

Drivers and Barriers for E-bus deployment in Latin America

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Drivers of Battery Electric Buses in LATAM



Clear electrification goals and interim targets

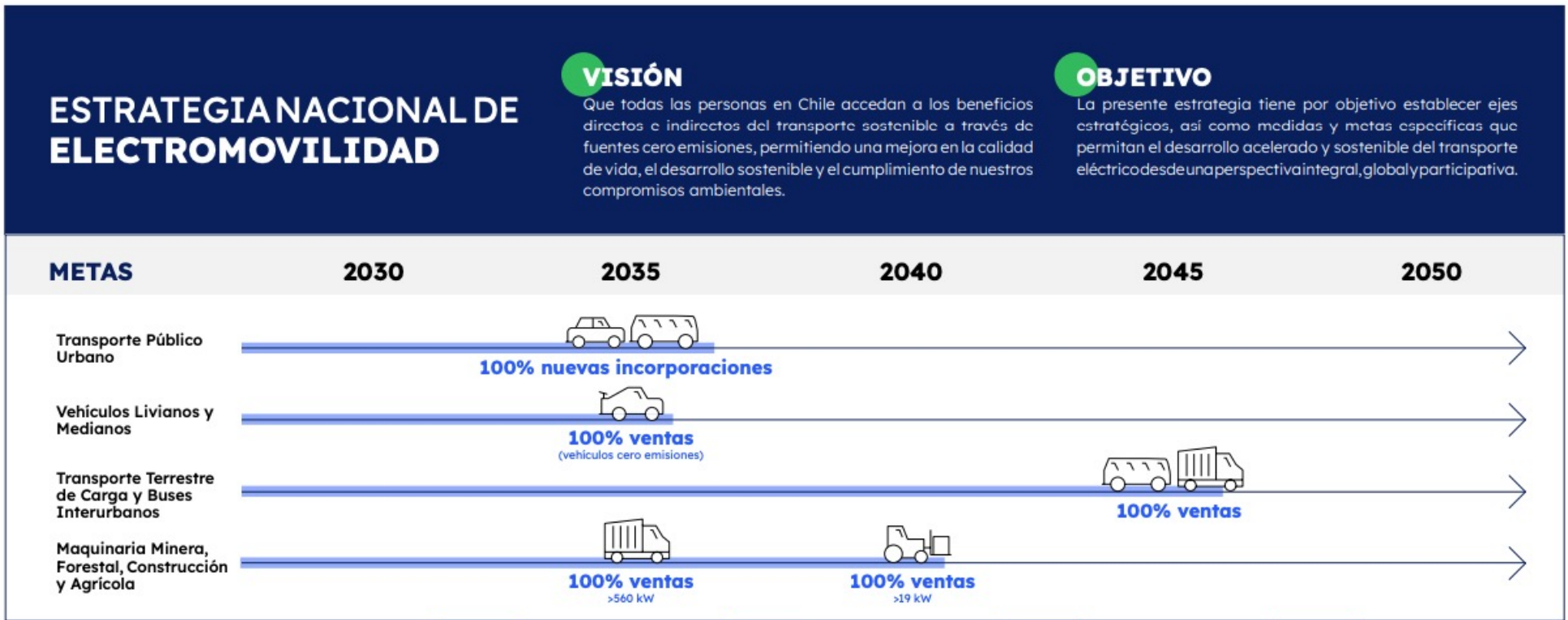
Public – Private Partnerships and innovative business models

Piloting and testing to reduce asymmetries of information and operational risks

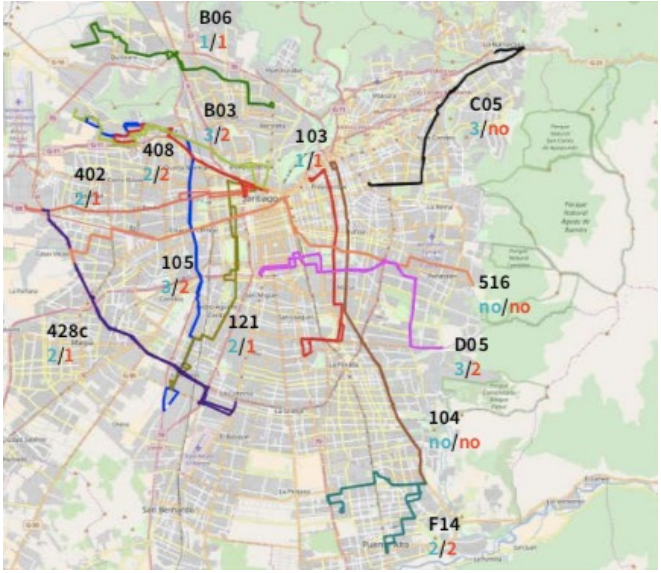
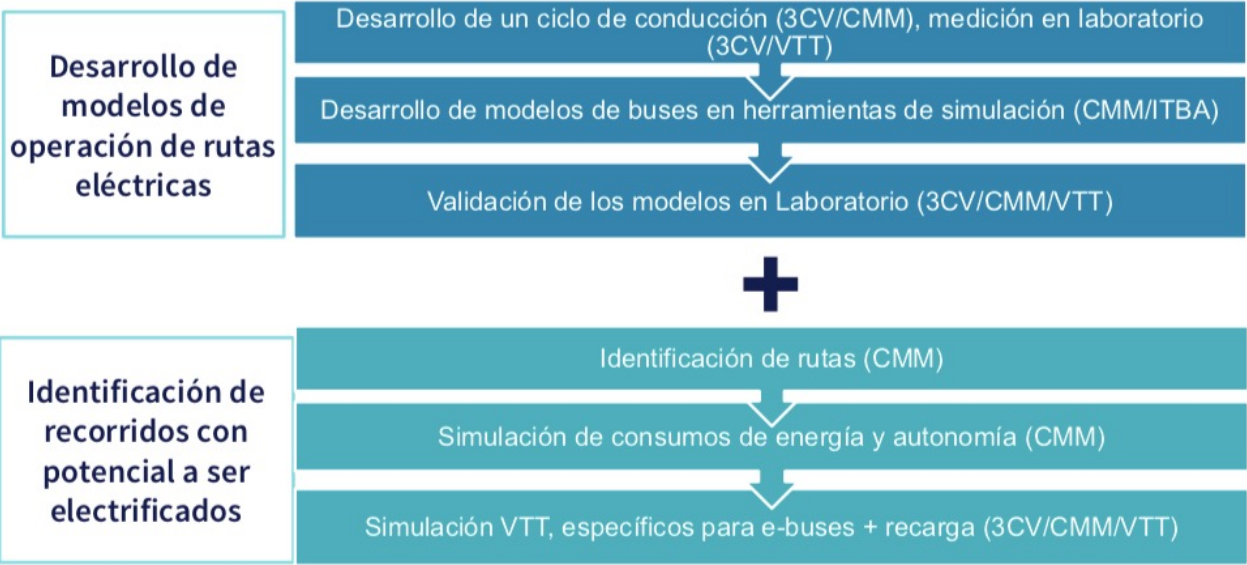
Fleet renewals to improve transit model and consolidate new technologies

Driver 1: Clear electrification goals and interim targets

Current electric vehicle targets by the Chilean Ministry of Energy include 100% sales target by 2035



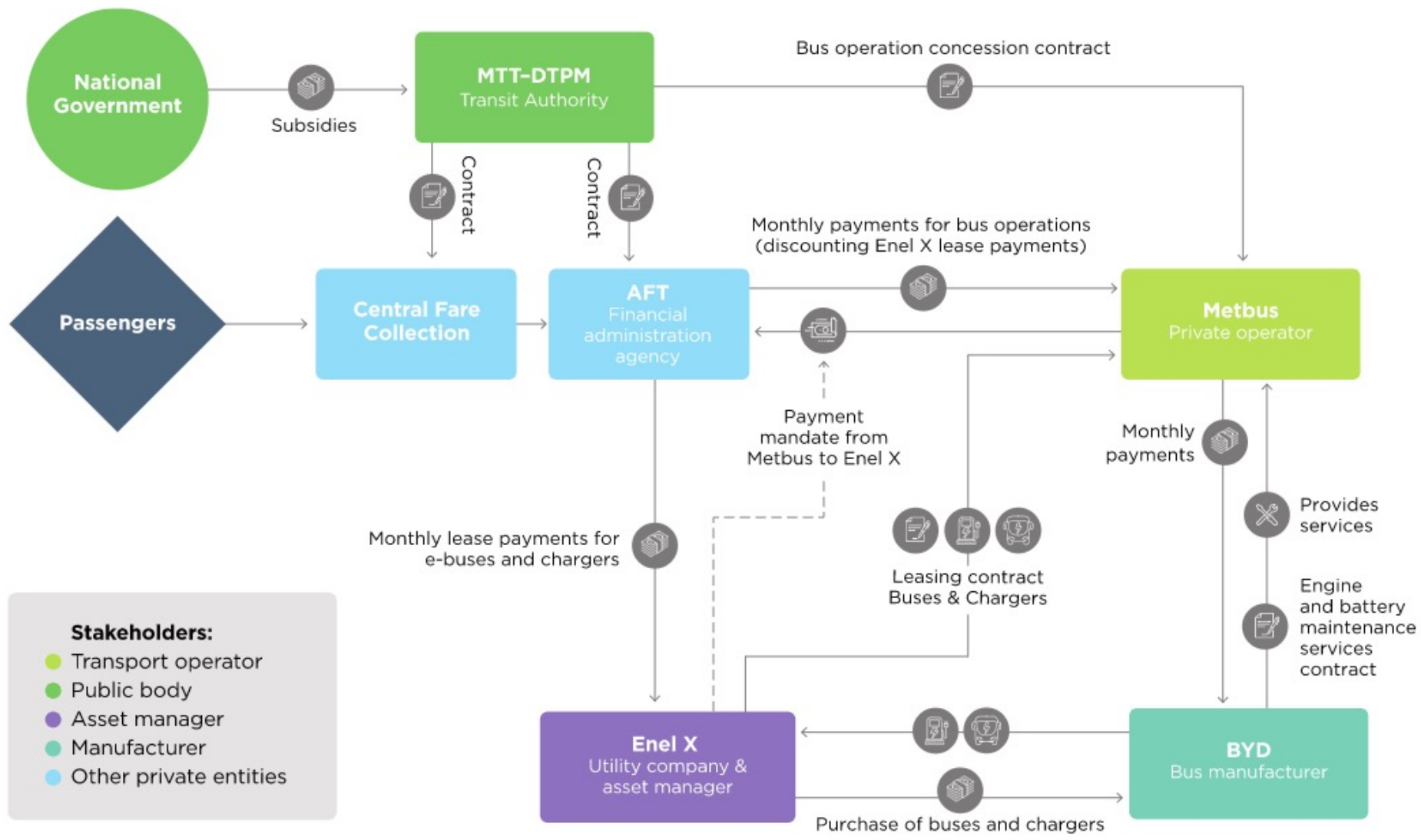
Fleet wide electrification strategies allow to plan BEB rollout and achieve electrification targets



Driver 2: Public – Private Partnerships to scale successful innovation models

Innovative financing models have allowed electric bus pilots to quickly scale to 900+ electric buses in operation





Driver 3: Piloting and testing to reduce asymmetries of information and operational risks

Electric bus pilots began have swiftly expanded – Santiago has become an entry point for e-buses to the region

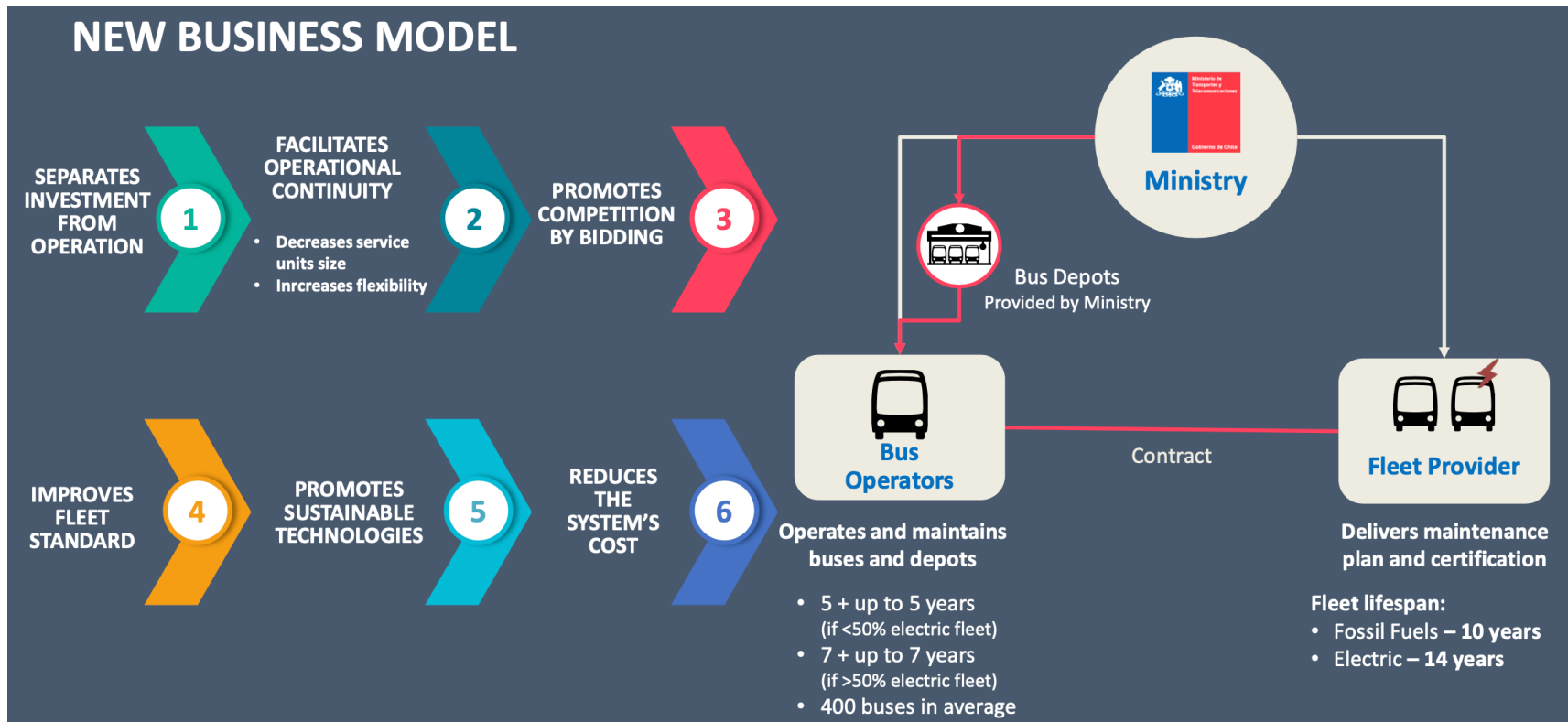


A common testing protocol allows the country to promote the most efficient vehicles within each mode

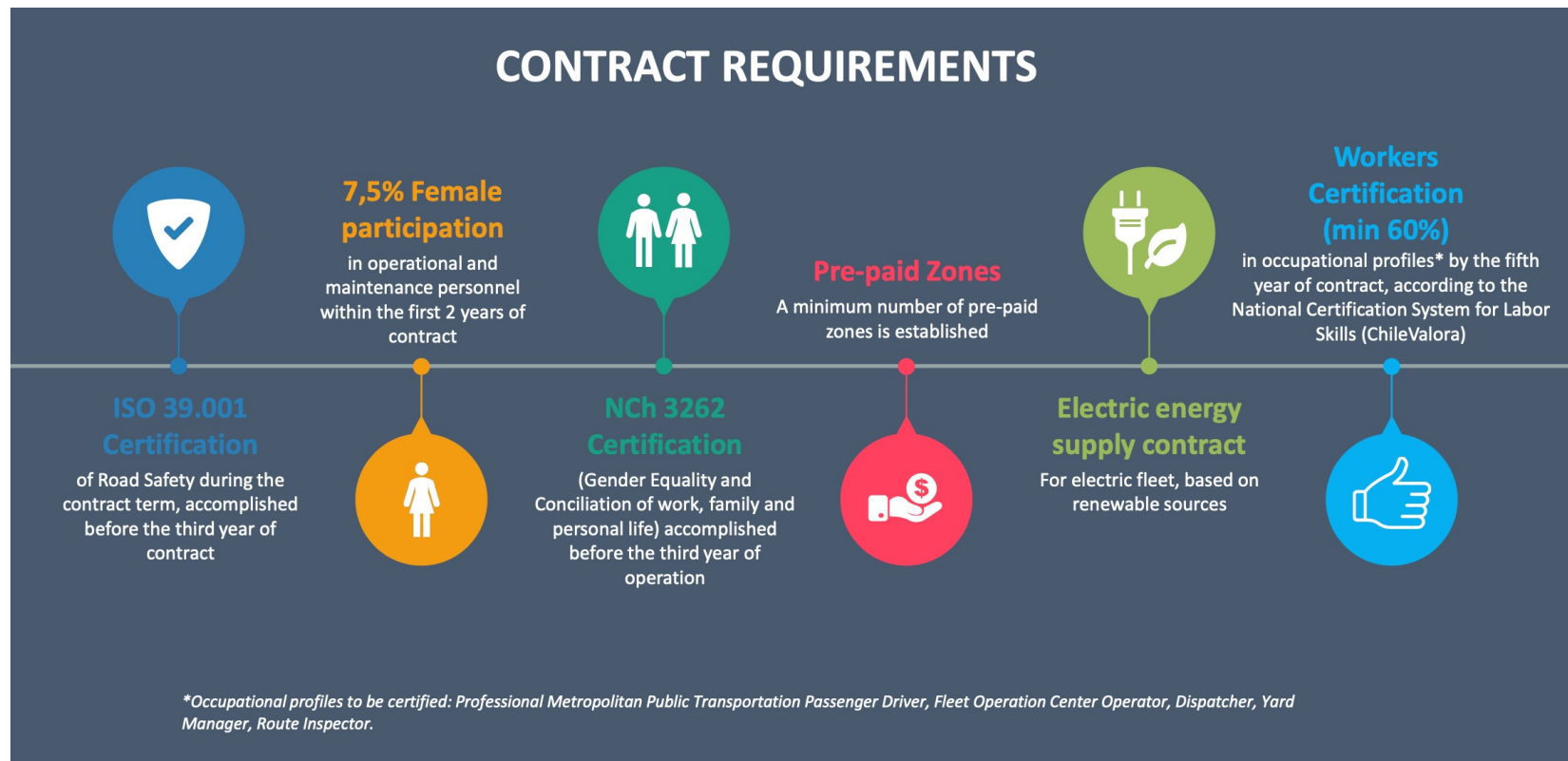
Class	Model	Passenger Capacity	Test Weight (kg)	Power [kw]	Battery Capacity (kWh)	Consumption (kwh/km)	Range (km)	Efficiency (Mj/km)
A1	BYD K7	45	10802.5	180	156.6	1.13	138.6	4.07
A1	Foton eBus U8,5 QC	47	10592.5	130	129	1.24	104.0	4.46
A1	King Long XMQ 6900G	45	11187.5	200	210.56	1.13	186.0	4.07
A1	Zhongtong LCK6850EVG	62	11550	200	200.54	1.2	167.0	4.32
A2	Zhongtong LCK6106EVG	74	14515	200	315.07	1.46	216.0	5.26
B2	Foton eBus U12 QC	90	14790	350	151.55	1.67	90.9	6.01
B2	Zhongtong LCK6122EVG	88	16330	350	351.237	1.58	222.3	5.69
B2	King Long XMQ 6127G PLUS	90	17345	280	374.65	1.74	215.0	6.26
B2	Foton eBus U12 SC	90	16325	350	385.08	1.63	237.0	5.87
B2	Higer E 130.30 (KLQ6122GEV)	95	16752.5	350	345.6	1.9	181.0	6.84
B2	Yutong ZK6128BEVG	87	16250	215	324.4	1.48	219.7	5.33
B2	BYD K9 FE	81	15495.5	300	276.5	1.57	176.1	5.65
C2	Zhongtong LCK6180EVG	141	25632.5	300	525.11	2.67	196.0	9.61

Driver 4: Fleet renewals to improve transit model and consolidate new technologies

Fleet renewal tenders can change the public transit model for a city & also include incentives for BEBs



Additional requirements can be included – gender and clean energy provisions, charging protocols



Barriers to Battery Electric Buses in LATAM



Traditional transit models and informality

High vehicle costs and lack of local production from traditional OEMs

Lack of local capacity to deploy BEBs at scale

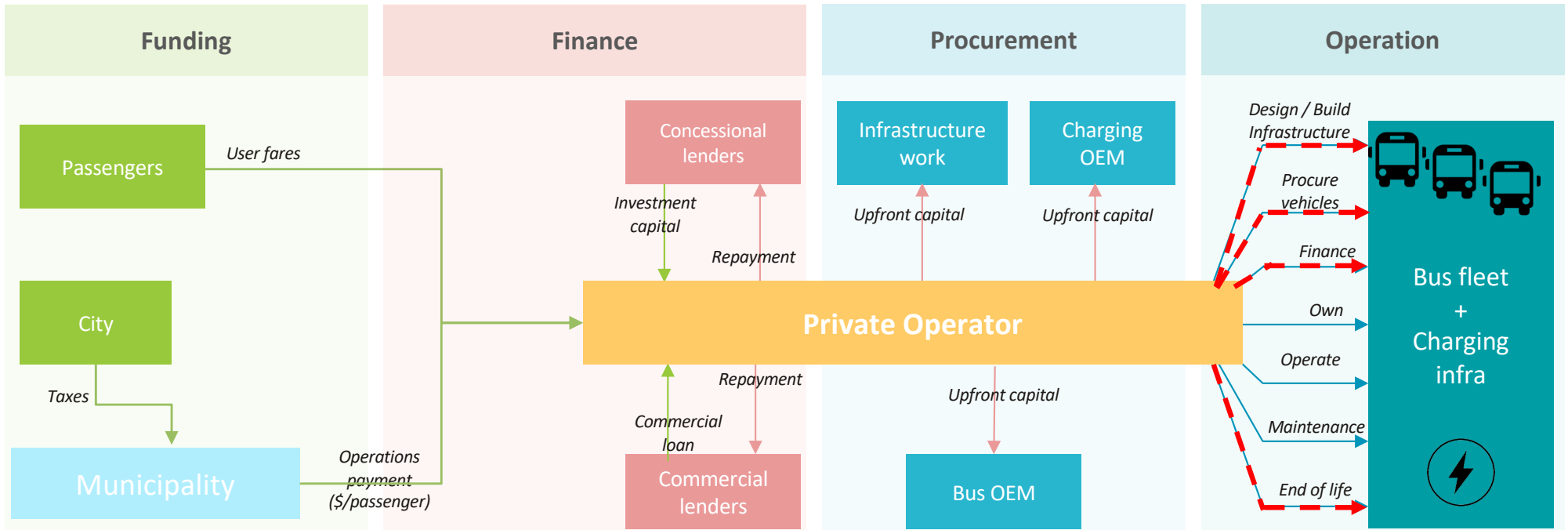
Growing market distortions led by fossil fuel subsidies

Barrier 1: Traditional transit models and informality



ZEBRA Report: Accelerating a market transition in Latin America: New business models for electric bus deployment

Traditional transit models rely on municipal actors in all areas

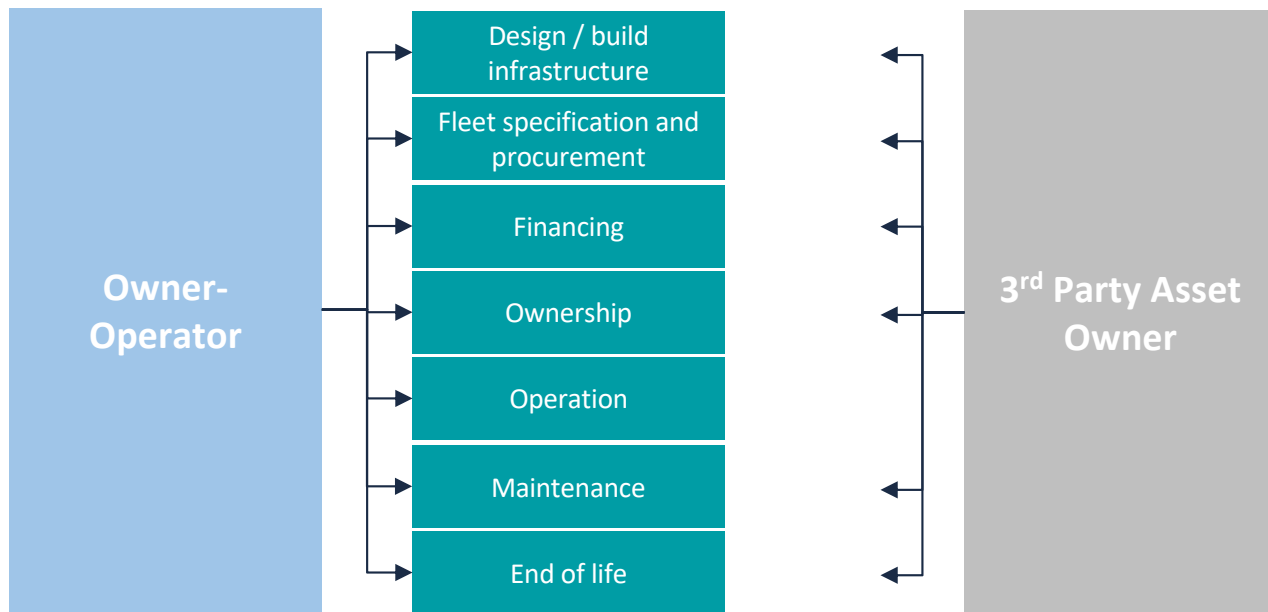


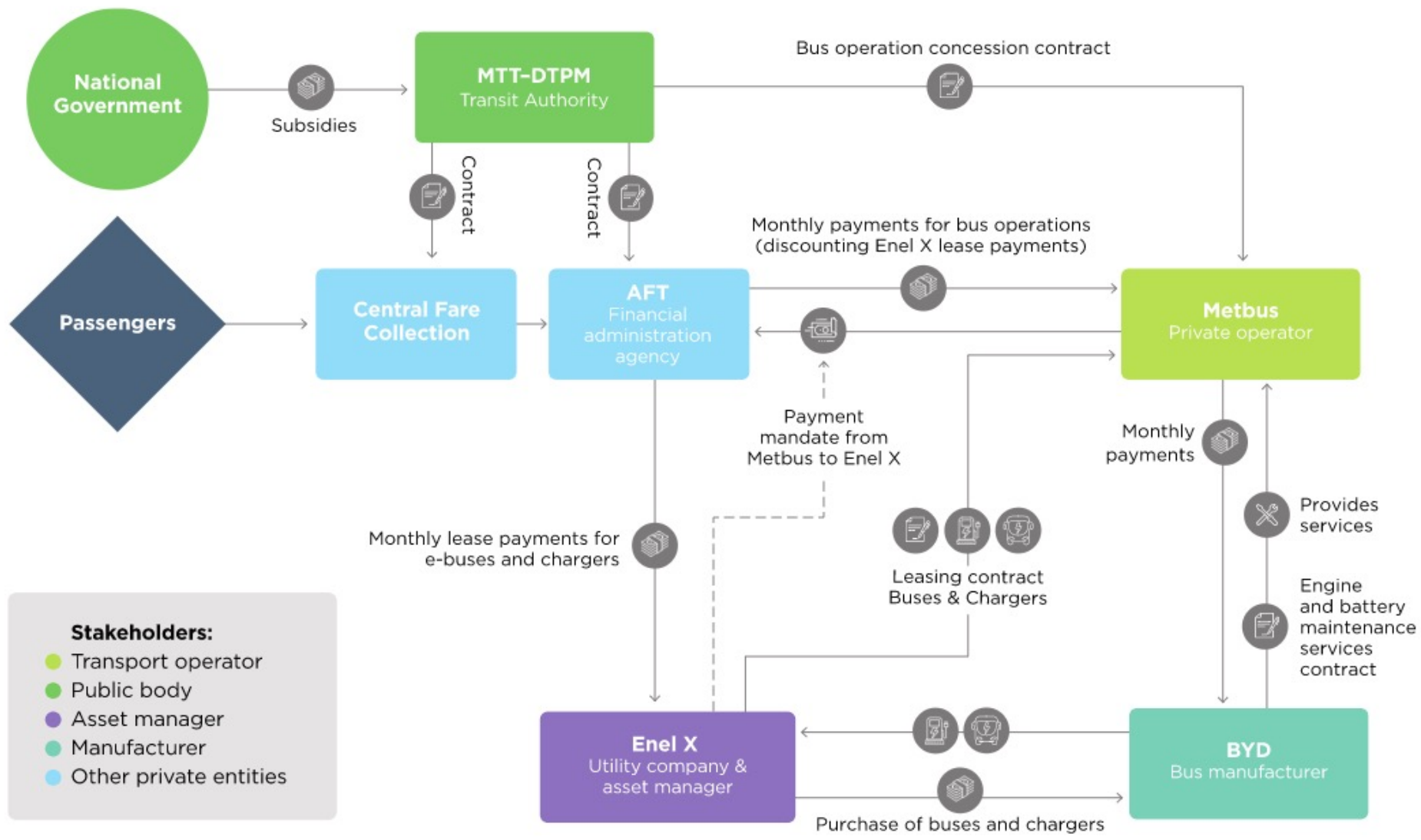


ZEBRA Report: Accelerating a market transition in Latin America: New business models for electric bus deployment

Proposing alternative models for better risk distribution

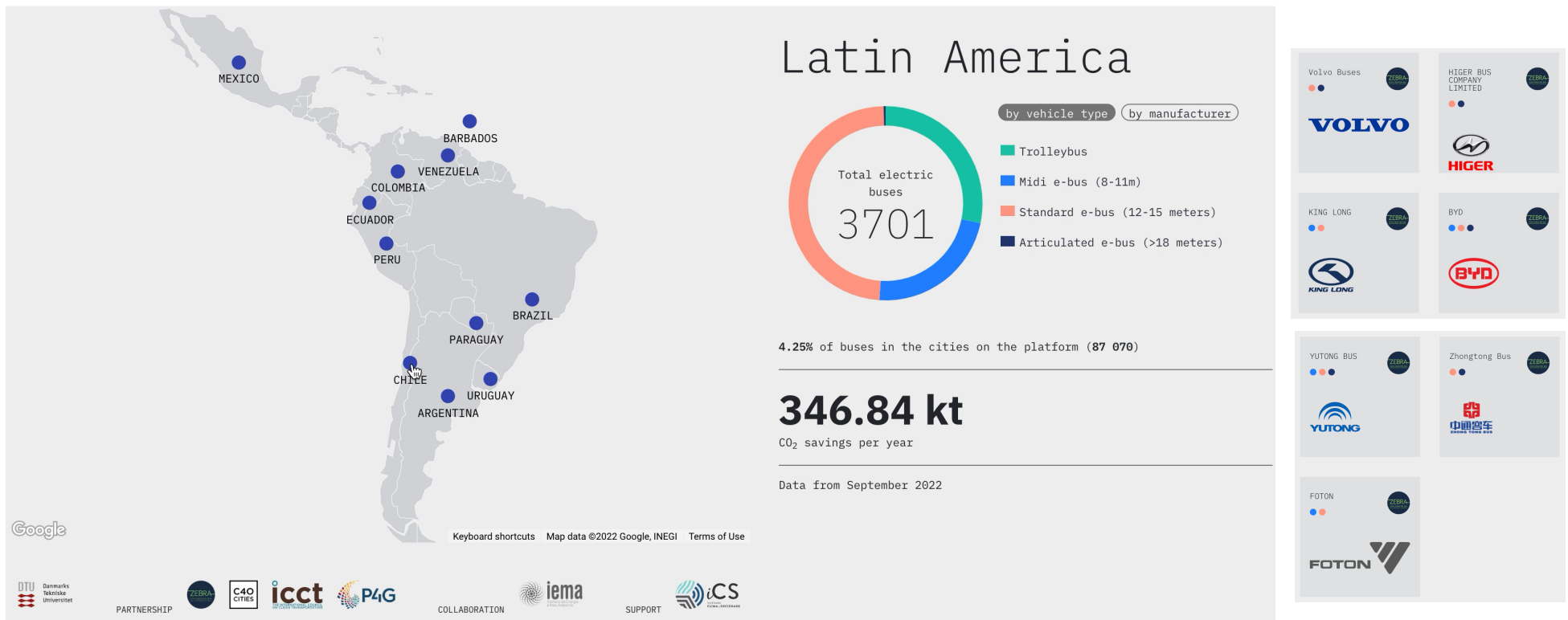
Separating (unbundling) asset ownership from operation





Barrier 2: High vehicle costs and lack of local production from traditional OEMs

The electric bus market has accelerated in the region with close to 2,600 BEB in circulation – but few OEMs are present in the market



Fuente: <https://www.ebusradar.org/es/home-es/>

Barrier 3: Lack of local capacity to deploy BEBs at scale

Deployment of BEBs has to be accompanied by a strong learning regime with all transport personnel



New skills are required to operate new technologies –
lack of properly trained personnel



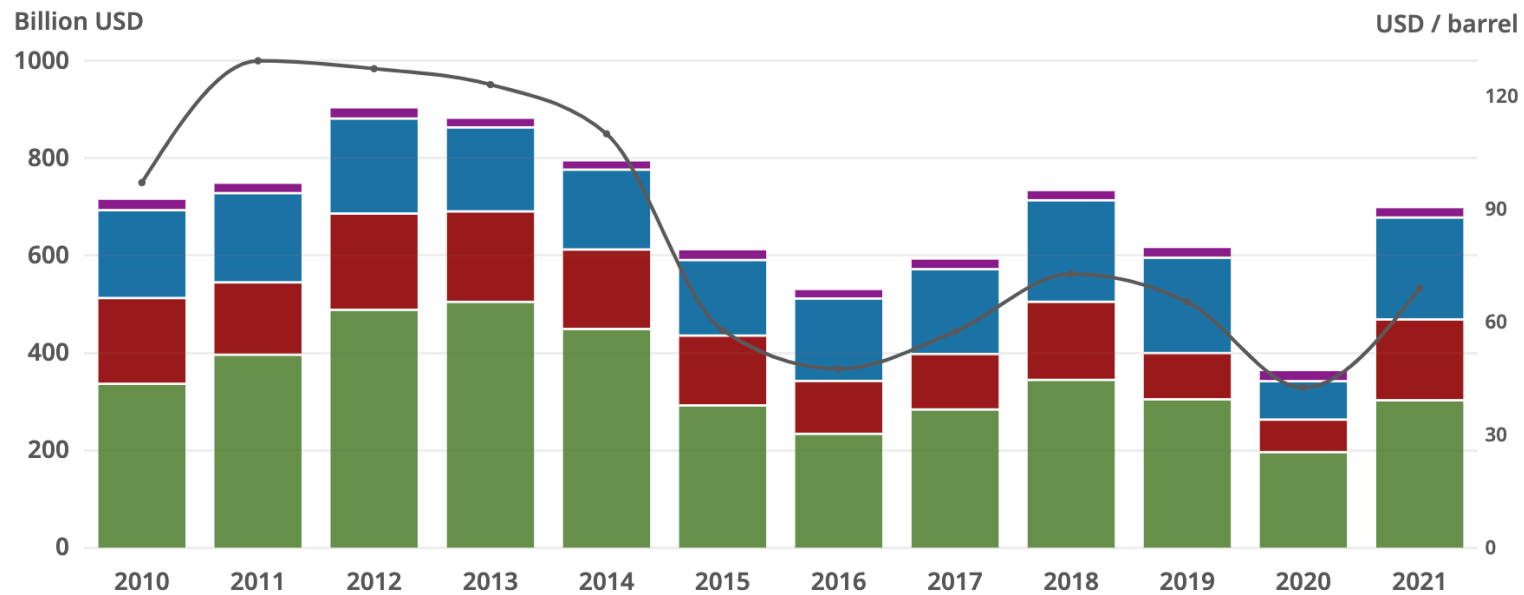
Barrier 4: Growing market distortions led by fossil fuel subsidies

Fossil fuel subsidies have increased in recent years as the price volatility of oil and natural gas has significantly increased

Fossil fuel support by energy product

G20-IEA combined estimates (51 economies)

Coal Electricity Natural gas Petroleum Oil price per barrel



Summary – Drivers and Barriers for E-bus deployment in Latin America

Clear electrification goals and interim targets

Public – Private Partnerships to scale successful innovation models

Piloting and testing to reduce asymmetries of information and operational risks

Fleet renewals to innovate and consolidate new technologies

Traditional transit models and informality

High vehicle costs and lack of local production from traditional OEMs

Lack of local capacity to deploy BEBs at scale

Growing market distortions led by fossil fuel subsidies



Gracias!

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