Global Advocacy Plan for Circularity of Aluminum Beverage Containers

New York Climate Week

INTERNATIONAL ALUMINIUM

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Roland Berger

Aluminum can recycling matters as consumption is expected to exceed 600 bn units by 2030 – recycling can avoid 60 m t CO_{2e} emissions

Aluminum cans global overview

		2020	2030
	Cans consumed globally	**420** bn	**630** bn
	Waste generated	**5-6** m t	**8-9** m t
	CO_{2e} theoretically saved with 100% recycling rate	**~40** m t	**~60** m t

4% **CAGR, driven by:**

1 A shift from tinplate to aluminum in Europe
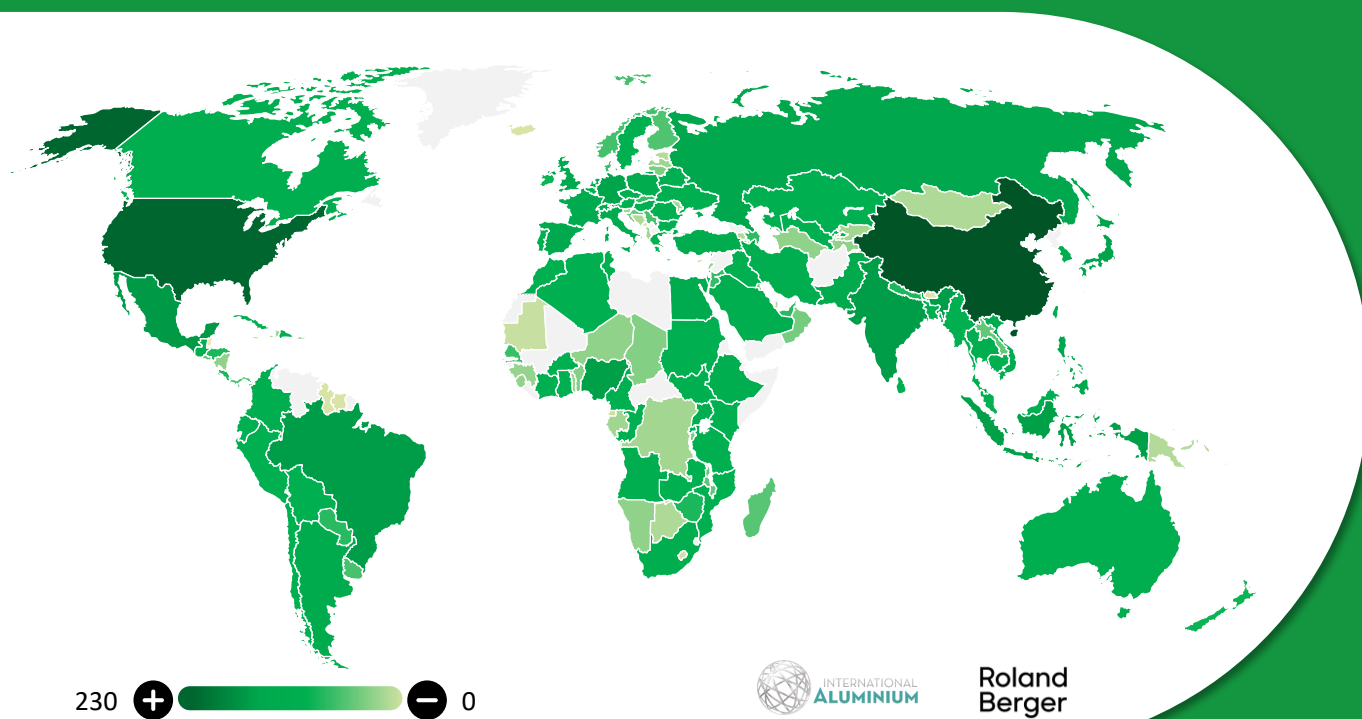
2 New beverages in the US |(mixed drinks)

3 Canned water in North America

4 Increased production in developing markets

The Global Beverage Can Circularity Alliance & Roland Berger have developed a global plan to achieve can circularity

Global packaged beverage consumption [bn litres]

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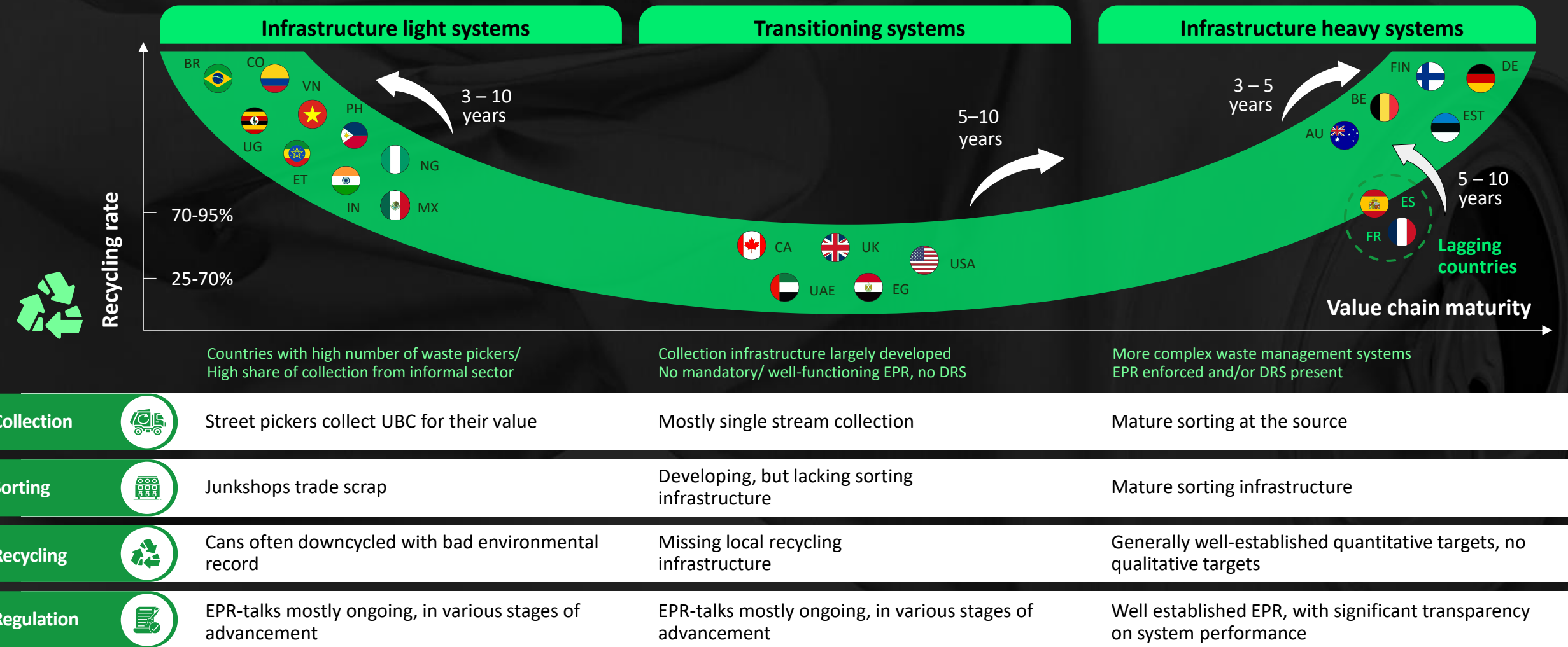Roland Berger

1. An overall target of 80% recycling rate by 2030 and 100% by 2050 is widely shared in the industry

2. The plan sets specific tailored actions for each country (all 200+ countries considered) & defines a blueprint

3. High-level examples for solutions and their impact have been developed to illustrate the potential required recycling effort in Florida, UAE & Vietnam

To support IAI's vision and goal, five action areas must be addressed to achieve high recycling rates and enhance can-to-can recycling globally

Mission and key action areas for improved aluminum can recycling

To achieve high recycling rates of cans & high share of can-to-can recycling, we need action on 5 broad topics:

1 **Target setting** — Mandatory targets set by legislation (aligned with stakeholders[1]) for recycling rate, landfill diversion

2 **Awareness and education** — Make the public aware of the value of cans & the environmental benefits linked to recycling

3 **Collection and sorting**

- **i** EPR — Establish Extended Producer Responsibility or variations to fund the recycling system
- **ii** DRS — Develop Deposit Return System mechanisms obtain a stream of low-contaminated can scrap
- **iii** Separate collection — Roll-out convenient and wide-reaching separate collection mechanism

4 **Recycling** — Establish a comprehensive plan to make sure cans are recycled back into cans locally or exported to places with the capability of ensuring can-to-can recycling

5 **Disposal policy** — Establish landfill bans & discourage incineration of waste

1) Stakeholders include ideally Can Makers, Brand Owners, Retailers, Waste Management Operators & government

These action areas will be tailored to consider the global differences in maturity (infrastructure & legislation) and resulting recycling rates across different countries

Global typical country characteristics by system type for UBC recycling

Infrastructure light systems	Transitioning systems	Infrastructure heavy systems

Recycling rate

70-95%

25-70%

BR · CO · VN · PH · UG · ET · IN · NG · MX

3 – 10 years

5–10 years

CA · UK · USA · UAE · EG

3 – 5 years

5 – 10 years

FIN · DE · BE · EST · AU · ES · FR

Lagging countries

Value chain maturity

Countries with high number of waste pickers/
High share of collection from informal sector

Collection infrastructure largely developed
No mandatory/ well-functioning EPR, no DRS

More complex waste management systems
EPR enforced and/or DRS present

	Infrastructure light systems	Transitioning systems	Infrastructure heavy systems
Collection	Street pickers collect UBC for their value	Mostly single stream collection	Mature sorting at the source
Sorting	Junkshops trade scrap	Developing, but lacking sorting infrastructure	Mature sorting infrastructure
Recycling	Cans often downcycled with bad environmental record	Missing local recycling infrastructure	Generally well-established quantitative targets, no qualitative targets
Regulation	EPR-talks mostly ongoing, in various stages of advancement	EPR-talks mostly ongoing, in various stages of advancement	Well established EPR, with significant transparency on system performance

Within each action area, we defined a blueprint of actions & levers tailored to the specific conditions in each of the three system types

Actionable blueprint for each system type

Infrastructure light models

	Category		Potential actions
1	Awareness		• Increase awareness for HH & business
8	Data collection		• **Transparency** on **volumes and recycling**
7	Set C2C targets		• Advocate for establishing **recycling targets**
2	Source separation		• **Recognition** of informal worker • Increase their **social inclusion** • Improve **working conditions**
3	Sorting infrastructure		• **Basic equipment for higher productivity** • **Eddy current separators**
5	Recycling infrastructure		• **Can shipped in best conditions** to recycling • **Invest in can-to-can recycling infrastructure**

● Advocacy levers

■ Independent capacity levers

◆ Advocacy with action opportunity

Transitioning systems

	Category		Potential actions
1	Awareness		• Increase awareness for HH & business
8	Data collection		• **Transparency** on **volumes and recycling**
7	Set C2C targets		• Advocate for establishing **recycling targets**
4	Source separation		• Multi-stream collection (pilots/ voluntary) • **Implement DRS** (voluntary pilots first) • **Drive separate source collection**
3	Sorting infrastructure		• Eddy current separators • Advanced sorting (AI, marking)
5	Recycling infrastructure		• **Can shipped in best conditions** to recycling • Improve **existing** recycling facilities Can **shredding**, **remelting & rolling capacity**
6	Support for higher landfilling fees		• **Landfill diversion legislation/ incentives** • **Revenue from waste management** infrastructure
9	Mandatory EPR legislation		• **Mandatory EPR + enforcement** (penalties for freeriding)
10	Support mandatory DRS legislation		• **Support DRS** (where govt. and Brand Owner support)

Infrastructure heavy systems

	Category		Potential actions
1	Awareness		• Recycling education at all levels
8	Data collection		• Digitalization of waste data
7	Set C2C targets		• Granular targets and enforcement (beyond recycling only, e.g. on separate collection)
10	Support mandatory DRS legislation		• **Mandatory DRS for beverage containers**
4	Maximize advanced source separation		• **Mandatory separate source collection (multi-stream)**

We have prioritized the key countries for focus and investment in the next decade to roll-out the industry's action plan

Focus countries by system category and action area

Infrastructure light models

Informal sector collection & sorting

India	Uganda
Colombia	Ethiopia
Philippines	Kenya
Angola	Nigeria

Can-to-can recycling

South Africa	India
Philippines	Vietnam
Ethiopia	

Transitioning

Source separation & advanced sorting

United States	Turkey
Malaysia	
UAE	
China	

Can-to-can recycling

Canada	Kazakhstan
UAE	
Turkey	
Malaysia	

Infrastructure heavy models

DRS implementation

UK
Spain
Portugal
South Korea

Source separation & advanced sorting

Italy	Netherlands
Poland	
France	
Romania	

Country prioritization methodology

To make GBCCA's mission a reality, efforts can be directed towards countries where investments will:

- Impact a large number of cans
- The likelihood of successful implementation is high

As such, for each major investment, a top 5 (country focus) was established based on a systematic analysis of 16 data points for all 200+ countries - the metrics cover:

- Maturity of the waste & packaging recycling regulation (e.g. presence of EPR, DRS, etc.)
- Consumption patterns (e.g. packaged drinks consumption (total & per capita)
- Maturity of the waste management system
- Overall socio-economic characteristics of the country

For each targeted action, the level of involvement & impact of stakeholders engaged varies – Government, brand owners and retail are the ones with highest leverage
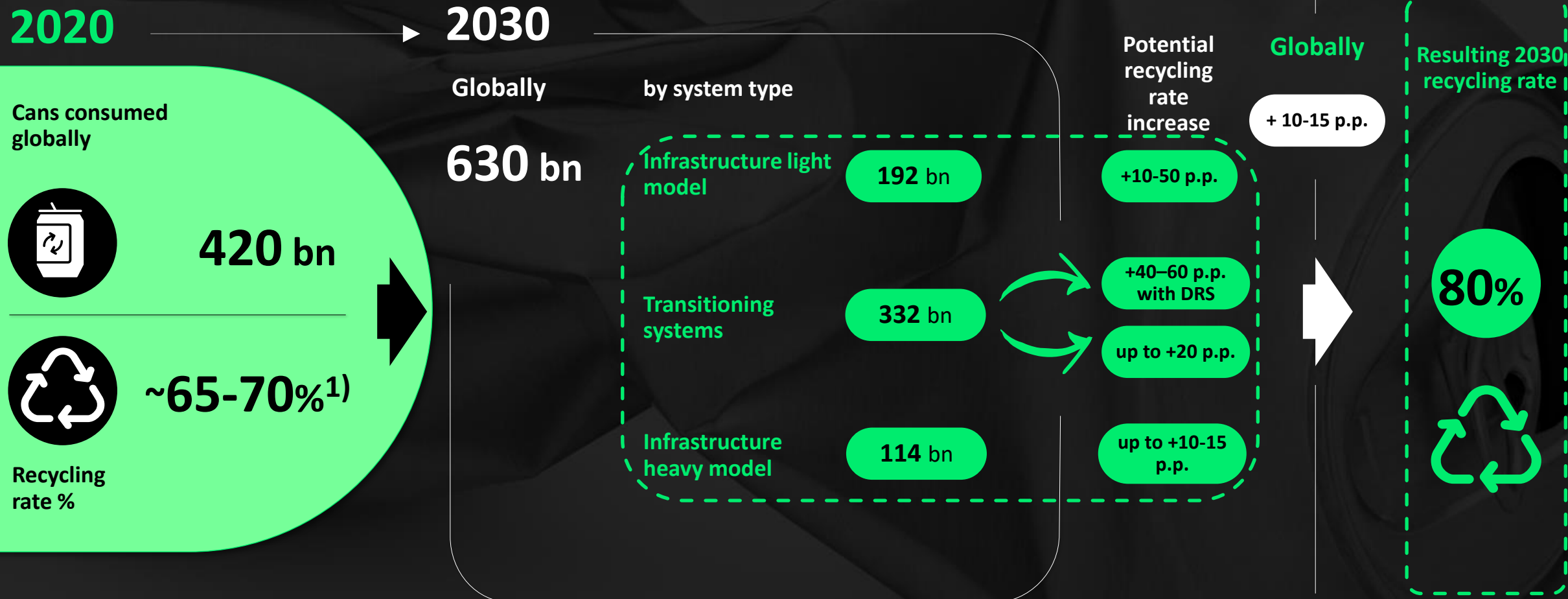
Overview of stakeholder engagement level/ importance for key actions selected – High level assessment

Stakeholders →	Govt.	Brand owners	Retailers	Municipalities	WM companies	ALU industry	Can makers	General public
Increase awareness & education **1**								
Co-invest in waste pickers **2**								
Co-invest in sorting infrastructure **3**								
Co-invest in source separation **4**								
Invest in recycling infra. &/ or redirect streams of materials **5**								
Support advocacy efforts in higher landfill fees **6**								
Set recycling and can-to-can targets **7**								
Data collection & targets **8**								
Advocate for mandatory EPR **9**								
Support DRS legislation **10**								

Actions

Recycling success requires engaging with a broad range of stakeholders

○ No stakes/ level of involvement & leverage   ● High stakes/ level of involvement & leverage

Global recycling rates can increase to the ambition level of 80%, with DRS introduction in large transitioning countries as most important lever
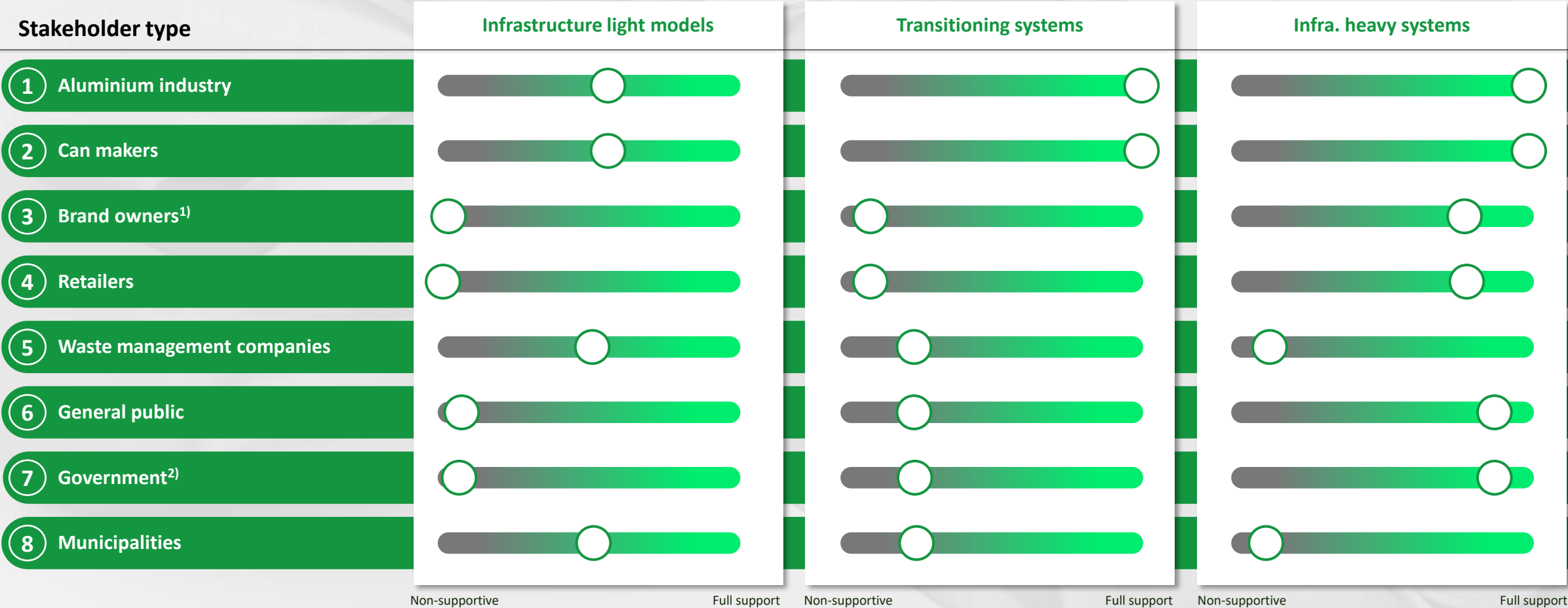
Recycling rates projections for 2030

2020

Cans consumed globally

420 bn

~65-70%[1]

Recycling rate %

2030

Globally

630 bn

by system type

Infrastructure light model	**192 bn**
Transitioning systems	**332 bn**
Infrastructure heavy model	**114 bn**

Potential recycling rate increase

+10-50 p.p.

+40–60 p.p. with DRS

up to +20 p.p.

up to +10-15 p.p.

Globally

+ 10-15 p.p.

Resulting 2030 recycling rate

80%

1) Considering reported figures, representing different measuring points, in countries where reliable data available

Driving DRS adoption has proven to be the most effective lever; aligning stakeholders is challenging, thus implementation unlikely in many countries

Typical stakeholder position on DRS adoption

Stakeholder Position

Stakeholder type	Infrastructure light models	Transitioning systems	Infra. heavy systems
1 Aluminium industry			
2 Can makers			
3 Brand owners[1]			
4 Retailers			
5 Waste management companies			
6 General public			
7 Government[2]			
8 Municipalities			

Non-supportive — Full support (Infrastructure light models)
Non-supportive — Full support (Transitioning systems)
Non-supportive — Full support (Infra. heavy systems)

1) Including PRO 2) Government corresponds to national and state or regional government as applicable

Source: Stakeholder interviews

We have simulated operations and financials for concrete solutions (beyond manda-tory DRS) to boost mid-term recycling & collection rates in Vietnam, Florida, UAE

Overview of solutions and possible impact (high-level simulation) Vietnam, Florida & UAE

		Today		2030		2050	Simulated solutions
Vietnam	Recovery rate	93%	→	95-100%	→	90-100%	• **Can-to-can recycling can be viable,** to benefit most vulnerable • **Policy change (export duty)** • Tackling problematic exports first
	C2C rate	c. 1%	→	c. 50%	→	90-100%	
Florida	Recovery rate	21%	→	c. 28 - 40%	→	90-100%	• Short-term recycling rate can be improved through **MRF improvements & collections in hotspots of consumption** • In 2nd stage, **comprehensive source separation (costly)**
	C2C rate	16%	→	c. 22 - 30%	→	90-100%	
UAE	Recovery rate	33%	→	c. 40 – 50%	→	90-100%	• Collection through **voluntary DRS** (some scenarios financially viable) • **Collection at hotspots of consumption** (events, pubs/ clubs) • **Mandatory DRS** long-term • **Comprehensive source separation** also needed, will **require funding**
	C2C rate	20%	→	c. 24 – 30%	→	90-100%	

1) Timelines are indicative, based on experience. Actual implementation timelines vary and depend above all on the level of stakeholder engagement that can be reached; 2) Y: years