

Initiative for Climate Action Transparency - ICAT



Transformational Change Potential of the Transport Sector and Insights for Developing an E-Mobility Policy for Trinidad and Tobago WORKSHOP REPORT REVISED

Initiative for Climate Action Transparency - ICAT -

Transformational Change Potential of the Transport Sector and Insights for Developing an E-Mobility Policy for Trinidad and Tobago: Workshop Report

Deliverable: Presentation of the Results of the Study

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Background

On February 22, 2018, Trinidad and Tobago deposited its instrument of ratification to the Paris Agreement on climate change. The Paris Agreement represents a universal treaty on climate change in support of a low-carbon resilient future. The Initiative for Climate Action Transparency (ICAT) has partnered with Trinidad and Tobago to build capacities on understanding and applying tools and approaches to measure, report and verify (MRV) greenhouse gas emissions reductions and sustainable development impacts, as well as to strengthen existing institutional arrangements and processes for MRV of policies and actions.

During the first part of ICAT implementation in Trinidad and Tobago (2018-2019), the project sought to support the development of Trinidad and Tobago's MRV systems by developing a Knowledge Management System (KMS) and piloting the KMS for the power generation sector. With the support of ICAT, Trinidad and Tobago seeks to analyse the transformational change potential of the mitigation activities of the transport sector, identified by Trinidad & Tobago, and generate insights for the development of an e-mobility policy.

Objectives

The workshop aimed at presenting the results and findings of the transformational impact assessment and developing recommendations to the ministry of Planning and Development and key stakeholders in the transport sector in Trinidad and Tobago. The key goals are as follows:

1. To understand the role of the ICAT methodology in determining the transformational change capability of Trinidad and Tobago's climate change policies.
2. To discuss the impact of an E-Mobility policy on the transport sector in Trinidad and Tobago.
3. To understand the barriers encountered in developing and implementing an E-Mobility policy in Trinidad and Tobago.
4. To generate actions to support the development of the E-Mobility policy.

Target Audience

The role of participative stakeholder consultation is according to the principle that the whole process has to be done in cooperation between the Government and stakeholders. The reasons for this are: (a) The stakeholders have to become co-owners of the problems and share a part of the responsibilities. (b) Stakeholders might have information about the character of the problems and ideas for possible solutions. They also have essential information which could influence the content and feasibility of the concepts. (c) There is a need to make sure that the stakeholders will be able and willing to cooperate in the workshop.

The stakeholders have been ranked according to the estimated most critical to the least critical. The rank from most critical to least is as follows:

No.	Stakeholders	Total (identifies critical Stakeholders)
1	Tobago House of Assembly (THA)	54
2	PTSC - buses	52
3	Trinidad & Tobago Automotive Dealers Association New Car Dealers	48
4	Maxi Taxi Association	45
5	Taxi Drivers Association	45
6	UTT - Education and Research	45
7	UWI - Education and Research	45
8	Ministry of Planning - land use planning / spatial planning	44
9	Ministry of Energy	44
10	Used Car Dealers Association	43
11	Ministry of Works and Transport - planning, design, construction and maintenance of road infrastructure	42
12	T&TEC - Protection of the road users from T&TEC infrastructure	42
13	Trinidad & Tobago Automobile Sports Association (TTASA) - advocacy	39
14	Ministry of Science, Technology and Tertiary Education	38
15	The Association of Professional Engineers (APETT)	38
16	The Joint Consultative Council (JCC)	38
17	Trinidad & Tobago Automobile Association (TTAA) - advocacy	38
18	Ministry of National Security	37
19	Office of the Prime Minister	33
20	TTPS	32
21	Licensing Office - Inspections, education and training, certification of licenses for all classes of vehicles, enforcement	31
22	Trinidad & Tobago Society of Planners (TTSP)	31
23	State Enterprises - Government-Owned Vehicles	30
24	National Training Agency - standardize instructor / driver training	29
25	Multinational Companies - Corporate Social Considerations	28
26	Ministry of Labour	26
27	Caribbean Development Bank (CDB) - projects - Financial Grants	22
28	IDB - Project - Financial Grants	22
29	MEDIA - print, tv, radio, social, signage - public communication	22
30	Ministry of Finance	22
31	Ministry of Education - EV Education at all Schools	20
32	Chambers of Commerce - advocacy and funding	19
33	Customs and Excise	19
34	Cellular Companies - Digicel/Bmobile	16
35	Ministry of Health - trauma and emergency	12

If a random cut-off level of 60% was set for the ratio of the estimated value of the stakeholder interests to the maximum value of the stakeholder interests (54) was assigned, then the first 19 ranked critical stakeholders will be included.

Rank of Critical Stakeholder Interests

The stakeholder interests have been ranked according to the estimated most critical to the least critical. The rank from most critical to least is as follows:

1. Legislation
2. Develop standards, regulations and planning for charging infrastructure, recycling of batteries, parking and data sharing
3. Statistical Information / Data Collection
4. Gender Considerations
5. Identify viable segments of EV market
6. Impact of EVs on Economic Growth and Employment
7. Financing Infrastructure and Facilities
8. Education and Training
9. Networking Among stakeholders
10. Establish a vision of the future of sustainable urban mobility
11. Apply fiscal and non-fiscal incentives to increase e-mobility
12. Standards for installation and maintenance of road furniture
13. Vehicle engineering and safety standards
14. Private Auto Ownership and Usage
15. Road Design/ Engineering standards
16. Mass transportation / Public Transportation
17. Adopt an ecosystem-based perspective for collaborative governance
18. Maintenance of Road Network

ANNEX A identifies the participants at the Workshop.

Stakeholder Consultation

Agenda October 18, 2021 *via*

Zoom 9:30am – 11:10am

(AST)

Sessions		Time	Presenter
1	Introduction- Remarks and Goals Opening Workshop	9:30 9:45am	<p>Mr. Kishan Kumarsingh Head, Multilateral Environmental Agreements Unit Ministry of Planning and Development &</p> <p>Ms. Randa Ahmed Programme Manager, Initiative for Climate Action Transparency (ICAT)</p>
2	Presentation of ICAT project-work completed thus far and next steps	9:45 9:55am	<p>Fatima-Zahra Taibi Senior Advisor, ICAT</p>
3	ICAT Transport Sector Transformational Change Methodology and Outcomes	9:55 10:05am	<p>Mr. Miguel Cudjoe Consultant LF Systems Limited</p>
4	Barriers to E-mobility Policy Development and Implementation	10:05 10:15am	<p>Mr. Miguel Cudjoe Consultant LF Systems Limited</p>
5	E-mobility Policy Recommendations	10:15 10:30am	<p>Dr. Rae Furlonge Consultant LF Systems Limited</p>
6	Stakeholder Feedback & Closing	10:30 11:10am	<p>Mr. Kishan Kumarsingh</p>

Summary of the Presentation and Proceedings

1. Introduction – Opening Remarks and Workshop Goals

Sindy Singh (Multilateral Environmental Agreements Unit Ministry of Planning and Development),

Ms. Singh welcomed the participants and established housekeeping protocols for the online session. She urged the participants to use the chat feature for question and answers and acknowledged that the session will be recorded. Cindy then introduced Mr. Kishan Kumarsingh as the next speaker.

Mr. Kishan Kumarsingh, Head of the Multilateral Environmental Agreements Unit Ministry of Planning and Development.

Mr. Kumarsingh began by thanking Ms Randa Ahmed, Programme Manager, Initiative for Climate Action Transparency (ICAT) and Fatima-Zahra Taibi, Senior Advisor, ICAT for their role in establishing the E-mobility policy. He acknowledged that the ICAT programming has been the driver for the development of the E-mobility policy based on a series of activities that the Ministry of Planning and Development and ICAT have collaborated on.

Key Points:

- Trinidad and Tobago's Nationally Determined Contributions (NDCs) covers three sectors, the power generation sector, the industrial sector and the transport sector. The sectors are the three top emitting sectors.
- The world is accelerating in transition from internal combustion engine vehicles (ICEVs) to electric vehicles (EVs). Many countries have signalled their intention to phase out the sale of ICEVs as early as 2025.
- Trinidad and Tobago is a significant importer of foreign used vehicles which are mostly ICEV. The country will have to get on the transformational paradigm less it becomes a dumping ground.
- After consultation EVs came out as the top technology for addressing emissions from the transport sector.
- The overall policy goal is sustainable transport with EVs being charged with renewable energy.
- To achieve the overall goal, many barriers will have to be overcome.
- The Ministry of Energy and Energy Industries made plans to install some solar chargers in the Queens Park Savannah as a demonstration project. EVs can also be charged at home. The Trinidad and Tobago Bureau of Standards has development standards for charging infrastructure at residential locations.

Ms. Randa Ahmed, Programme Manager, Initiative for Climate Action Transparency (ICAT)

Ms. Randa Ahmed, greeted participants and citizens of Trinidad and Tobago. She expressed gratitude on behalf of the ICAT director, Mr. Henning Wuester, for having the privilege of addressing the forum. Ms. Ahmed, thanked those who helped including Mr. Kishan Kumarsingh and Ms. Sindy Singh who acted as the country's focal point and supervising work time implementation; Mr.

Ryan Deosaran for implementing the first part of the projects activities; and Dr. Rae Furlonge and Mr. Miguel Cudjoe for implementing the work on e-mobility. She also thanked the international ICAT team for their support including Ms. Fatima-Zahra Taibi and UNDP for fruitful collaboration for the work on the first part of the project.

Key Points:

- Trinidad and Tobago is closing its activities with ICAT
- ICAT comprises multi-stakeholder partnership with four donors, seven implementing partners and ten supporting partners. Overall, there are 40 partnering countries of which Trinidad and Tobago is one.
- Generally, ICAT has many aims including supporting many countries in building a national framework for climate action transparency according to the country's needs and priorities.
- ICAT toolbox includes ten assessment guides and various modelling and data management tools. ICAT is pleased that Trinidad applied one of ICATs cross cutting guides for transformational change.

2. Presentation of ICAT Project – Work Completed Thus Far and Next Steps

Fatima-Zahra Taibi, Senior Advisor, ICAT

Since 2018 ICAT has worked with Trinidad and Tobago through the Multilateral Environmental Agreements Unit in the Ministry of Planning and Development. The unit has been the focal point of the project.

Key Points:

- In April 2018 the memorandum of understanding was signed which initiated the first phase of the project.
- The first aim was to support the country in piloting and operationalizing the KMS. Second was supporting the assessment of the transformational change potential of the mitigation actions in the transport sector and e-mobility policy recommendations.
- The transport sector in Trinidad and Tobago is one of the main emitters. Subsidy policy and availability of cheap foreign used vehicles led to widespread use of gasoline vehicles with further contributed to increased congestion.
- A new national transportation plan is expected to be developed by 2023.
- The KMS has been completed and tested for the power generation sector. The second part of the activity established between the Ministry of Planning and Development and ICAT is the Draft assessment of the transformational change potential of the mitigation actions in the transport sector and creation of an e-mobility policy in Trinidad and Tobago.
- The next steps is as follows:
 - Potential adoption of the e-mobility policy.
 - Finalization of the project.
 - Project ends on 31st October, 2021.
 - ICAT is open for discussion for a second phase of part two.

3. ICAT Transport Sector Transformational Change Methodology and Outcomes

Miguel Cudjoe, Transportation Planner, LF Systems Ltd

Mr. Cudjoe began by identifying the goals of the workshop and established the background of the study. Trinidad and Tobago is a Small Island Developing State. It is the leading Caribbean producer of oil and gas and the highest consumer of fossil fuel. Its relatively small economy accounts for less than 1% of global greenhouse gas emissions. However, it is acutely vulnerable to the adverse impacts of climate change. As a SIDS, Trinidad and Tobago is vulnerable to temperature increases, changes in precipitation and sea level rise.

On February 22nd, 2018, Trinidad and Tobago deposited its instrument of ratification to the Paris Agreement on climate change. The Paris Agreement represents a universal treaty on climate change in support of a low-carbon resilient future. Key to the fulfilment of the Paris Agreement is Nationally Determined Contributions (NDCs) which represents the country's commitment to addressing carbon emissions. The Government of the Republic of Trinidad and Tobago is among the first set of countries to develop an Implementation Plan for achieving the NDC.

It is a key recommendation to identify the phase of transformation to understand the context in which the policy is being planned or implemented. The existing transportation system in Trinidad and Tobago is the cumulative result of countless separate decisions and investments made by public and private organizations and individuals with competing interests. The distribution of vehicles over the entire population is not equitable and as such many persons are at the mercy of public transit providers. Buses have become far less attractive to middle and upper-class riders and as a result the PTSC experiences very low ridership.

The ICAT Transformational Change methodology (ICAT, 2020) provides guidance for assessing the transformational impacts of climate policies and actions. The methodology guides users to assess the transformational impact of policies and actions, by analysing their effects on processes and outcomes of transformations. These processes and outcomes can be broken down into categories and then further broken down into specific characteristics.

The transformational impact matrix is the outcome of quantitative scores for process and outcome impacts. The results indicate the extent of transformation expected by the policy or action and how likely it is that this expected transformation. When the result for the policy or action falls in the green area, it indicates that the policy or action is expected to be transformational. When it is situated in the red area, the policy cannot be considered transformational. The assessment concludes that the extent of transformation expected to be achieved by the package of policies range between minor to moderate and the outcome is possibly or likely to be sustained over time. The package of policies is potentially on the right course and with greater attention on some of the process characteristics such as incentives, disincentives, norms and behaviour, it may be possible to bring a transformation of the transport sector. The development of an E-mobility policy can address the main barrier to achieving a fuel-efficient transportation sector. E-mobility is a viable option that can help Trinidad and Tobago redress the adverse issues faced with conventional transportation system. The implementation of the policy can possibly increase the extent and likelihood of achieving and sustaining transformational change.

4. Barriers to E-mobility Policy Development and Implementation

Miguel Cudjoe, Transportation Planner, LF Systems Ltd

The concept of e-mobility is new to Trinidad and Tobago, however it is not a new invention, as the first concepts of electric vehicles were developed in the late 19th century. The concept has seen great success in many countries. Trinidad and Tobago can experience high levels of electric vehicle uptake and improve its energy security by drastically reducing its total energy consumption and dependence fossil fuel. However, there are significant barriers to e-mobility that will challenge the transition from the use of conventional fuels to power vehicles. These barriers can be placed into 5 major categories, these include:

1. Technical/Infrastructural Barriers - Battery Performance Issues, Lack of Training and Repair Facilities, Lack of Charging Infrastructure, Battery Recycling Standards and location of charging infrastructure.
2. Economic Barriers - Purchase price of EVs and High Fleet Cost
3. Social Barriers - Lack of Awareness Campaigns, Range Anxiety / Charging Time, Lack of Customer Demand/ Personal Taste
4. Financial Barriers - Lack of Private Sector Investment and High Electricity Price
5. Institutional Barriers - Lack of National Transportation Roadmap, Lack of Political Will and Inadequate Service Provision

5. E-mobility Policy Recommendations

Dr. Rae Furlonge, Consultant, LF Systems Ltd.

EV Policy should combine electrification of the existing fleet with promoting a modal shift toward more efficient modes such as walking, electric cycling, and use of public transport to capture the potentially great benefits of electric mobility while maximizing its contribution to the development of sustainable mobility. Incentives are often too much targeted toward private-vehicle owners, with a limited impact and a high cost. Linking subsidies to vehicle usage and mileage is more efficient. Financial subsidies to private EV owners should be fiscally neutral and be paid by fossil fuel car owners to avoid negative social impacts.

Key Recommendation:

1. Implement restrictions on vehicle ownership by limiting the number of new license plates issued.
2. New diesel and petrol cars and vans to be banned from 2035.
3. Sixty percent of new cars and vans to be electric vehicles by 2030; 100% of new cars and vans electric by 2040.
4. In the next 2-3 years, every sixth bus, including maxi-taxi, will be replaced by an electric one and all public transport to be electric by 2030.
5. Limit the import of second-hand fossil fuel motor vehicles beyond a maximum age, including 2-wheelers.
6. Implement regulations supporting internationally harmonized vehicle-to-everything (V2X) technologies and smart charging solutions, both in terms of hardware and software, to facilitate the growth of E-Mobility.

7. Develop Infrastructure for Road Transport Electrification. Develop infrastructure for road transport electrification, such as charging stations, electric road systems, including electricity and hydrogen power for trucks, cars, buses, etc.
8. Encourage transport electrification through the public procurement of electric vehicles, for example electric buses for public transport, as well as transport vehicles for state agencies and ministries.
9. Support the complementarity of new shared solutions such as car-sharing, electric vehicle rentals and autonomous vehicles with existing public transport networks, for example by supporting new solutions to direct traffic to public transport stations or as a replacement after operating hours.
10. Encourage initiatives that provide sustainable mobility options for employees, such as employer-sponsored transport programs, carpooling schemes, and public transport commuter benefits.
11. Provide effective shared car and bicycle-sharing systems as an alternative to vehicle ownership. Promote the use of vehicles adapted to daily needs (i.e. small battery electric vehicles [BEVs] for daily trips) and offer alternatives renting solutions for exceptional journeys (i.e range-extender or large BEVs holidays).
12. Mobilize public and private capital for transport finance, using PPPs to improve sector efficiency when appropriate, and help bridge the transport infrastructure gap.
13. Implement and increase fuel taxes while phasing out fossil fuel subsidies to offset the social cost of greenhouse gas emissions and air pollution.

6. Stakeholder Feedback and Closing

This segment identifies the comments and questions made by the participants. Please see ANNEX B and ANNEX C for details of the discussion.

Mr. Kishan Kumarsingh, Head of the Multilateral Environmental Agreements Unit Ministry of Planning and Development.

Mr. Kumarsingh thanked all the participants for a lively and interactive session. He acknowledged the many interventions, questions and responses made and added that the responses will be reviewed so that the policy can be revised.

Key Points:

1. We have been in this situation before where there was opposition for change. The move from carburetor engines to fuel injector engine was met with opposition. Likewise, the experience from CNG met with the same challenges. There was concern about the fuel stations, geolocations and the technology associated with the technology.
2. The country is transitioning from one type of fuel to another and this is as a response to the global climate emergency.
3. The issue at hand is the vehicle and fuel it uses. These are the issues that has to be addressed. No one can be blamed for purchasing a gasoline powered vehicle since that is the option available.
4. The world has to do something bold and transformative and every country under the Paris Agreement from the most advanced developed country to the least developed island state has to indicate a commitment to reduce emissions according to their national circumstances.

5. Every country submitting their NDC every five years has to indicate more aggressive commitments than the previous submissions.

ANNEX A – LIST OF PARTICIPANTS

Ministry of Planning and Development
Environmental Policy and Planning
Division

Attendees- Trinidad and Tobago's DRAFT E-Mobility Policy Consultation Workshop,
Monday 18th October 2021

This section has been deleted for public viewing as it contains personal information

ANNEX B - Workshop Comments/Questions and Responses by LF Systems Ltd

**Trinidad and Tobago's DRAFT E-Mobility Policy Consultation Workshop,
Monday October 18, 2021**

Name: Visham Babwah, President of Trinidad & Tobago Automotive Dealers Association

Comments
1. It would be difficult process to transition from ICEV to electric vehicles in a short timeframe. Noted
2. The government should consider raising the age of imported foreign used vehicles to 4 years. We do not agree. The primary issues are (1) density of traffic on the roadways, and (2) carbon emission.
3. The use of fast chargers can very often deplete batteries at a faster rate. Noted.

Name: Katherine Agong, University of the West Indies / Transportation Engineer and Transportation Planner

Comments
1. The presentation did not address anything related to planning permitting and how development will take place to promote the use of electric vehicles. It would be very helpful to have a national land use and transportation planning policy document from which to apply and adapt e-mobility issues. I think a good start would be for the Town and Country Planning Division provide their planning and development policy issues for applying and adapting e-mobility policy issues.
2. Foreign used vehicles is just one reason persons are forced into car ownership and for high emission levels. It is more likely to be a symptom of the lack of public transport system and the lack of first mile/last mile provisions. Agreed.
3. It is not useful to compare ourselves to developed countries who are ahead by 20-25 years. We do not agree with this. Our review includes the experiences of others.
4. The percentage of income that goes towards vehicle ownership is much higher in Trinidad and Tobago than in the UK. That has a lot to do with taxation.
5. It is not useful for our time to get involved in limiting the number of license plates. It should be left to market forces. We do not agree. As indicated above, the primary issues are (1) density of traffic, and (2) carbon emission. There has to be a simultaneous mix of incentives and disincentives. The development and management of public transport is definitely an important incentive. Restricting auto use is a critical disincentive, and could include limiting the number of new personal autos. Market forces cannot guarantee that disincentive.
6. If a good public transport system is provided people will not see the need to buy a car. The may buy it and use it for leisure. Agreed.

Questions
1. Explain why every 6 th bus. This is an arbitrary estimation, suggested from the work of others abroad. The initial capital to switch the entire fleet may be exorbitant. The state will decide what is financially feasible.

2. What kind of splits with CNG and electric powered vehicles? CNG is still a viable fuel
--

alternative to petrol. It can be used as an intermediary solution.

3. What are the insurance and maintenance cost of an EV? Experts indicate that EVs have much lower fuel costs than ICEVs, and over subsequent years the fuel savings associated with the EVs will become more significant. They suggest that depreciation costs, and service, maintenance and repair costs are comparable.

Name: Rhondall Feeles, Vice-President of Trinidad & Tobago Automotive Dealers Association

Comments
1. Vehicle ownership isn't the only reason for traffic congestion. Centralization is main reason for traffic congestion. It is our opinion that the primary issues are (1) density of traffic on the roadways, and (2) carbon emission. Decentralization will help, but it must be part of a comprehensive landuse transportation planning plan.
2. The Foreign Used Dealers association pioneered the initiative of hybrid and electric vehicles since 2013. Noted
3. We cannot jolt right into EV without addressing the training, infrastructure and high cost of EV. That is why using hybrid vehicles as an intermediary stage is important.
4. Since 10 years ago foreign used dealers are only allowed a quota for imported vehicles. Of recent it was reduced further my 30%. The only unregulated sector is the franchised dealers. Noted

Name: Dr. Graham King, University of the West Indies, Dept of Mechanical & Manufacturing Engineering, Lecturer and Coordinator

Comments
1. Areas lacking in the policy – Cars are a default, however it is not only because of the poor performance of PTSC, it is more likely because of the last mile/first mile. There are a lot of potential solutions such as e-bike and 3 wheelers which can make the use of public transport infrastructure more accessible to persons not living along primary routes. Agreed.
2. Fairly aggressive or radical solutions are required, such as banning vehicles inside Port of Spain and relying solely on light weight e-mobility solutions. Discussions with the relevant stakeholders would be required, such as the merchants and hauliers.
3. Specific incentives for commercial industry should be considered. Changing or encouraging commercial users to switch from using pickups to panel vans which have electric options. Pickup trucks are subsidized on a different duty structure. Reconsider the overall structure that creates the right balance of incentives and disincentives. Agreed.

Name: Dr. Curtis Boodoo, Assistant Professor at the University Trinidad and Tobago; also, Chairman of the Electric Vehicle Workgroup in CARICOM

Comments
1. We should be more aggressive with the electrification of public transportation goals. Consider Barbados who have electrified a significant portion of their fleets. Agreed.

2. The challenges that PTSC faces with the maintenance of their buses and fuel will be diminished by quickly electrifying their fleets. Noted
3. It is a common for EV batteries to be repurposed. Batteries from electric vehicles that have reduced efficiency can be used for stationary storage. Noted
4. The standards for charging infrastructure has been already established by the TTBS. Noted
5. Regional electric vehicles strategy – Electric Vehicle Workgroup CARICOM can offer networking opportunities for Trinidad and Tobago. Noted
6. Encourage the use of charging during work hours since there is a decrease in rates during that time. Agreed
7. NESC has been training auto technicians for the last few years, however the organization requires support for further training and development. Noted

Name: Augusto Bonzi Teixeira, Inter-American Development Bank (IDB) / Energy Specialist

Comments
1. The electrification of the transport sector is important to the sustainable development of the country. Agreed
Questions
1. What is the best way to provide detailed feedback on the report? This is for the Ministry to determine.

Name: Melanie Trim, Tobago House of Assembly, Manager of Energy Resources

Questions
1. Is there any projected cost or 15 years cost forecast for if vehicles are charged at home? This information is not known to us.
2. How would charging at work take place? The Report addresses this.
3. Have we considered the lessons learned from the Preysal gas station? The fuel service station at Preysal only recently began its operations. Additionally, there are too very few fully electric vehicles in the country to determine the demand.
4. Have we considered a strategy for costing of electric charging services? No.
5. The MPU are considering a solar license for residential homes, would there be a variation in terms of incentives for the cost of charging an electric vehicle if you have solar at home? This is not known by us.
6. Have you considered how to treat with the disposal ICEV? We have not considered this in the current study.

Name: Onika Morris-Allyene, Trinidad and Tobago Society of Planners / Consultant

Comments
1. Seconded Graham's call for a more radical thinking. The strength and aggressiveness of the policy determines how the Government approaches it. Noted

2. This initiative requires a holistic approach with stakeholders and the policy should be able to relate to the development of other policies. **Noted.**

Name: Grace Les Fouris, Trinidad and Tobago Society of Planners / Consultant

Comments
1. Given the relationship between land use and transportation planning, the TTPS [Trinidad and Tobago Society of Planners] should be meaningfully involved in planning for issues related to transportation including e-mobility. Noted

Questions
1. Is there a formal mechanism by which the e-mobility objectives are factored into land use plans and policies by the TCPD [Town and Country Planning Division]. The project is facilitated by the Ministry of Planning and Development. Town and Country Planning Division should liaise directly with the Ministry to devise a strategy.
2. Related to this is our 2030 National Development Strategy – The use of telecommunication technology to reduce emission in the transport sector. Are we able to determine the extent that the COVID-induced dry run made an impact on the emissions generated by the thousands of vehicles? We do not have information on any data collected and analyzed to facilitate this understanding.

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**ANNEX C - Written (Chat) Comments/Questions and Responses.
Additional Responses by LF Systems Ltd**

**Trinidad and Tobago's DRAFT E-Mobility Policy Consultation
Workshop, Monday October 18, 2021**

Workshop

Curtis Mohammed (NGC):

What about a green charge based on how dirty a fuel is? And, using this to fund Clean fuel infrastructure for EVs.

This question has been answered live

Kishan Kumarsingh:

Curtis: You are speaking to carbon pricing. We are also doing a study on recommendations for carbon pricing. How that may/can be applied to the transportation sector will need to be seen based on the outcomes of the study

Graham King:
Technical/Infrastructural Barriers:

- Has any assessment been done on real charging requirements for EVs in T&T (a small island with very few long range trips)
- Charger locations is very important
- Those living in shared housing in T&T - less likely to be in EV market in short term (realistically)?

Kishan Kumarsingh:

Part of the funding proposal will take that into consideration (optimum approach likely to be to install in existing service stations where they can be accommodated in the first instance) - we have enough lessons from the CNG experience re shared housing - I would probably leave that to market forces of demand/supply. The good thing now is that the market is opened up.

Graham King:

Electricity costs - energy costs for my EV has been 1/10 of the cost of gasoline in an equivalent vehicle over 7000 km (total cost less than TT\$500). Even if electricity cost doubled, the saving would still be massive. Therefore I don't think this is a barrier in our context. **Noted**

Onika Morris-Alleyne 10:16 AM

Is range really an issue for us? EVs now are getting quite good battery efficiency and providing sufficient range for most journeys in T&T. **Agreed**

Curtis Mohammed 10:20 AM

Policy intervention recommended tenet: target long distance drivers and the private owned public transportation as well. **Agreed**

Curtis Mohammed 10:24 AM.

how to get to 60% by 2030 (is this new vehicles only?). **New vehicles only.**

Rae

Ryan Allard 10:24 AM

Happy that this policy document sees the holistic sustainable transport as the goal. Where in this policy is there a push for the structural change in the economy to encourage innovation and export? Wouldn't the absence of this further entrench our dependence on foreign technology whether fossil or electric-powered? The only element of this I see is saving on Natural Gas so that it can be exported. However this doesn't reduce TT's emissions (they are merely exported). **Noted**

Curtis Boodoo 10:26 AM

There have been challenges as it relates to the electrification of heavy machinery and trucks. A ban on diesel vehicles by 2035 should be specific to certain types of diesel vehicles. **Noted**

Onika Morris-Alleyne 10:29 AM

Is there any consideration of engaging with the manufacturing sector in perhaps developing an EV or EV component manufacturing base here? There are for example electric bus companies in other countries whose modus operandi is to establish manufacturing bases for bus building in the country/region they're selling to. **Noted**

Curtis Boodoo 10:29 AM

I would not recommend the implementation of hydrogen for transportation in T&T. This would require a significant investment in hydrogen distribution infrastructure. We already have a mature electrical network that can serve EVs and the distance required to travel locally can be satisfied with existing EV technology. **Noted. Should consideration be given for hydrogen-generated power plants?**

Onika Morris-Alleyne 10:30 AM

In addition, has consideration been given to things like Low Emission Zones as in London? **Not directly, but will consider.**

Saeedah Baksh 10:37 AM

How prevalent is EV use in Trinidad and Tobago currently? **Very small.**

Visham Babwah – Foreign Used Car dealers more involved in bringing in hybrid and electric vehicles, franchise owners not so involved. Cannot make a quick transition from ICE to Electric as most people may not be able to afford. Government decided to go the route of CNG and not hybrid and electric, despite recommendations from car association. Electric needs to be affordable for medium and lower income persons (import older foreign used electric vehicles, as these may be more affordable). **Noted**

Reyaz Ahamad 10:33 AM

Can you explain how these recommendations will be implemented, what is the planning prior to these recommendations? **Government to agree upon.**

Mark Dookeran 10:35 AM

Nothing was mentioned about decentralisation of government services to reduce commuting distance for users of these services e.g. drivers licence, passport etc. **National transport planning was not part of the scope.**

GRACE LES FOURIS 10:35 AM

Given the relationship between land use and transportation planning the Town and Country

Planning Division of the Ministry of Planning and Development needs to be meaningfully involved in planning for Emobility. A more sympathetic relationship needs to be achieved between place of work and home, and the TCPD is critical in achieving this objective. Is there a formal mechanism through which the Emobility objectives are factored into land use plans and policies formulated by the Division? **It would be very helpful to have a national landuse and transportation planning policy document from which to apply and adapt e-mobility issues. I think a good start would be for the Town and Country Planning Division to send their policy issues to the MPU for applying and adapting e-mobility policy issues.**

Onika Morris-Alleyne 10:39 AM

Also, forgive me if I missed it, but is there a consideration in the policy for focusing on transforming the government fleet. Government, public transport and goods/trucking fleets are an easier change than the general public at first. **Yes.**

Ryan Darmanie 10:40 AM

Regarding the recommendations: It is essential that we actually address the land use-transportation interaction while (or before?) we start further burdening lower income households with even higher automobile (transportation) costs through limiting imports. Already, fuel prices have more or less been liberalized (which is necessary) but where is the proper work on land use regulations to ensure that the physical environment is actually conducive to public transit and active transportation? There is a serious problem with agencies within the Ministry of Planning and Development not working with each other. Any work towards reducing GHG emissions cannot be divorced from the land use planning agency. We cannot continue to increase costs as a way to deter automobile usage, while virtually ignoring the fact that we continue to develop the built environment in a way that necessitates automobile ownership to get around comfortably. It is taking the easier way out while placing the burden of change on the vulnerable. **Agreed.**

Onika Morris-Alleyne 10:41 AM

Rae, given your response on range, focusing on home charging infrastructure could actually get us quite far even without widespread public charging infrastructure. **Noted.**

augusto.bonzi@yahoo.com 10:42 AM

Thanks for the presentation. Did the study consider the electrification of other means of transportation, such as the ferries? Or only the cars and vehicles. Thanks. **Only road transport.**

Katherine Agong:

Who is going to pay for retrofitting on common housing areas for charging of EV? **The current house system can work, provided your vehicle can access it. It is another matter for homes that have to share external connections. Perhaps incentives can be given by Government in these circumstances.**

Explain why every 6th bus should be electric? Why that number? Market forces should be left to determine the uptake of EV, professionally we should leave alone a ban on vehicles or limiting number of vehicles. Insurance and Maintenance costs for EV? **These were addressed in the responses to oral comments/responses**

GRACE LES FOURIS 10:46 AM

Our Vision 2030 National Development Strategy commits the Government to encouraging or promoting tele-commuting as a means of reducing emissions from the transportation sector.

Are we able to determine the extent to which the 'dry-run' that was induced by covid-19 made an impact on the quantity of emissions generated by the thousands of vehicles that normally transport the population to and from work every week day? Is tele-commuting a viable option for reducing the impact of transportation on the environment? **These were addressed in the responses to oral comments/responses**

Onika Morris-Alleyne:

In addition, is the policy going to include low velocity evs like ebikes, scooters, trikes/rickshaws etc? **Yes.**

Rhondall Feeles:

Is vehicle ownership the only factor for traffic congestion? Or are there other factors such as decentralization etc. **These were addressed in the responses to oral comments/responses** 2013 the foreign used car dealers suggested electric cars and also helped to train technicians etc. **Noted.**

Lots of barriers to the efficient uptake of EV, lots of works need to be done (infrastructure, training, cost, etc), therefore an intermediary stage is needed to allow for a smooth transition (hybrid probably best for this approach.) **Noted.**

Since about 10 years ago, the foreign used industry are only allowed to import a certain amount of vehicles. The franchise dealers have no quota and therefore their contribution to use of fossil fuels cannot be managed at all. **Noted**

Graham King (UWI):

Firstly – Cars are a default is not only because of poor public transport system, but also poor infrastructure for pedestrians, especially for those who live off of the primary routes. **Agreed**

Secondly – Something more radical such as banning vehicles within Port of Spain and using only lightweight EV applications. **Noted**

Thirdly – Pick-up trucks have been subsidized for a long time, which causes import of pickups to increase. Overall duties and taxes needs to be looked at in order to create the right balance of incentives and disincentives. **These were addressed in the responses to oral comments/responses.**

Ryan Allard 11:02 AM

What is the plan for the existing ICE buses if every 6th bus is replaced with an EV? Is there a plan to manage these old buses to avoid the build-up of disposed public vehicles left rusting at a depot that we're already seeing from other policies? Why not have an element of management instead of purely replacement? Don't forget that each EV manufactured already committed possibly 10-20 tons of CO2 purely from manufacture. **A public transport development and management plan is required.**

Curtis Boodoo:

1. Be more aggressive with electrification of the public transport fleet (buses, maxis, etc). **Agreed.**
2. Standards for charging apparatus have already been adopted and can be included in policy document. **Noted**
3. Regional EV strategy has been approved already by CARICOM. **Noted**
4. Training is needed however NESC has been doing this work but could use more assistance. **Noted**
5. There are certified persons to install EV charging stations in T&T. **Noted**

Augusto Bonzi:

1. What is the best way to provide detailed comments on the policy? **The Ministry would provide guidance on this.**

Ryan Allard 11:11 AM

Dr Furlonge, you mentioned not dealing with Institutional issues, but aren't those a major part of the problem? Isn't that a gap that should be dealt with in every policy? We have several lovely policies, some that are approved, but not fully implemented and institutional issues a major barrier (such as some raised by today's attendees). Can these be included in the work plan or in a new project? **We will a note on the institutional issues that should be address. But it is really a comprehensive transportation plan that would develop these.**

Melanie Trim (THA):

Cost of charging a car with new rates proposed for electricity?

Disposal of ICE vehicles also needs to be considered. **These were addressed in the responses to oral comments/responses**

Onika Morris – Alleyne:

1. Be more aggressive in promoting EV especially in congested areas. **Noted**

Curtis Mohammed:

Answer to Ms. Trim of the THA: charging at our Solar powered EV fast-charger Charger can only be done on the basis of time as only T&TEC can charge for electrical energy (regardless of the source). NGC CNG has always embraced all forms of low carbon transport and we elected to install the first such EV charger to the nation's service station network. Ms. Trim can reach out to us if she wants further information.

Grace Les Fouris:

1. TCPD needs to be involved to reduce congestion.
2. Was there any quantification of the emissions reductions from covid restricting movements?
3. WFH needs to be considered to reduce emissions as well. **These were addressed in the responses to oral comments/responses**