



**HAL**  
open science

## The nexus mineral resources – energy transition: a new resources frontier for Latin America?

Marie Emilie Forget, Vincent Bos, Silvina Cecilia Carrizo

### ► To cite this version:

Marie Emilie Forget, Vincent Bos, Silvina Cecilia Carrizo. The nexus mineral resources – energy transition: a new resources frontier for Latin America?. International Mountain Conference, Sep 2019, Innsbruck, Austria. halshs-03172075

**HAL Id: halshs-03172075**

**<https://shs.hal.science/halshs-03172075>**

Submitted on 19 Mar 2021

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



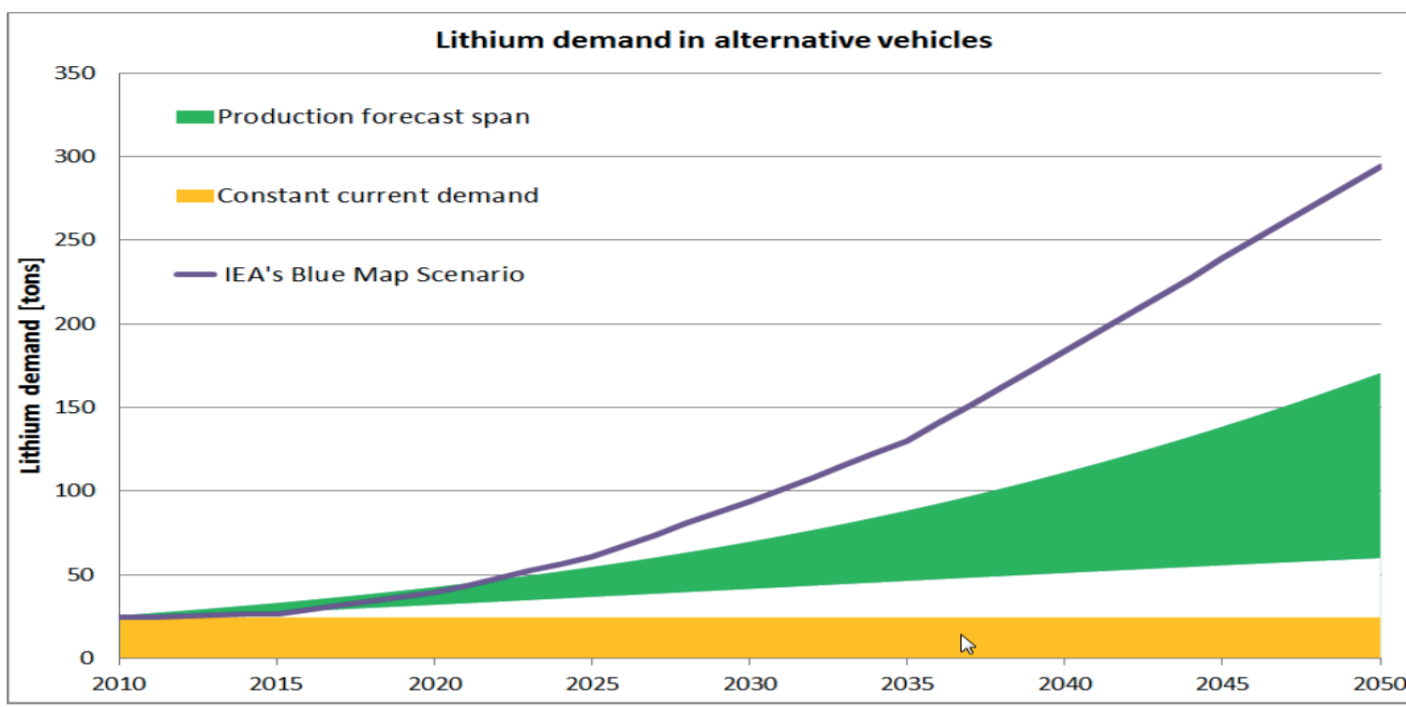
# LITHIUM: A KEY FACTOR IN RESOURCE - TRANSITION NEXUS

M. Forget<sup>1</sup>, V. Bos<sup>1</sup>, S. Carrizo<sup>2</sup>

<sup>1</sup> EDYTEM Lab., Savoie Mont Blanc University, France  
marie.forget@univ-smb.fr, vincent.bos@univ-smb.fr  
<sup>2</sup> CONICET, La Plata University, Argentina  
scarrizo@conicet.gov.ar

## INTRO

\* **Energy transition** means the use of intermittent energy and induce **growth of lithium production destined to lithium-ion batteries**

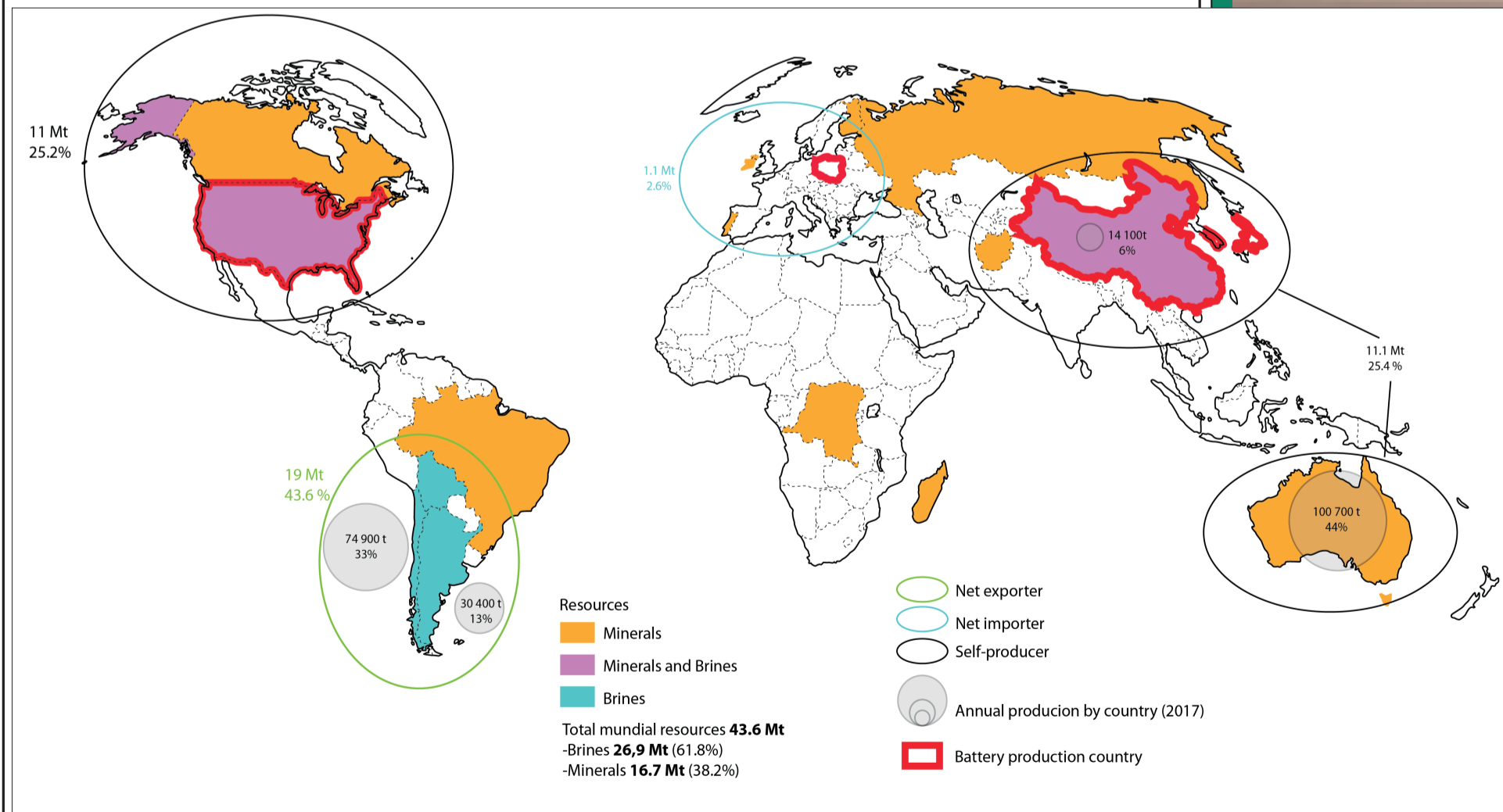


The total lithium demand of a constant current lithium demand combined with growth of electric vehicles according to IEA's blue map scenario (Vikström et al., 2013)

\* Energy transition policies intent to **mitigate the effects of global change and preserve vulnerable mountains territories**

\* **Goals and impacts differ** between global North and South  
- **In global North** development of lithium based devices (electric vehicles, solar energy storage, etc.) as an opportunity for «green» economy  
- **In global South** energy transition is more an opportunity to deliver some cheap electricity to disconnected mountains territories

\* **Spatial concentration** of the extractive and battery production processes gathered in different poles

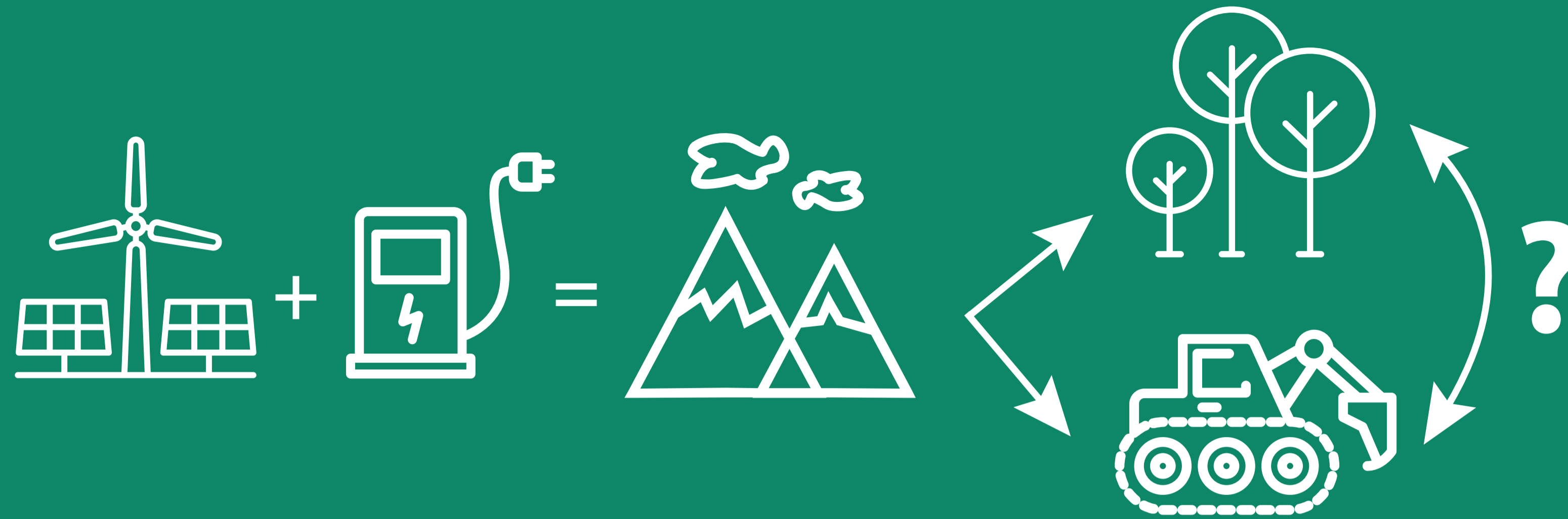


Map of resource availability and production. Adapted from Grosjean and al., 2012

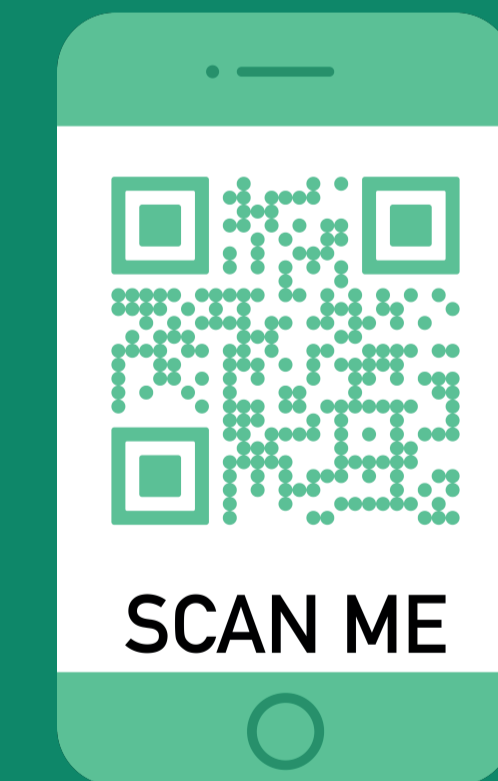
## METHODS

\* With social science methods (direct and semi-direct interviews) we analyse the public policies and the exploitation processes of the three main salt-lake brines (Bolivia, Argentina, Chile)

\* Mapping



The desire to **preserve the environment** and the **idealised view of mountains** in the **global North** induces **extractive impacts**, “**denaturing**” of **indigenous landscapes** and possible **irreversible environmental damage**, in the mountain territories of the **South** where metals needed for new energy technologies are mostly mined



## RESULTS

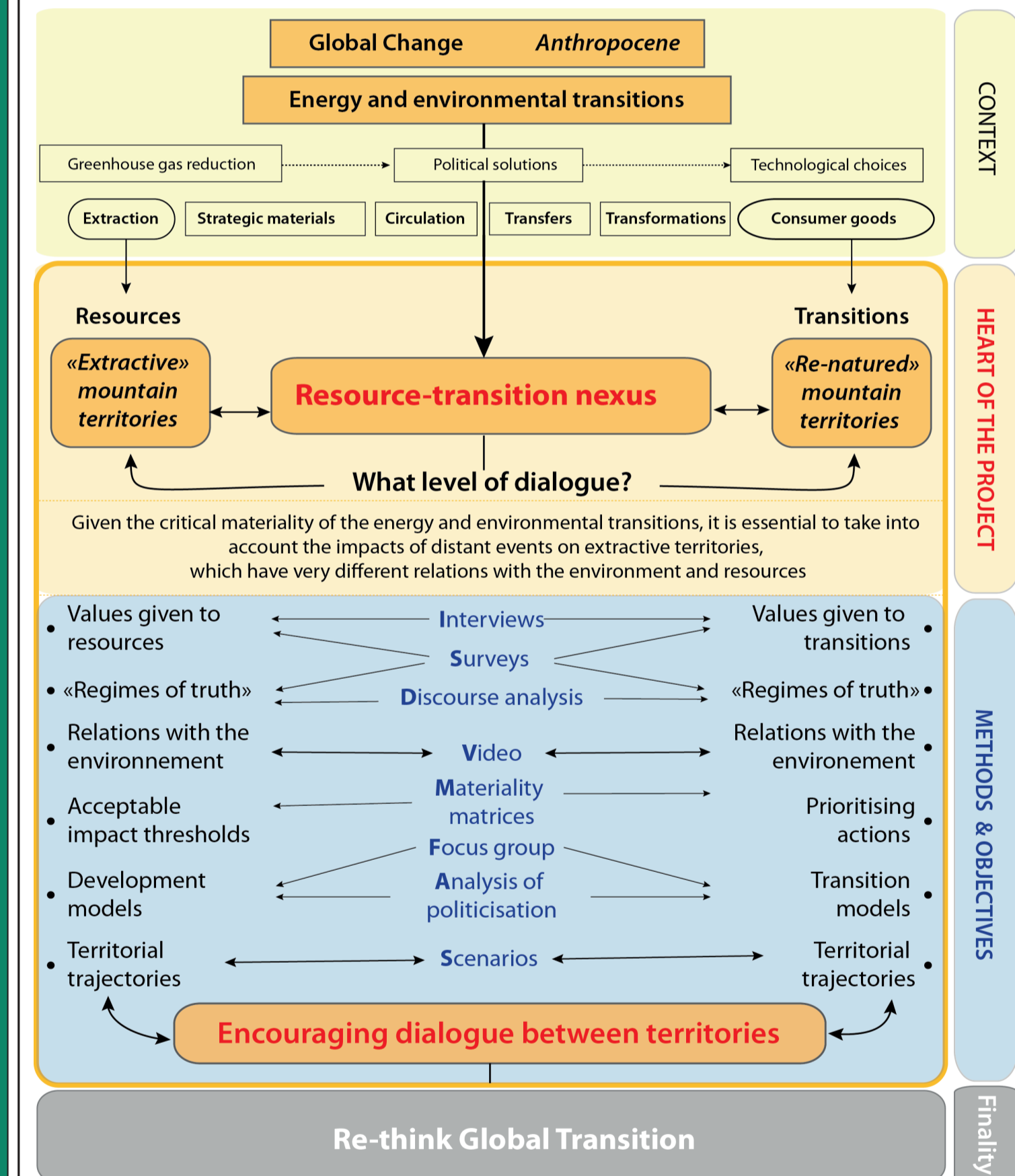
\* Results indicate different perceptions of the lithium resource :

- mineral of the future, territorial development
- economic opportunity, commodity

Country	Chile	Argentina	Bolivia	Main extractive stakeholders
Extractive model	Blue	Green	Yellow	private (blue), public-private partnership (green), public (yellow)
Sense of evolution	Red arrow pointing left	Red arrow pointing left	Red arrow pointing left	Red arrow = sense of evolution
Type of regulation	Horizontal lines	Vertical lines	Horizontal lines	Regulated by: central-state (horizontal), subnational (provinces) (vertical)
Synthesis	Blue and green bars	Green and yellow bars	Yellow and green bars	

## DISCUSSION

\* The energy transition, which, beyond its justification as a vital part of the response to global change, reveals enormous contrasts between the logics operating in raw material-extraction territories and territories transitioning toward new ways of producing energy



- Relocalisation of Li-ion batteries chain productions in the extractive territories?
- Developing the extractive processes in Global North rich lithium territories?

\* Behaviour-based regulations rather than technological choices (without another extractive pattern in Global South countries to mitigate industrial impacts?)