2) As for auto infrastructure, the Government has set up the Automatic and Tyre Testing, Research and Innovation Center (ATTRIC) in Sanam Chai Khet District of Chachoengsao, inside the EEC zone, to provide testing and certification services of automotive products, in accordance with UN R117 Standard. The construction of the center was completed. The center has been certified with ISO 10844.

ATTRIC is ASEAN’s first testing center capable of testing tyres, cars, electric cars. The establishment is an important infrastructure that caters to the country’s aim to create value in the auto industry.

The Government is planning to roll out the second round of measures to support the EV industry. The investment promotion committee has assigned the Ministry of Finance, the Ministry of Industry, and the BOI to revise excise taxes on vehicles to improve auto production to be able to produce part that is the core technology of the battery electric vehicles (BEV). The move will encourage the production of BEV and other type of electric vehicles. This round of EV promotion measures will come to realization under the current administration.

2) To reduce particulate matter or fine dust particles in the air, the Cabinet on 5 February 2019 endorsed long-term measures and plans to be implemented between 2022 and 2024. One of the measures is to make all vehicles on the road meet Euro 6 emissions standards.

According to the Department of Land Transport, in Bangkok, as many as 6 million vehicles or 37% of all registered vehicles nationwide are categorized under Euro 4 standards. These vehicles emit 5 times the quantity of tiny particles compared to Euro 5 and 6 vehicles. Had Thailand raised the acceptable limits of vehicle emissions to Euro 5 in 2011 as planned, the country would have seen 37,391 tons less of fine dust particles today.

Improving vehicle standards to Euro 5 and 6 will increase cost, but the cost cannot be compared to people’s health, taking into consideration the cost to buy N95 masks which can be as high as 18,250 baht per person per year, the cost to buy air filters which could be thousands of baht, and the cost of medical treatments in the future.

In terms of vehicles, the Government will implement the following:

1) The Thai Industrial Standards Institute of the Ministry of Industry will improve the standards of vehicle emissions for better air quality.

The production of electric vehicles must meet the Euro 6 emissions standards. As for new vehicles, they will be required to meet Euro 5 standards by 2021 and Euro 6 by 2022.

2) Car buyers are encouraged to purchase vehicles that comply with Euro 5 and 6 standards. Vehicles that meet these standards will have “ECO Sticker” on the window. You can also find out more at [www.car.go.th](http://www.car.go.th).

3) Drivers are encouraged to use fuels that pass Euro 5 standards or higher which can be found at today’s gas stations.

**VTR 2**

At present, more than 1 billion vehicles worldwide are emitting carbon dioxide into the atmosphere at a rate of 4.6 billion tons per year.

The use of electric vehicles or EVs is an important choice to protect the environment because it helps reduce pollution and PM 2.5 dust particles caused by burning petrol.

It can help reduce greenhouse gas emissions by 47% over a period of 15 years. EV car users will save up to 26,000 baht per year in fuel costs.

With this new trend towards electric vehicles worldwide, as well as government policies, The Electricity Generating Authority of Thailand (EGAT) and the National Science and Technology Development Agency (NSTDA) have jointly conducted a research and development project, focusing on modifying used internal combustion engines into i-EV electric vehicles by developing the main set of 7 electric cars, namely (1) the motor (2) motor control unit (3) ECU control device (4) voltage adjustment device (5) electric charge (6) air conditioning system (7) design of battery placement and battery care system i-EV electric vehicles are considered a “city car” that can be driven at a maximum speed of 160 kilometers per hour and run for a distance of no less than 200 kilometers per 1 charge. The cost to modify the vehicle is less than 200,000 baht per vehicle, excluding the battery price.

In 2020, EGAT aims to develop the service center for modified electric cars and transfer technology to the private sector in order to further develop it into a commercial industry that produces cheap electric cars for Thai people to use in the future.