ICCT's Work on Transport Decarbonization in the South-East Asian Region

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Webinar: Tackling Lahore' Air Pollution: Transitioning to a Net-Zero Business Model

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ICCT projects global transport CO_{2e} emissions to grow significantly to 2050 driven largely by emerging economies

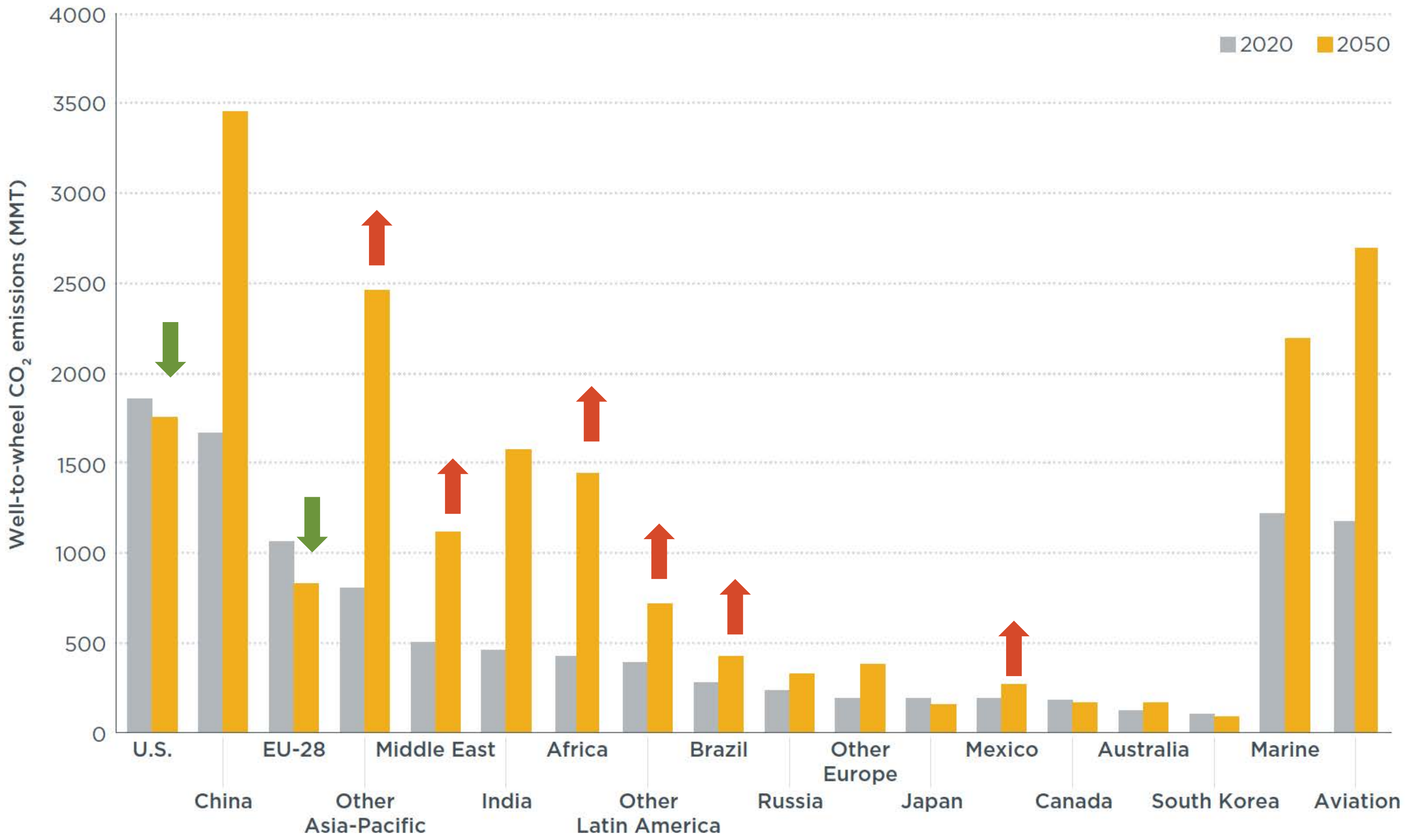
Estimated transport CO_{2e} growth under **adopted policies**

2020: 12 Gt/year

2050: 21 Gt/year

2020: Asia – Pacific region is the 4th largest GHG contributor

2050: Asia – Pacific's GHG emissions would be second to China.



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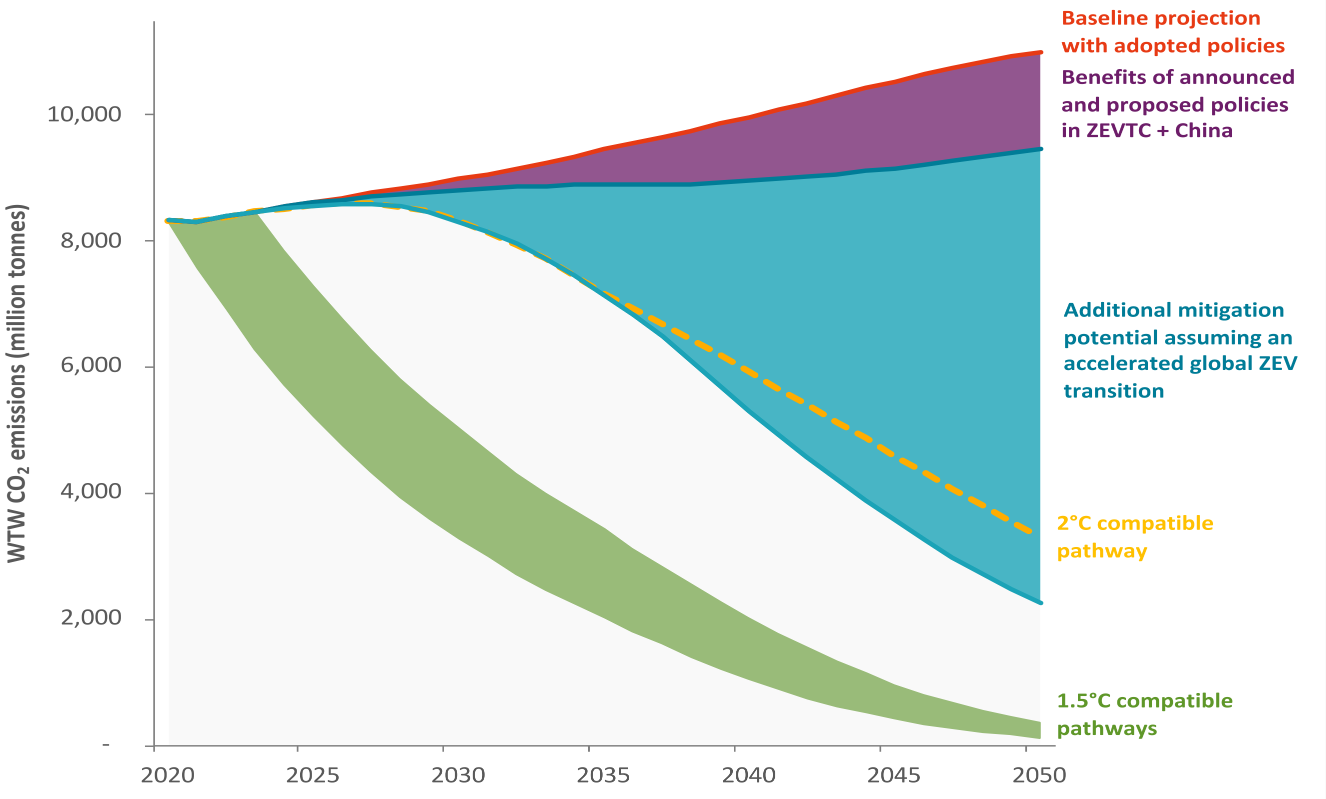
Accelerated EV uptake can align with Paris Climate goal of keeping global warming below 2°C



Global WTW CO_2 emissions from cars, vans, trucks, and buses compared to 1.5°C and 2°C compatible emissions pathways

2050 versus 2020 well-to-wheel CO_2 estimates

- No further ZEV policies: emissions increase by 32% (red line)
- Announced or proposed policies: CO_2 emissions still increase by 14% **(purple wedge)**
- Accelerated ZEV transition: emissions reduce by 73%, putting us slightly below the 2˚C target **(blue wedge)**

1.5˚C pathway requires emissions decrease by 40-60% by 2030 and by 80-90% by 2040, to reach near-zero in 2050 **(green wedge)**

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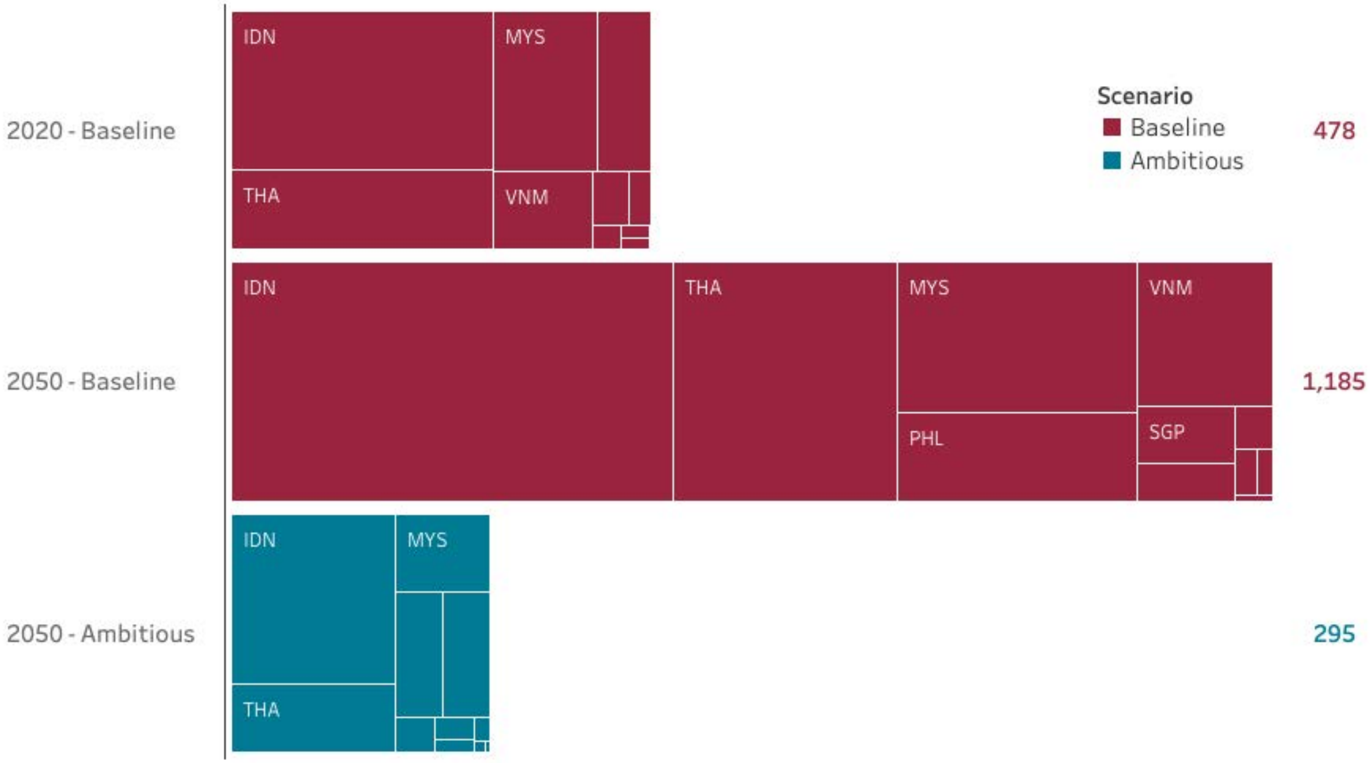
Reference: ICCT Roadmap version 1.9 (September 2022). For details, see Sen and Miller (2022), Emission reduction benefits of a faster, global transition to zero-emission vehicles.

ZEV transition could significantly reduce CO_2 emissions from the transportation sector in SEA region



2050 versus 2020 well-to-wheel CO_2 estimates in ASEAN

- Current policy landscape: CO_2 emissions increase by 148%
- Ambitious shift to ZEVs: CO_2 emissions lower by 38%

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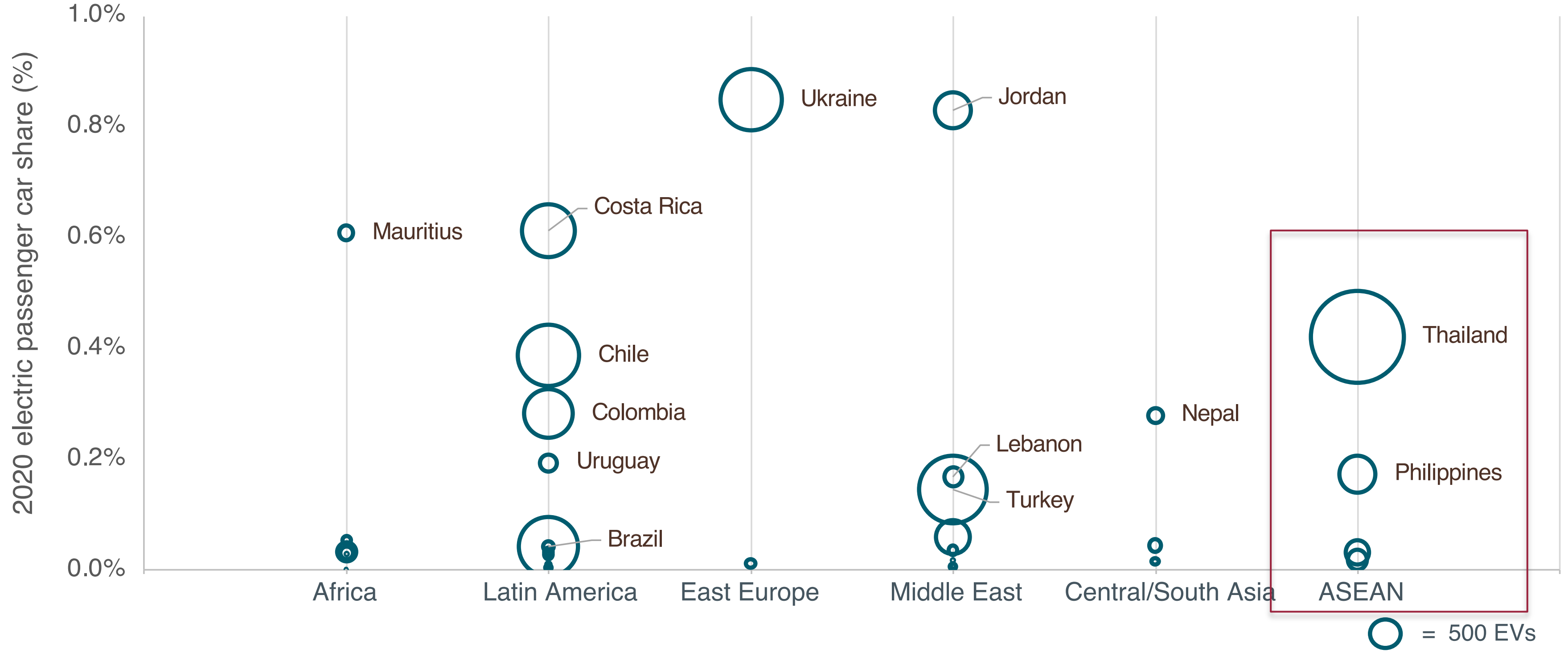
Reference: Khan et al., (2022). *Zero-emission vehicle deployment: ASEAN markets*. https://theicct.org/publication/hvs-zev-deploy-asean-apr22/

2020 EV sales shares for passenger cars in emerging markets



- Early stage: < 1% of sales
- ASEAN markets: **Thailand, the regional leader, has EV share of 0.4%**

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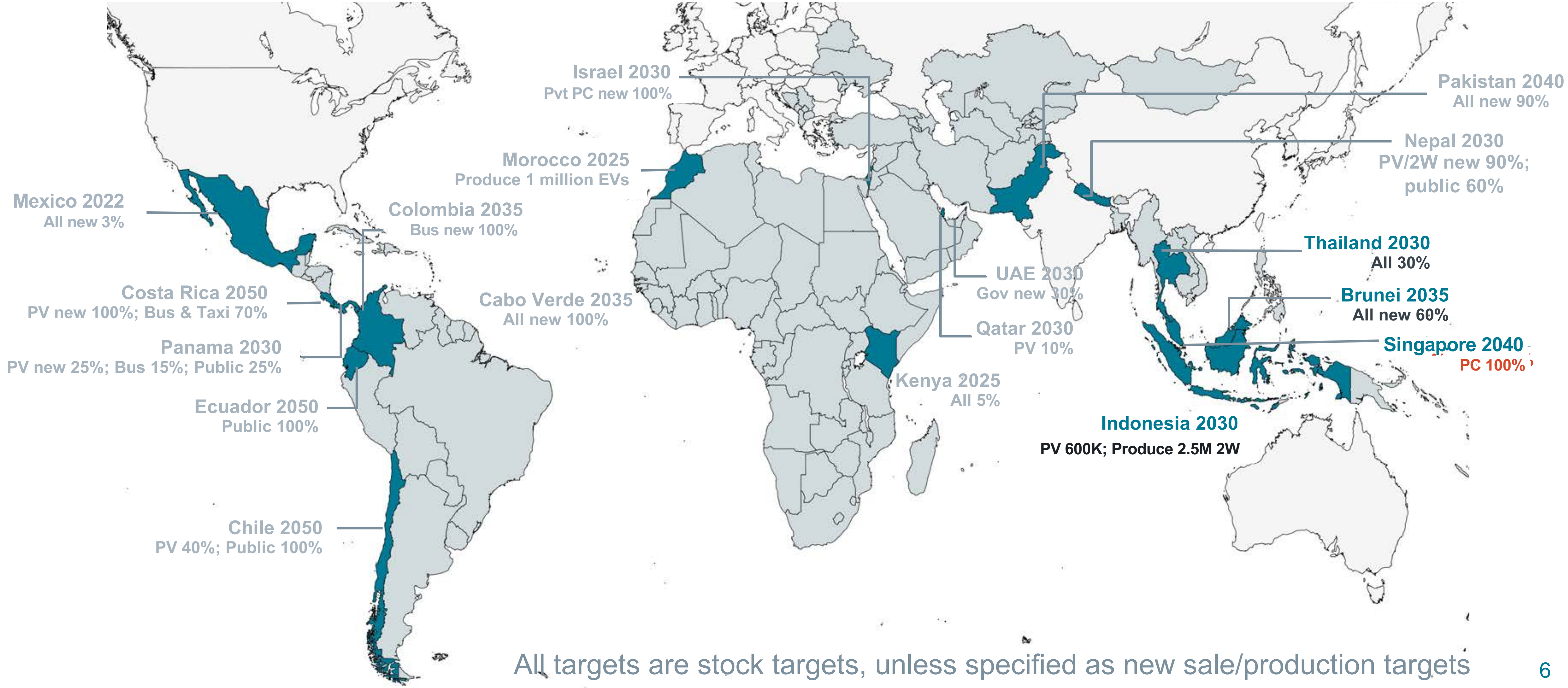
Reference: Khan et al., (2022). *A critical review of ZEV deployment in emerging markets*. https://theicct.org/publication/zev-market-review-global-feb22/

4 ASEAN countries have set non-legally binding EV plans



All targets are stock targets, unless specified as new sale/production targets

Existing EV actions for selected ASEAN countries

Country	Regulation		Incentives		Infrastructure	ZEV Access		Fleet deployment		Others		
	Mandate	Replacement/ Retrofitting	Subsidy/ tax	Usage	Charging	Manufacturing	Assembly	Special fleet	Shared mobility	R&D	Business model	International support
Thailand			●		●	●	●		●	●	●	●
Malaysia		●	●		●	●	●	●	●			
Philippines		●	●	●	●	●	●		●	●	●	●
Indonesia			●		●	●		●	●	●		●
Vietnam			●		●	●	●	●	●			●

● symbol indicates that a given country has at least some policy actions for the given policy category

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Countries with more than 500 EV sales or 1% EV market share

5 key policy areas for the ZEV Transition

- **Phase-out targets:** Setting a vision and market signal to phase out combustion vehicles
- **Binding regulations:** Ensuring model availability and supply and demand
- **Financial incentives:** Making ZEVs cost-effective today
- **Charging infrastructure:** Maximizing ZEVs' convenience
- **Consumer awareness:** Building understanding of ZEVs' benefits

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Conclusions

- The EV market is driven by government policy. To date all EV growth is in countries and regions that have policy measures in place.
- Europe is currently the global leader in EV adoption for PVs. Between 2019 to 2020 the EV market in EU more than tripled (from less than 3% to over 11%) and is still rising. This uptake is driven by strong suite of targeted policies.
- China leads on E-bus market. 138 thousand new E-buses in 2022.
- Cost of EVs continue to come down. Our data shows that many EVs are already most cost effective than comparable ICEs on a TCO basis and up-front cost parity is only about 5 years away.
- **The challenge for governments is how to make the transition from niche to mainstream – over next 10-15 years**.

Additional resources – EV benefits for air quality improvement

- US-EPA's evaluation on clean air act https://www.epa.gov/clean-air-act-overview/progress-cleaning-air-and-improving-peoples-health
- Air quality and health impacts of diesel truck emissions in New York City and policy implications https://theicct.org/wp-content/uploads/2022/04/true-diesel-trucks-nyc-apr22.pdf
- Cost – benefit assessment of the China VI emission standard for new heavy-duty vehicle https://theicct.org/publication/cost-benefit-assessment-of-the-china-vi-emission-standard-for-new-heavy-duty-vehicles/

Thank you!

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