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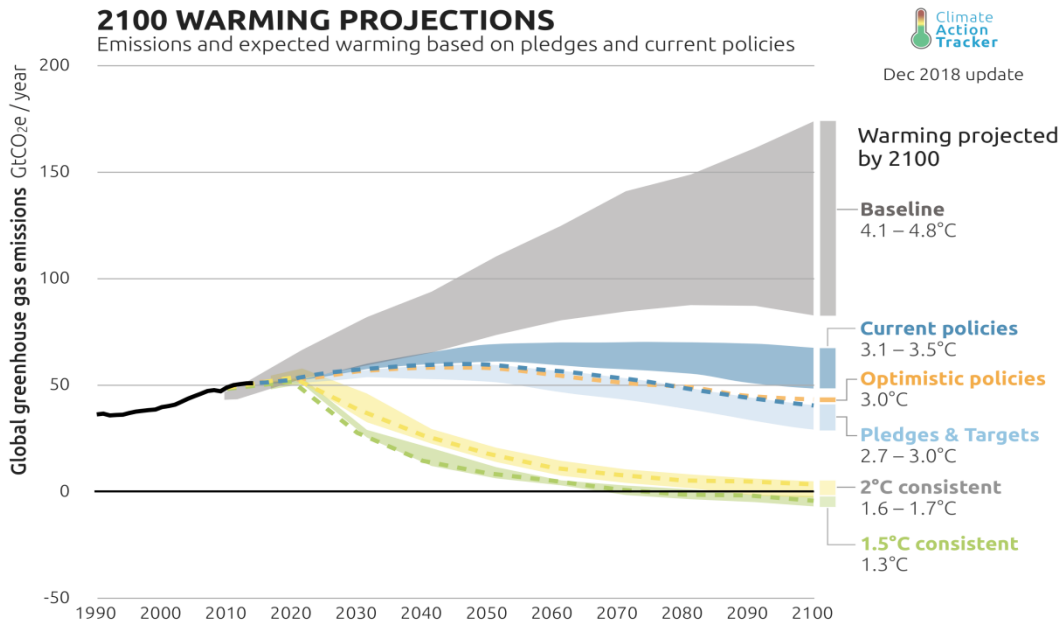
1.0 Climate Change and Transport

The 24th Conference of Parties (COP24) concluded in Katowice, Poland in the evening of December 15 2018. Much of the discussion at the conference revolved around two important documents—the 2015 Paris Agreement and the October 2018 Intergovernmental Panel on Climate Change (IPCC) report.

The nearly 14,000 delegates from 195 countries finally came to the agreement to adopt the 133-page Paris Agreement. The Paris Agreement aims to hold global warming to well below 2 °C and to pursue efforts to limit it to 1.5 °C. To achieve this, countries have submitted their (Intended) Nationally Determined Contributions (NDCs) outlining their post-2020 climate actions. The NDCs will be regularly assessed and compared on their adequacies towards meeting the Paris Agreement aims.

The October 2018 IPCC Report (titled: *Global Warming of 1.5 °C - an IPCC special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*), stated that heating was the largest source of non-agricultural carbon emission, followed by **transport** and power generation, with fossil fuels dominating all sectors. There were various other sources which contribute varying degrees of carbon emission.

According to Climate Action Tracker (CAT), in the absence of policies, global warming is expected to reach 4.1 °C – 4.8 °C above pre-industrial by the end of the century and that current policies presently in place around the world are projected to reduce baseline emissions and result in about 3.3°C warming above pre-industrial levels. The unconditional pledges and targets that governments have made, including NDCs as of December 2018, would limit warming to about 3.0°C above pre-industrial levels, or in probabilistic terms, likely (66% or greater chance) limit warming below 3.2°C. See graph below:



The Partnership on Sustainable, Low Carbon Transport (SLoCaT) organization, highlighted that only 10 % of the NDC include a transport CO₂ reduction target yet almost a quarter (23%) of energy-related CO₂ stems from transport activity. With transport demand growing, it could reach a share of 40% in twenty years' time. Decarbonising transport is difficult as it is still 92% dependent on oil, thus it is urgent to raise ambitions for reducing transport CO₂. Transport policies are often excluded in climate change policy processes. The transport policy challenges in the context of climate change are complex. They require co-operation and collaboration among and within sectors, among countries across different levels of government and among public agencies.

2.0 Selected News

2.1 Thailand

Get tough on diesel, vehicle numbers to tackle smog, experts urge.

by WICHIT CHAITRONG, THE NATION. January 21, 2019



THE SEVERITY of Bangkok's air pollution suggests that the national government's pursuit of a "low-carbon economy" has fallen short of needs, say experts, who recommend higher taxes on "dirty fuel" and a reduction in the number of vehicles on city streets.

Like other countries, Thailand has incorporated the low-carbon economy model in policies, aiming for sustainable development and better public health.

The Finance Ministry has already introduced excise taxes on vehicles that vary with emission levels and successive governments have endorsed railway projects such as the mass transit system in Bangkok. The Energy Ministry plans to use more renewable-energy fuels to produce electricity in place of natural gas and coal.

Praipol Koomsup, an economist specialising in energy issues, said the high level of air pollution in Bangkok indicates that the country has not yet done enough to make the low-carbon economy a reality.

One of several key contributors to the pollution problem is the estimated 2.5 million diesel-powered trucks and buses still on city roads. Diesel engines produce a significant amount of the PM_{2.5} – particulate matter less than 2.5 microns in diameter – currently putting health at risk in Bangkok.

Praipol backs the idea of government subsidies for people willing to buy electric vehicles, the cost of which remains high.

"The government plans to increase the amount of renewable fuel for producing electricity from about 10 per cent to 20 per cent in the next 20 years. That is our target and we need to do a lot to achieve it," he said.

Thanawat Polvichai, director of the Economic and Business Forecasting Centre at the University of the Thai Chamber of Commerce, estimated that the air pollution could cost Bangkok businesses Bt5 billion to Bt10 billion because, among other issues, no one wants to linger at open-air food stalls.

But Thanawat expects the crisis' impact on the overall economy to be short-lived.

Speaking at a recent Thailand Development Research Institute seminar on "air pollution as a negative impact of development", Adis Israngkura, an economist involved in national resources and the environment, urged the government to raise the tax ante.

It should review the excise tax system and make it clear to people that pollution will be taxed heavily to discourage the use of dirty fuels such as diesel.

Cities need to be reorganised

The current tax rate on diesel fuel doesn't reflect the serious impact of air pollution, Adis said, advocating a higher annual road tax on ageing vehicles as well because their engines' efficiency degrades over time and they cause more pollution.

Adis believes the government is on the right track with its policies on sustainable development, but it needs to do more. Prime Minister Prayut Chan-o-cha chairs a committee overseeing the effort, he noted, but "Prayut could take more action".

Chamnong Sorapipatana, chairman of the energy division at the Asian Transportation Research Society, noted that construction of the mass-transit rail system in itself causes traffic jams, adding to pollution.

Construction work should be done at night, he said, or suspended until the middle of March when weather conditions aren't trapping pollution over the city. After winter, the upper air will be cooler, allowing the pollution to rise and escape, Chamnong said.

But in the long run, Bangkok and other cities need more green spaces and should be reorganised to lessen travel distances, he added.

Sumet Ongkittikul, a research director at the TDRI engaged in transportation and logistics policy, said the government should limit the number of cars in Bangkok. It has moved too slowly on this, he said, in the hope that more people will voluntarily begin using public transport once the new rail lines are completed in Bangkok in three to five years.

Sumet pointed out, though, that other countries have found people do not switch to public transit without some prodding. Increasing the cost of owning a car would be one incentive. Singapore limits vehicle numbers by auctioning off licence plates and imposes high fees for allowing access to restricted areas. Hong Kong and London also impose tough rules on car owners, he added.

Source: <http://www.nationmultimedia.com/detail/business/30362598>

2.2 India

Nafed to set up 100 bio-CNG plants with Rs 5K cr investment

by NT Bureau. January 6, 2019



Chennai: Farm cooperative major Nafed has announced setting up 100 bio-CNG manufacturing facilities using agri-waste such as stubble through public-private partnership (PPP) with an estimated investment of Rs 5,000 crore.

The first three centres will come up in Muzaffarnagar in Uttar Pradesh, which is the largest sugarcane producing state where waste from sugar mills is available in

abundance, MD, Nafed, Sanjeev K Chadha said.

"An agreement has already been signed with 4-5 private investors like Reliance, United Nations Environment Programme (UNEP) and technology provider. Initially, 100 units will be set up across the country with an estimated cost of about Rs 5,000 crore," Chadha told reporters.

Another agreement has been signed with Indian Oil for purchase of bio-CNG from the plants at a rate of Rs 48 per kg, he said.

Source: <https://newstodaynet.com/index.php/2019/01/06/nafed-to-set-up-100-bio-cng-plants-with-rs-5k-cr-investment/>

2.3 Italy

ENI and Coldiretti agree to develop Italian biomethane supply chain

Bioenergy International. January 26, 2019

In Italy, oil and gas major Eni S.p.A and the national farmers association Confederazione Nazionale Coltivatori Diretti (Coldiretti) have formed an alliance to develop the Italian agricultural biomethane supply chain and make mobility more sustainable from a circular economy perspective. The goal is to create the first supply network of agricultural biomethane "from the field to pump" aiming to produce 8 billion Nm³ by 2030.



The Memorandum of Understanding (MoU) was signed on January 25, 2019, in Lodi at the Padano Technology Park by the President of Coldiretti, Ettore Prandini, and the Chief Officer of Eni Refining & Marketing, Giuseppe Ricci (photo courtesy Eni).

Eni and Coldiretti signed the Memorandum of Understanding (MoU) with the aim of developing an advanced Italian supply chain of biomethane produced from waste for use within the transport sector. The idea is to leverage the waste and byproducts that are produced from agriculture and livestock.

Eni and Coldiretti announced their goal to create the first supply network of agricultural biomethane “from field to pump”, aiming to produce 8 billion Nm³ of “green” gas by 2030.

We consider our continued initiatives around sustainable mobility as diversifying our offer, particularly through our focus on biofuels that reduce environmental impact, and this is why we have already converted two traditional refineries into biorefineries where our Eni diesel+ biofuel is produced. For this reason, we are strengthening our network of compressed and liquefied gas service stations, where the replacement of natural gas with biomethane marks another important step towards the decarbonization of transport. The agreement with Coldiretti will allow for further integration across the entire production chain, representing a great opportunity for integrated sustainable development: not only environmentally, but also from an economic and social standpoint, said Giuseppe Ricci, Chief Refining & Marketing Officer at Eni.

New biomethane production plants

Biomethane is derived from biogas, a renewable energy source that can be produced and consumed in the form of compressed natural gas (CNG) or liquefied natural gas (LNG). Biomethane can contribute to the reduction of greenhouse gas (GHG) emissions as well as assist in agricultural and agri-food development, sectors that play a strategic role in Italian growth from an economic, employment and renewable energy production perspective.

The collaboration between the parties aims to promote the construction of new biomethane production plants. Coldiretti includes 1.6 million associates and is the largest organisation representing agricultural entrepreneurs at a national and European level.

It will deal with the dissemination among its member companies of a management model for agricultural byproducts and waste, allowing them to be used as raw materials in biomethane production.

By leveraging agricultural waste from crops and farms, mini-plants for biomethane can meet up to 12 percent of gas consumption in Italy. We must shift from a system that produces waste and pollution towards a new circular economy model where production is also carried out by leveraging existing waste, with an evolution that represents a significant part of the efforts to modernise and transform the Italian

and European economy, driving it in a more sustainable direction that combines economic development, social inclusion and the environment, explained Ettore Prandini, President Coldiretti.

Eni will focus on its production, transportation and input both in the Italian sales network and in networks dedicated to the same associated companies, as well as offering Coldiretti associates proposals to use alternative fuels with low levels of carbon dioxide emissions for vehicles used in agricultural activities.

Experts at Eni and Coldiretti will work to further develop the collaboration, tasked with defining feasibility studies that will aim to identify the various types of associated companies, particularly those that have the ability to create systems for biomethane production.

Source: <https://bioenergyinternational.com/biogas/eni-and-coldiretti-agree-to-develop-italian-biomethane-supply-chain>

2.4 Europe

Include renewable gas accounting methodology from 2025 – NGVA Europe

Bioenergy International. Opinion & Commentary. January 23, 2019

As legislators enter into the negotiations for a final agreement between the European Parliament and Council on the new regulation setting carbon dioxide (CO₂) standards for heavy-duty vehicles (HDVs), NGVA Europe calls for the inclusion of a methodology to account renewable gaseous fuel already from the 2025 intermediate target.



A Volvo 460 methane-diesel tanker truck transporting liquefied biogas (LBG) from Air Liquide Group subsidiary, FordonsGas Sverige AB, a Swedish gas distributor, gas refuelling station developer and operator. NGVA Europe calls on EU legislators to include a methodology to account renewable gaseous fuel already from the 2025 intermediate target in the carbon dioxide (CO₂) standards for heavy-duty vehicles (HDVs).

According to Natural & bio Gas Vehicle Association (NGVA Europe), it is “fundamental” that a mechanism for inclusion of renewable and synthetic fuels in the range of alternatives to reach the final carbon dioxide (CO₂) reduction targets is developed.

In parallel tailpipe CO₂ emissions measurement, necessary as an indicator of vehicle efficiency and of fuel consumption, emissions associated with the fuel provision need also to be weighed in. Looking to the much wider decarbonization target provides the necessary signal to both vehicle manufacturers and biofuels producers to preserve the focus on investments.

Methodology needed to assess both existing and near-future alternatives

The type of methodology is open but needs to be defined in order to be consistent with the rest of the EU legislation. Given the multiple missions that the heavy-duty transport sector is required to fulfil, there is no silver bullet powertrain technology or energy carrier.

Thus the mechanism needs to assess different technologies and alternatives, both those that are currently available and those under development. Furthermore, the timeline is crucial for the heavy-duty vehicle (HDV) sector.

Delaying the conception of the methodology would represent a missed opportunity. This is because a considerable amount of renewable gas is already available and compliant with the strictest sustainability criteria of the Renewable Energy Directive (RED). Therefore, accounting for their contribution towards the intermediate target in 2025 is the most justifiable timeline, fully in line with the technology deployment of gas for freight mobility and renewables uptake, NGVA Europe stressed.

Low fuel consumption, strong performance and low emissions

NGVA Europe also points out that greenhouse gas (GHG) emissions reduction is the combined result of efforts merging different contributions related to engine/vehicle technologies. Trucks running on gas are ranked among those with the lowest fuel consumption available on the market.

By ensuring a strong performance in terms of fuel efficiency, in combination with extensive maintenance intervals, gas-powered trucks already have strong overall climate performance compared to fossil-diesel fueled options.

Existing distribution and refuelling infrastructure

NGVA Europe argues that existing gas distribution and refuelling infrastructure is already in place while some of the other alternatives are not expected to scale up quickly.

The development of a methodology will enhance the already existing infrastructure and the possibility of low-carbon emissions mobility that natural and renewable gas offer.



E.ON's public refuelling station for compressed biogas (CBG) at its Högbytorp facility in Stockholm, Sweden.

Furthermore, investments needed to develop and expand the infrastructure further are “feasible and competitive” when compared with other technologies and would not result in increased costs for the end consumer.

In this transitional period for the European transport and energy sectors towards zero- and low-emission driving, the push for CO₂ savings should look at “all reasonable options without being unidirectional at any costs.”

Truck makers need to be provided with complementary and feasible policy solutions to reach the ambitious targets expected already in 2025. This will enable the sector to plan and invest accordingly.

Source: <https://bioenergyinternational.com/opinion-commentary/include-renewable-gas-accounting-methodology-from-2025-ngva-europe>

3.0 Events

- i. LNG and Natural Gas for Power and Industries Thailand Forum 2019. Organized by AEG. Endorsed by ANGVA. St. Regis Hotel, Bangkok, Thailand. 27th Feb – 1st Mar '19. (27-28 Feb – Forum. 1 Mar – Site visit).
- ii. 2019 20th China International NGVS and Gas Station Equipment Exhibition + 2nd China International Natural Gas Vehicle and Ship Development Forum. China International Exhibition Center (New Venue) Beijing, China. 16th – 18th May 2019.
- iii. ANGVA 2019, The 8th ANGVA International Biennial Conference & Exhibition. Jakarta, Indonesia. November 2019.

4.0 End

Any comments and suggestions on the topics and information covered and to be covered in future are most welcome. Please send your comments and suggestions to Lee Giok Seng at email: leegs@angva.org