Electric mobility as a driving force for a just transition

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Briefing: A Just Transition in the Transport Sector

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Transformative Urban Mobility Initiative

Context: *this document does not aim to present a comprehensive analysis of challenges, approaches or targets of a just transition in the transport sector, but instead aims to provide a quick and compact "onboarding" for interested stakeholders.*

The speed and global dimension of the current transformation of the transport sector creates huge societal challenges. A core component of this transformation is the transition from fossil fuelled to zero-emission mobility systems to combat climate change. The challenge lies in moving towards low carbon urban transport systems that improve livelihoods of people at the same time. Therefore, we need to ensure the transition creates fair and dignified jobs, as well as equally spread social and economic opportunities for everyone, everywhere.

Where does the term 'Just Transition' originate and what does it mean?

The term 'Just Transition' was first coined in the 1970's by labour unions in the United States in their fight for better labour protection in the oil, chemical and nuclear industries. Today, the term has been taken up by major political agendas to promote the provision of new green jobs that can contribute significantly to poverty eradication, inequality reduction and social inclusion while simultaneously addressing climate change.

According to the International Labour Organization (ILO),

"A Just Transition means greening the economy in a way that is as fair

How does a Just Transition relate to the transport sector?

TUMI has identified three key dimensions that outline a just transition in the transport sector:

1. **Just access to mobility for liveable cities**
2. **Fair and dignified jobs in the transport sector**
3. **Climate-friendly and just mobility industries and businesses**

A just transition should provide equitable access to opportunities, increase women and other marginalized groups participation in the labour force and develop appropriate social protection

What initial challenges does TUMI identify for a Just Transition in the transport sector?

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Green, fair and dignified jobs

Most workers in the transport sector are not protected by social insurance, do not earn decent wages, or work in informal, precarious and unsafe environments rife with gender-based discrimination. Disruptions and new business models in the transport sector are shaking up the industry with new career paths, required skills and business models.

Cities, streets and places

Vulnerable populations lack access to safe, attractive walking and cycling infrastructure and public transport and thus to basic needs and services – while living further away from workplaces and opportunities. The effects of climate change, such as increasing heat waves and flooding, will disproportionately affect these groups.

Public transport

While we need more attractive and accessible public transport to meet the mobility needs of people and fight climate change, the contribution of paratransit in providing affordable access is often not recognized. The modernization and formalization of paratransit has a wide-ranging social impact and must be well managed.

Electric mobility

The electric vehicle industry provides huge opportunities for a just transition in the transport sector by creating a host of new green jobs and avenues for the empowerment of women and other marginalized groups. E-Mobility best contributes to a just transition if embedded in public and shared mobility systems (more mobility with less vehicles).

Data

Cities lack mobility data and a complete view of their public transport networks. Data is crucial for planning integrated public transport systems, designing passenger information systems, and working with operators to upgrade transit services to better serve the needs of all riders including women and other marginalized groups.

Gender & Social Equity

Women are underrepresented in the transport sector – in fact they make up less than 20% of the global workforce and this falls to the single digits in managerial positions. The potential of women to transform the sector as workers, planners and decision-makers is crucial to ensure that transport is responsive to the needs of all users. A lack of appropriate mobility options and gender-based violence are key barriers to overcome for the higher economic and social participation of women.

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TUMI Management

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On behalf of
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Division 414 – Urban development, mobility, circular economy

Status
September 2022

www.transformative-mobility.org
@TUMInitiative
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Transformative Urban Mobility Initiative

A Just Transition means greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind."

(ILO definition)

[TUMI_JustTransition_Briefing_2022-09.pdf (transformative-mobility.org)]

TUMI's mission is to support a local and global **just transition** in the transport sector that contributes towards efficient, livable, low-carbon cities that provide green, fair and dignified working opportunities for all members of society – leaving no one behind.

Status Quo

- Every **7th person lives in informal settlements** with insufficent access to basic (mobility) services
- More than **100 mio. employees in public transport** in developing and emerging economies, most working in informality
- **80% of exported used vehicles** between 2015 and 2018 went to low and mid-income countries
- **Transformation of the global automotive industry** with net-negative job impacts, while new needs for qualification arise.

Source: GIZ TUMI

3 key dimensions of a just transition in transport

The role of electric mobility?

Source: GIZ TUMI

A Just Transition should…

- ✓ Assure **that investment in the transport sector** supports sustainable development paths and justice over generations and across borders
- ✓ **Invest in green public transport** that promotes resilience and equity by providing fundamental public services for everyone
- ✓ **Address precarious and informal work**
- ✓ **Create new green jobs and opportunities** for value creation, businesses, and employment in the Global South

Source: GIZ SUTP Flickr

A Just Transition should…

Source: GIZ SUTP Flickr

- ✓ **Challenge prevailing injustice** caused by inequitable access to mobility, urbanization patterns, financing and exposure to negative externalities.
- ✓ **Empower women in the transport sector** as employees, planners, and decision-makers
- ✓ **Recognize the mobility challenges** of woman and vulnerable groups
- ✓ **Promote resilience** and protect vulnerable groups in the face of threats of climate change and shocks
- ✓ Address the **resource-related challenges** of a sector in transformation

Electric mobility as a driving force

The electric vehicle industry provides huge **opportunities** (**new green jobs,** avenues for the **empowerment of women** and other **marginalized groups**).

- ✓ Ensure that electrification moves **beyond a technological fix** but supports the creation of new jobs and opportunities providing environmental, economic and social benefits.
- ✓ Embed e-mobility **in public and shared mobility systems** for maximizing JT benefits.
- ✓ Address qualification and **resource-related challenges** such as mining, resource efficiency, and battery recycling.

Source: GIZ Brazil

1. Electric mobility – a driver for social equity

Women and marginalised groups use mobility services differently than men. Their needs are different.

Their mobility patterns are characterised through **more complex multimodal travel chains** instead of a private car.

Women are exposed to **(sexual) harassment and violence in public space and public transport**. Fear influences mode choice significantly.

Planners and decision-makers are often not aware different user needs or do not know **how to shape socially just mobility services**.

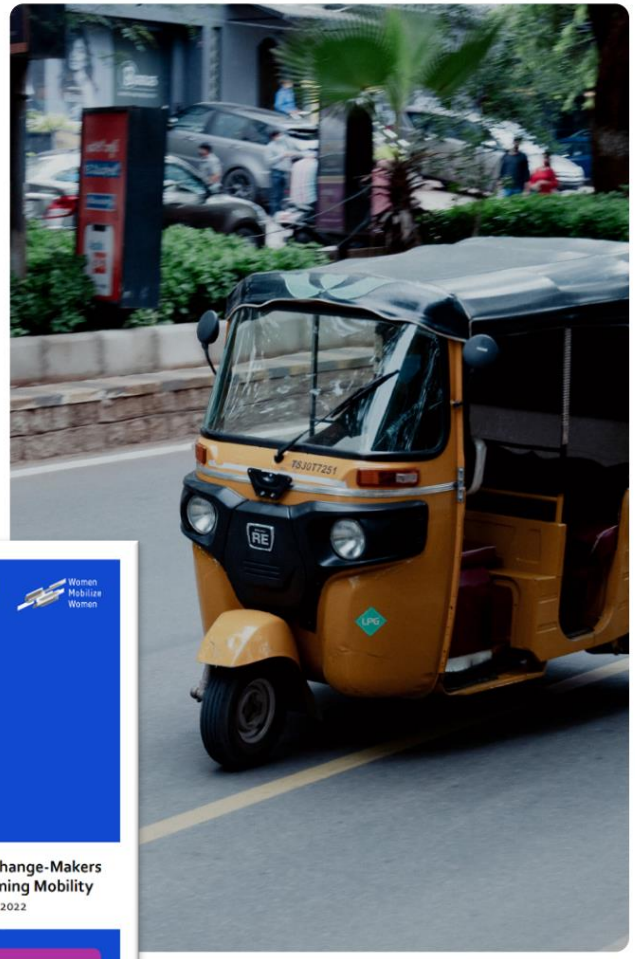
Female Empowerment

Mobility as a public good is primarily planned and operated by men.

Only 20% of employees in the transport sector are female.

In decision-making positions, this number is at 10%

1. Electric mobility – a driver for social equity



© @prabhavkashyapg / Unsplash

© Dipti Mahapatro

Dipti Mahapatro

General Manager of Capital Region Urban Transport (CRUT)

Officer on Special Duty at Odisha State Road Transport Corporation (OSRTC), India

@CRUT_BBSR

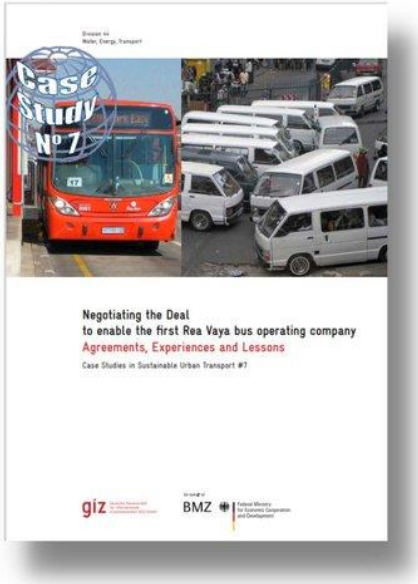
Smt. Dipti Mahapatro recently introduced the concept of 'Mo E-Ride' in Bhubaneswar, an electric rickshaw system that acts as a feeder service to Mo Bus Operations and employs transgender and women drivers. As General Manager of CRUT, which operates 225 buses under the brand name Mo Bus (non-electric buses), she has undertaken multiple measures related to women's safety. Her work has been recognized and awarded by the Government of India thrice — every year since CRUT's inception

Under her leadership, these women's safety measures implemented have included the deployment of more than 40% of women conductors as crews, disaggregated ticketing, enabling Mo Buses with CCTV, strategically locating well-lit bus shelters, equipping state-of-the-art Mo Bus depots with separate toilets for gender groups, as well as training crew on tactful practices of passenger management. As the Officer on Special Duty at Odisha State Road Transport Corporation, Dipti has been successfully able to create a public transport ecosystem in the capital region of Odisha that is sustainable, accessible, affordable and safe for all.

> «
> CRUT envisions changing the male dominance in the public transport sector by creating an ecosystem that is gender inclusive and gender sensitive.
> »

TUMIRemarkableWomen22.pdf (transformative-mobility.org)

1. Electric mobility – a driver for social equity



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"Negotiating the Deal to enable the first Rea Vaya bus operating company"

#JustTransition

Postitive impacts of ‚Rea Vaya'

- cuts travel times
- makes travelling cheaper
- reduces harmful health & environmental impacts
- tackles apartheid by connecting city districts

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Delivering Africa's first full Bus Rapid Transport system ‚Rea Vaya'!

Image: H/T @WMW linked publication

#JustTransition

Rehana Moosajee

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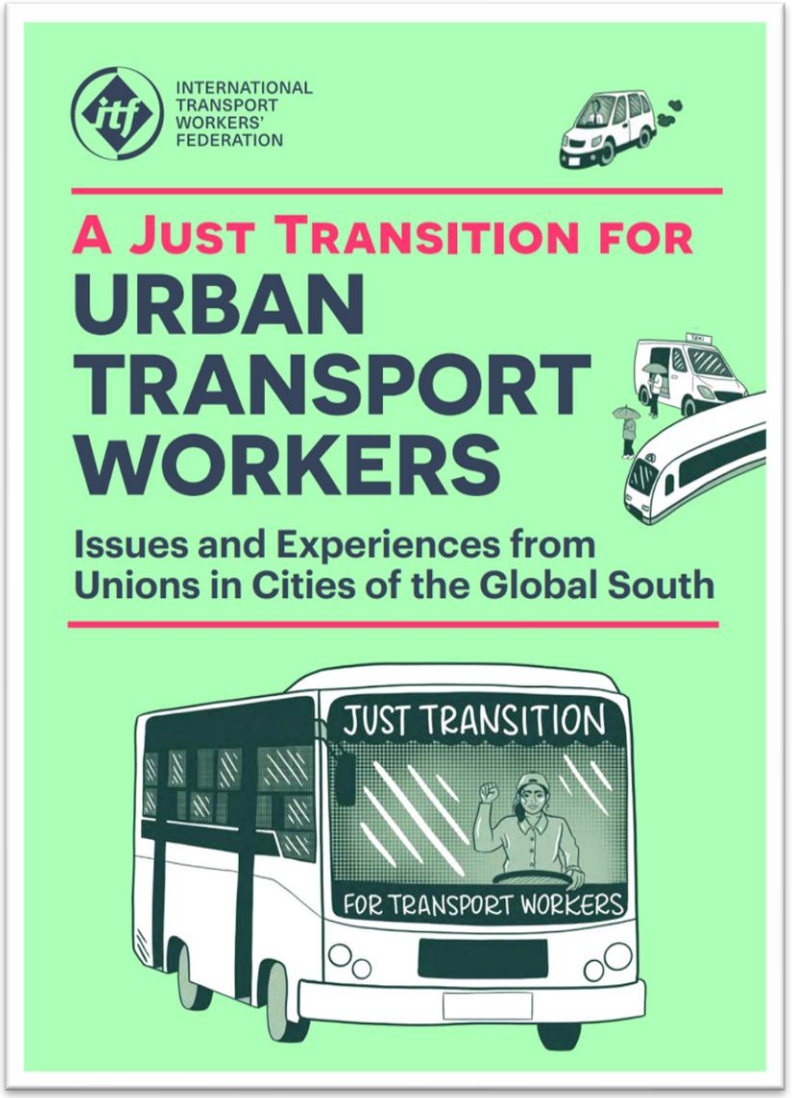
(17) 🚶🚶🚴🚌⚡▶ #COP27 auf Twitter: „Transforming public transport á la #justtransition! Johannesburg successfully established the Bus Rapid Transit (BRT) system ‚Rea Vaya', connecting the city through priority lanes! 🚌🚌 Consult this article and follow the thread below ⬇🧵👉 https://t.co/BlJOPZvThl https://t.co/Ul1Uhs26h1" / Twitter

2. Good and fair jobs

IMPORTANT CONSIDERATIONS FOR WORKERS WITH THE INTRODUCTION OF ELECTRIC BUSES

Issue	Implications for workers
Operation	Drivers will need to be retrained in:
	• Safe operation
	• Charging procedures
	• Different braking and drive characteristics
	• Eco-driving to reduce energy consumption
	Drivers pay and working time need to be renegotiated considering charging schedules.
Maintenance	Fewer mechanics, more electricians:
	• Less need for mechanical maintenance staff, higher need for electrical
	• Electrical work becomes more extensive and specialist, including high voltage power equipment
	• Overall staff numbers are expected to decrease for maintenance
Charging	Work process at terminal changes from 'fuelling and cleaning', to 'charging and cleaning'. Retraining needed for workers to manage charging stations
	Different safety hazards operating with high voltage equipment

Source: Adapted from EBRD/IUTP/GIZ 2021[39]



[A Just Transition for Urban Transport Workers_Report.pdf (itfglobal.org)]

2. Good and fair jobs

Most workers in the transport sector are not protected by **social insurance**, do not earn **decent wages**, or work in informal, **precarious and unsafe environments** rife with **gender-based discrimination.**

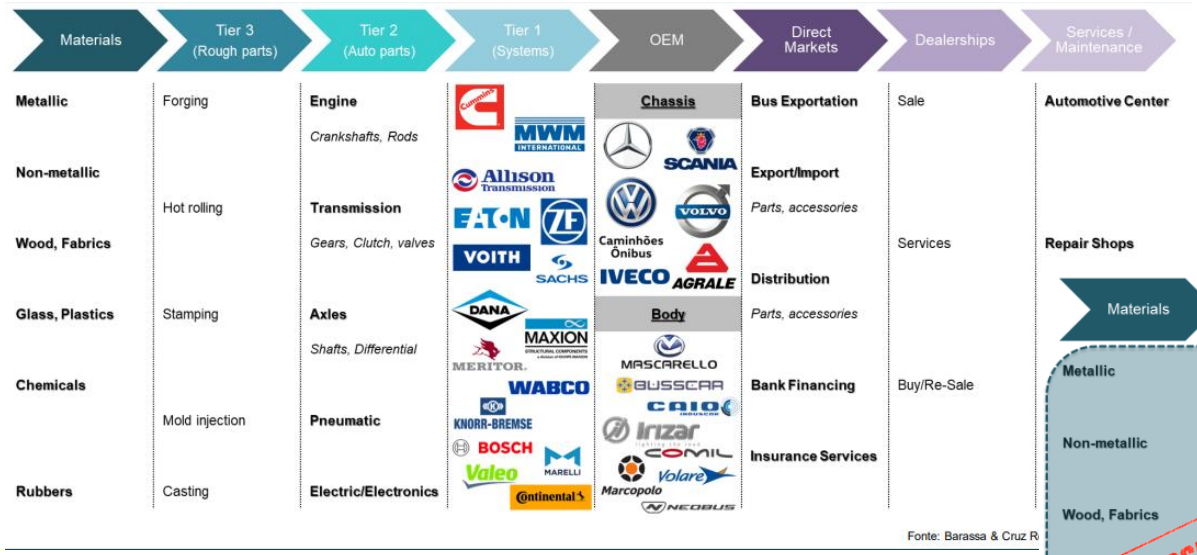
Disruptions and new business models in the transport sector are shaking up the industry with new career paths, required skills and business models.

✓ Understand the impact of electric mobility on labour markets

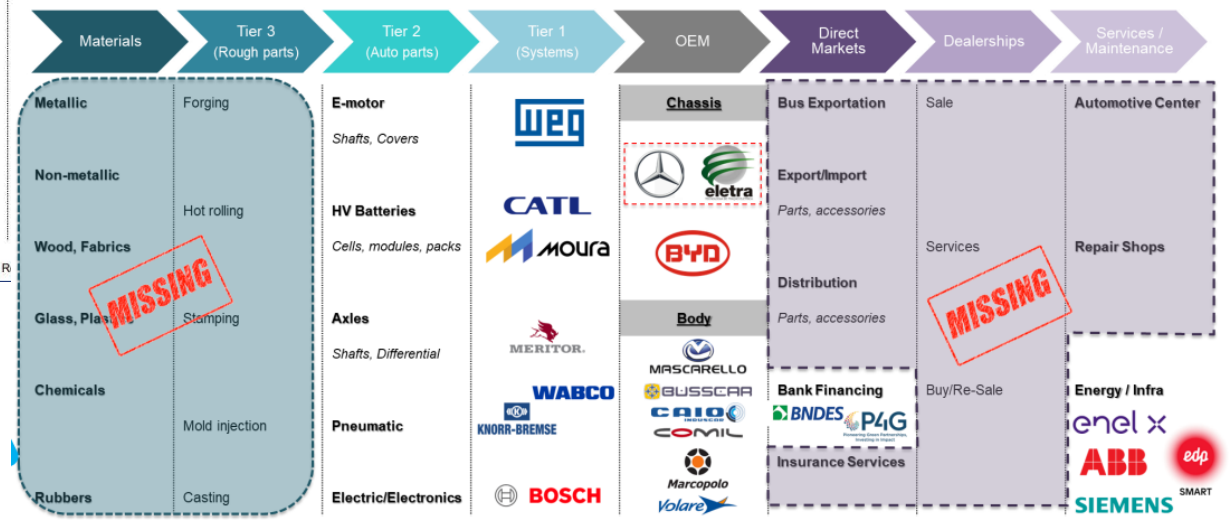
- New green jobs due to new industries and businesses?
- Are workers, professionals and executives prepared?
- Are we teaching the right skills at universities and collegues?
- Where else do we need (skilled and un-skilled) workers to manage the transition of cities and transport systems?

3. Electric mobility as building block for sustainable industries

Does your country's policy actively accompany the industrial transformation?

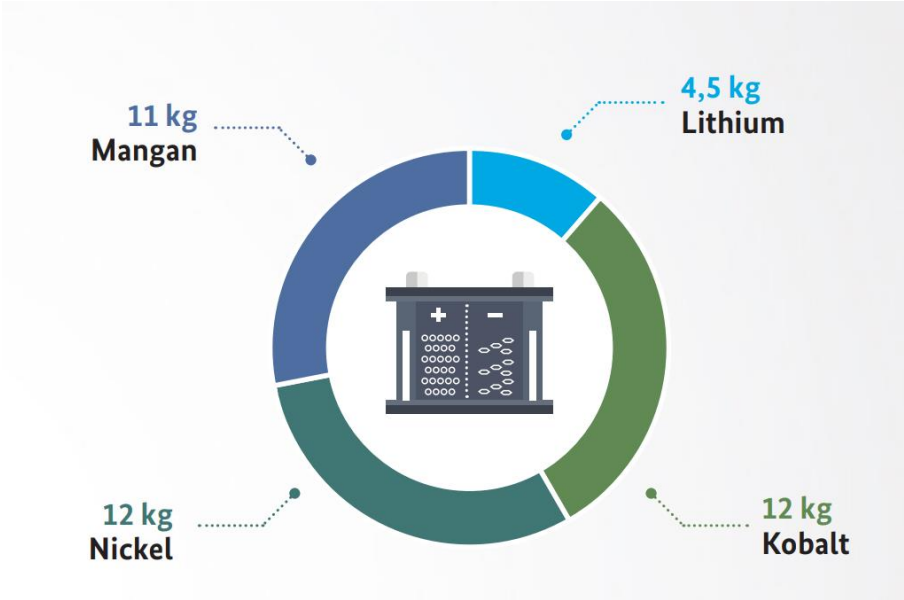


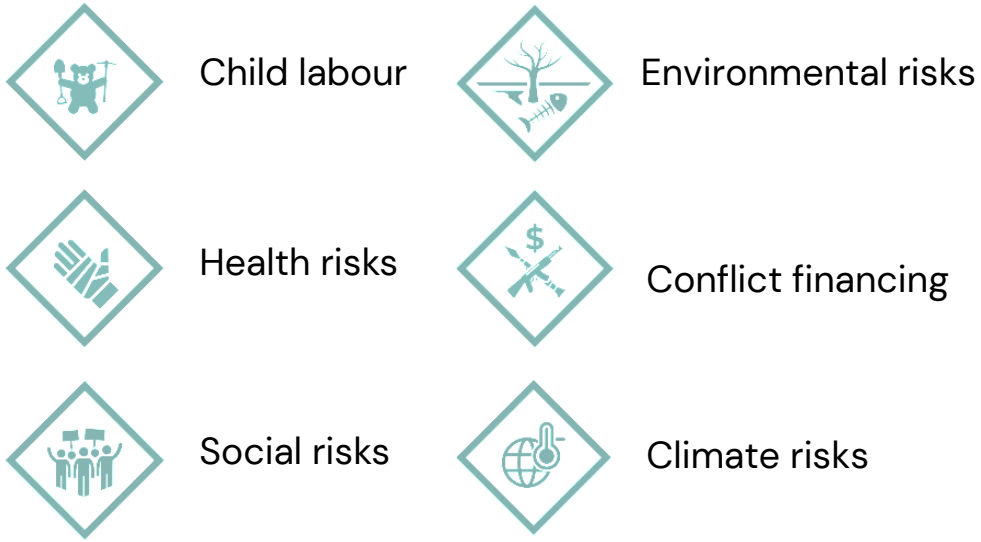
How to support local value creation?



4. Resource efficiency and circular economies

- Electric mobility is essential to decarbonize transport
- The massive replacement ICE cars of battery-electric cars can lead to massive environmental and social impacts
- Resource consumption of a current 30 kWh battery:





rohstoffe-fuer-die-e-mobilitaet-entwicklungspolitische-perspektiven-data.pdf (bmz.de)

4. Resource efficiency and circular economies

Consider the full-life cycle of batteries

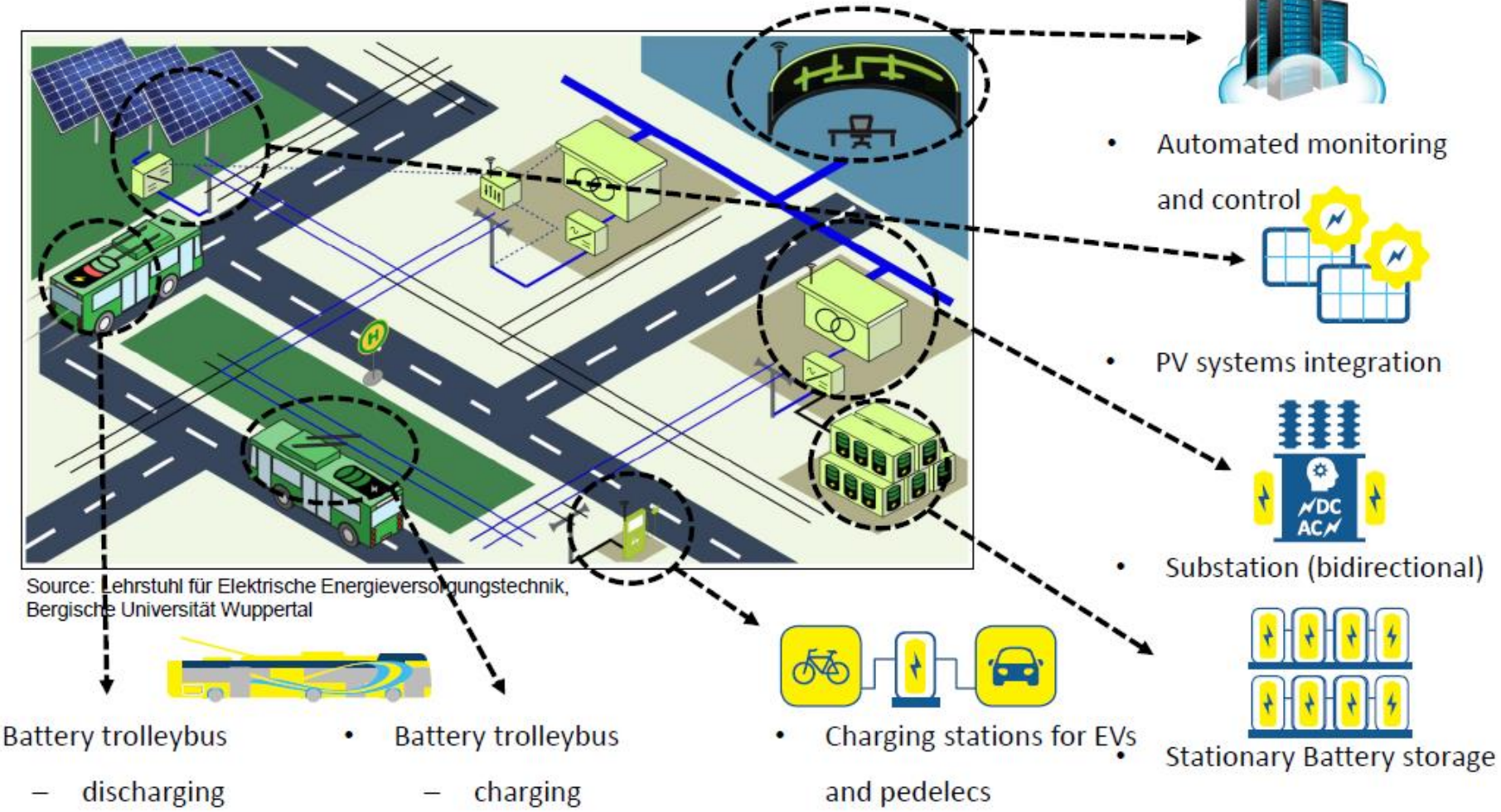
- ✓ Maximize Just Transition benefits through prioritising public & shared mobility concepts.
- ✓ Consider unintended impacts along the entire supply chain

Sustainable Lithium-Ion Batteries for E-Mobility Poster | Transformative Urban Mobility Initiative (TUMI) (transformative-mobility.org)

Smart-Trolleybus-System (STS)

Technical Elements

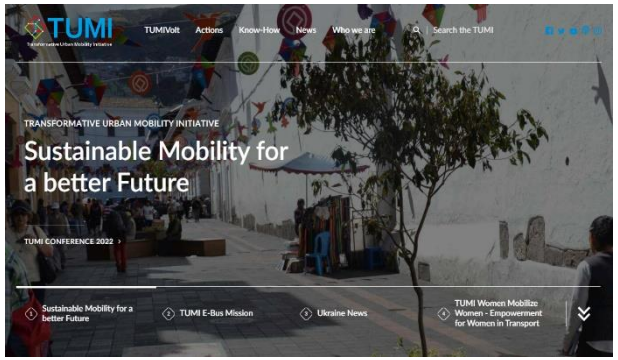
[BOB – Der Batteriebetriebene Oberleitungsbus aus Solingen (bob-solingen.de)]



Source: Lehrstuhl für Elektrische Energieversorgungstechnik, Bergische Universität Wuppertal

- Automated monitoring and control
- PV systems integration
- Substation (bidirectional)
- Stationary Battery storage
- Battery trolleybus – discharging
- Battery trolleybus – charging
- Charging stations for EVs and pedelecs

Further Sources



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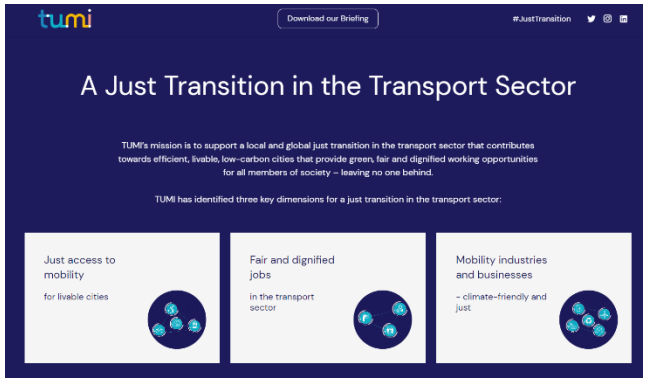

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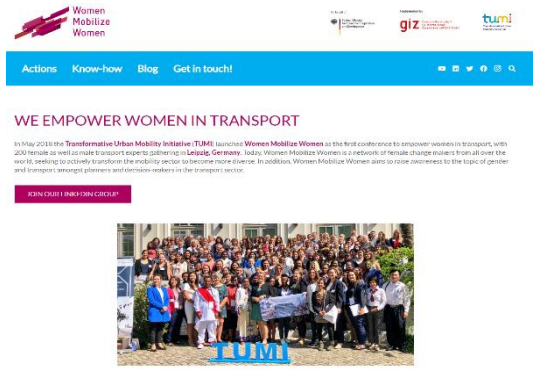
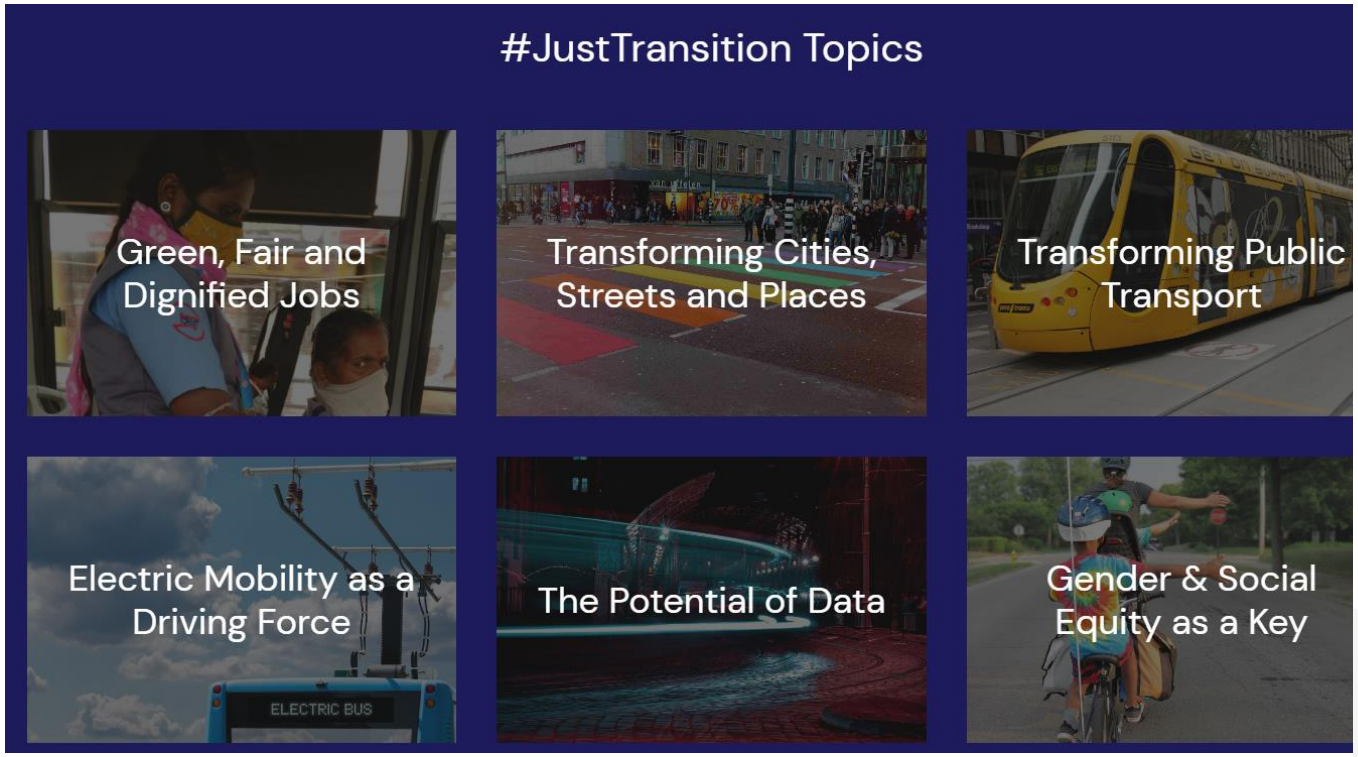
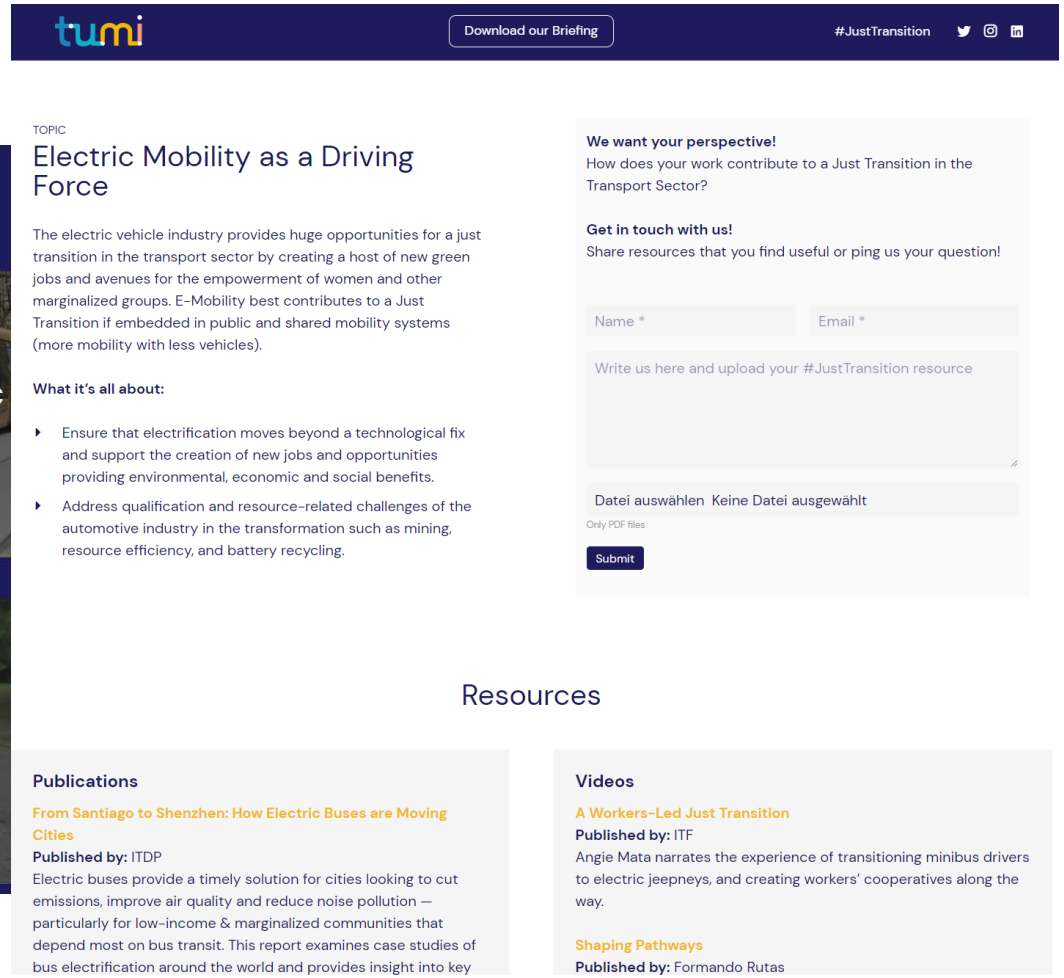


womenmobilize.org


#JustTransition Topics
Green, Fair and Dignified Jobs
Transforming Cities, Streets and Places
Transforming Public Transport
Electric Mobility as a Driving Force
ELECTRIC BUS
The Potential of Data
Gender & Social Equity as a Key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Download our Briefing
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TOPIC
Electric Mobility as a Driving Force
The electric vehicle industry provides huge opportunities for a just transition in the transport sector by creating a host of new green jobs and avenues for the empowerment of women and other marginalized groups. E-Mobility best contributes to a Just Transition if embedded in public and shared mobility systems (more mobility with less vehicles).
What it's all about:
Ensure that electrification moves beyond a technological fix and support the creation of new jobs and opportunities providing environmental, economic and social benefits.
Address qualification and resource-related challenges of the automotive industry in the transformation such as mining, resource efficiency, and battery recycling.
We want your perspective!
How does your work contribute to a Just Transition in the Transport Sector?
Get in touch with us!
Share resources that you find useful or ping us your question!
Name *
Email *
Write us here and upload your #JustTransition resource
Datei auswählen Keine Datei ausgewählt
Only PDF files
Submit
Resources
Publications
From Santiago to Shenzhen: How Electric Buses are Moving Cities
Published by: ITDP
Electric buses provide a timely solution for cities looking to cut emissions, improve air quality and reduce noise pollution — particularly for low-income & marginalized communities that depend most on bus transit. This report examines case studies of bus electrification around the world and provides insight into key
Videos
A Workers-Led Just Transition
Published by: ITF
Angie Mata narrates the experience of transitioning minibus drivers to electric jeepneys, and creating workers' cooperatives along the way.
Shaping Pathways
Published by: Formando Rutas

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- E-Mobility
- Gender & Inclusive Mobility
- Data in Transport

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