

UNIVERSITÉ DE
SHERBROOKE

COMMENT INTÉGRER LES EFFETS REBONDS
DANS LE DESIGN DE POLITIQUES
ENVIRONNEMENTALES?

CONVERGENCE DES TRANSITIONS SOCIO-ÉCOLOGIQUE ET NUMÉRIQUE

Journée de la recherche en changements climatiques et environnement

Le 10 février 2023

Pr^e Marie-Luc Arpin, École de gestion

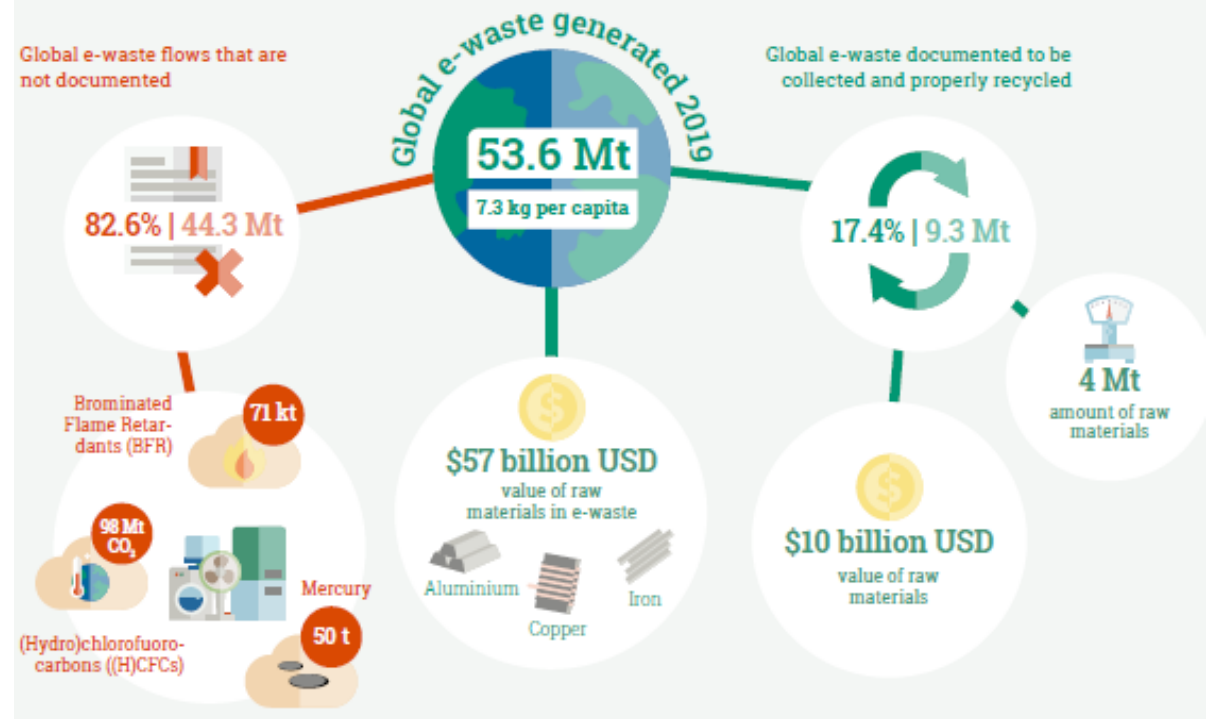
Associations between exposure to informal e-waste recycling and the health of infants and children

Adverse birth outcomes. ⁽¹²⁾	Increased or decreased growth. ⁽¹³⁾	Altered neurodevelopment, adverse learning, and behavioural outcomes. ^{(14) (15)}
Effects on the immune system. ⁽¹⁶⁾	Effects on lung function. ^{(17) (18)}	Multiple studies have investigated the impact of e-waste exposure on thyroid function of children but have reported inconsistent results. ⁽¹⁹⁾

Associations between exposure to informal e-waste recycling and the health of workers

The lack of workplace health and safety regulations leads to an increased risk of injuries for workers in informal e-waste dismantling and recycling. ^{(27) (28)}	E-waste workers have also reported stress, headaches, shortness of breath, chest pain, weakness, and dizziness. ^{(29) (30)}
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As well as





Forti et al. (2020), *The Global E-waste Monitor 2020: Quantities, flows and the circular economy potential*, (Bonn, Geneva and Rotterdam: United Nations University/United Nations Institute for Training and Research, International Telecommunication Union, and International Solid Waste Association, 2020).

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Extended producer responsibility for E-waste management: Policy drivers and challenges

Stéphanie H. Leclerc^a, Madhav G. Badami^b  

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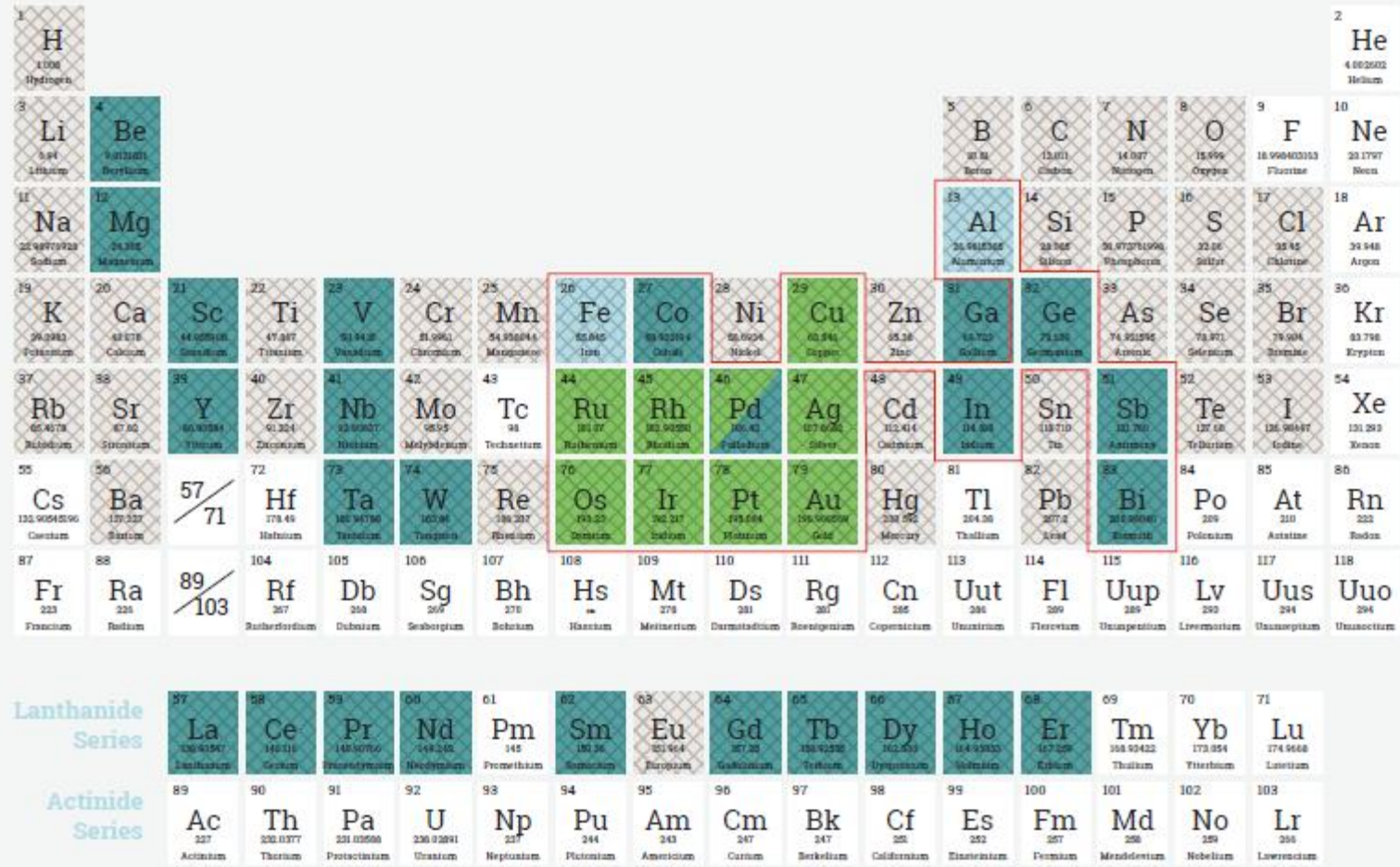
Highlights

- Québec's e-waste EPR regulation goes beyond that adopted elsewhere in Canada.
- It strongly supports penalties, local employment, and modulated environmental fees.
- Our aim is to understand the policy drivers and challenges.
- We study actors' interests, concerns, how they have been affected, and have responded.
- The regulation faces hurdles, showing the hard realities of policy implementation.

“Despite **Québec** having the **most certified refurbishers** of any Canadian province, **materials collected in the take-back scheme usually go straight to recycling.**

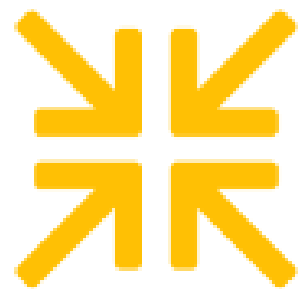
[...]

A thriving reuse market is driven by the condition of used equipment; the existence of certified refurbishers; and even **the price of metals, which may draw reusable equipment to international markets, and away from local reuse.**”



Source: Deubzer et al. 2019

Forti et al. (2020), *The Global E-waste Monitor 2020: Quantities, flows and the circular economy potential*, (Bonn, Geneva and Rotterdam: United Nations University/United Nations Institute for Training and Research, International Telecommunication Union, and International Solid Waste Association, 2020).
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RÉDUIRE



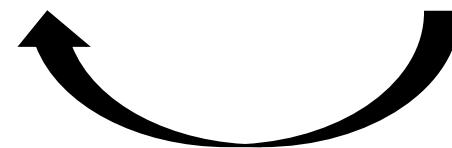
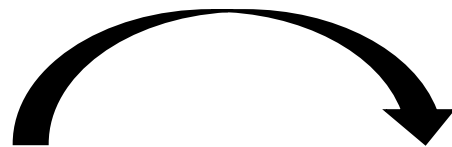
RÉUTILISER



RECYCLER



VALORISER



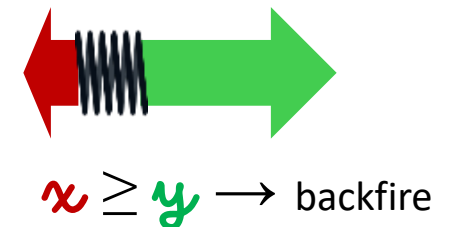
Rebound Effect (e.g. Brookes, 1978; Khazzoom, 1980; Zink and Geyer, 2017)

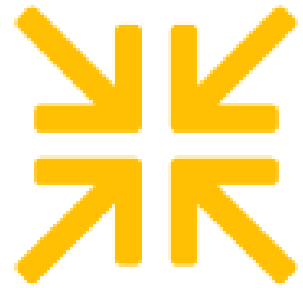


Symbiotic Rebound Effect



Fig. 2. The process of rebound, and symbiotic rebound through increased eco-efficiency measures.





RÉDUIRE



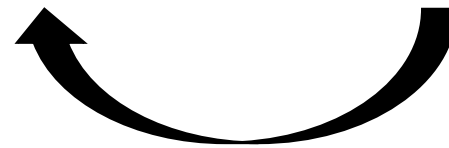
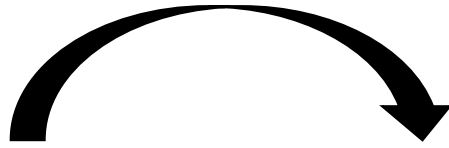
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RECYCLER



VALORISER



$x \geq y ??$

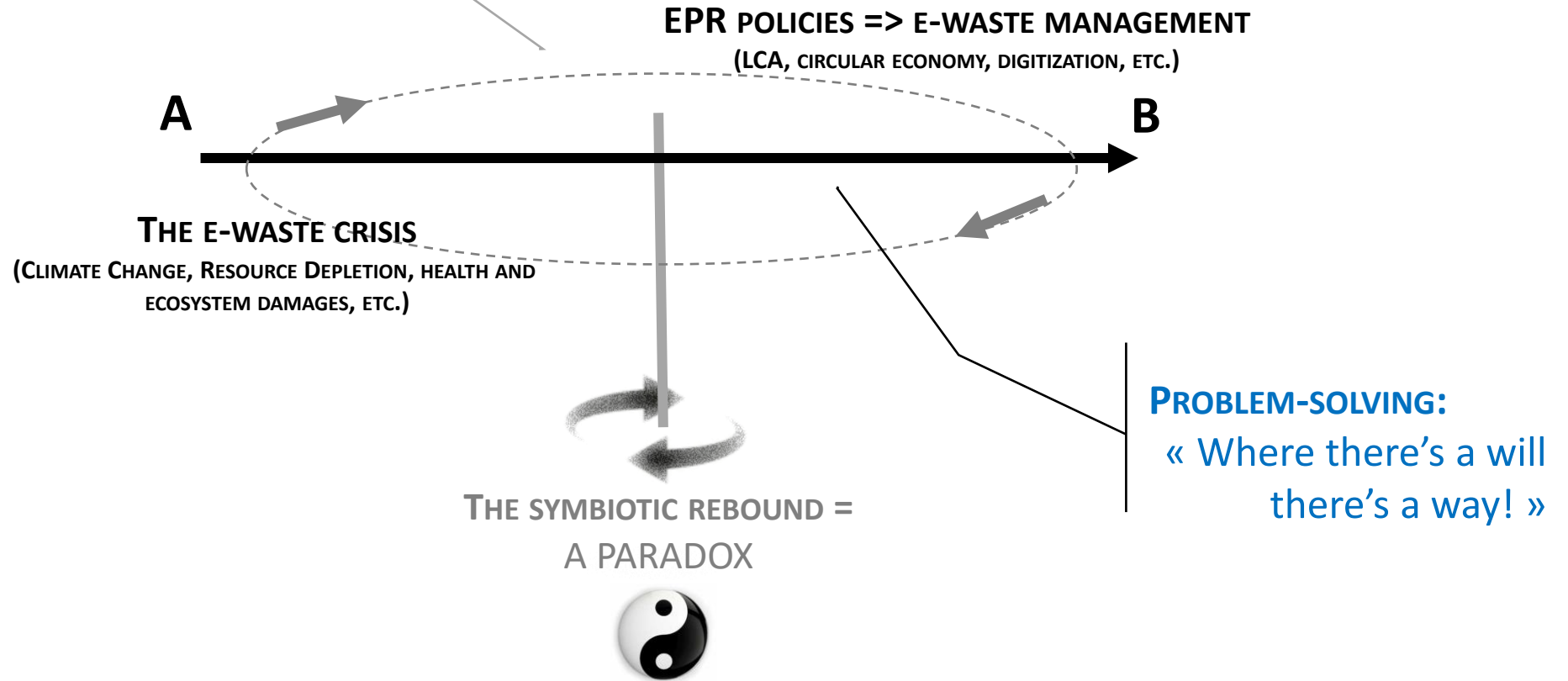
COMMENT SAVOIR? COMMENT GÉRER?

PARADOX:
« the persistent contradiction
between interdependent
elements. »

Schad et al. (2016)



1. Contradiction
2. Persistence
3. Interdependance



COMMENT SAVOIR? COMMENT GÉRER?

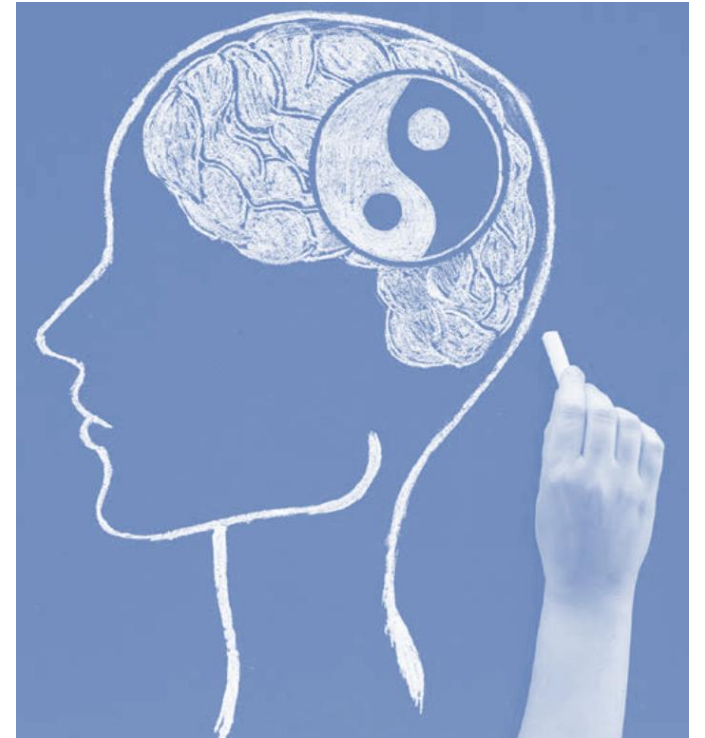
=> interdisciplinarité

Génie/quantifier

Modélisation (ACV)
de l'effet rebond

Management/gérer

Phénoménologie de
l'effet rebond



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POURQUOI UNE CHAIRE?

NET ZERO

AXES DE RECHERCHE

ÉQUIPE

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EN

Chaire de recherche sur les **stratégies net zero** et le **cycle de vie**

Partenaire: Agissez maintenant



Étudiants: Faites partie de la solution



Chercheur chercheuse: Collaborez avec nous



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