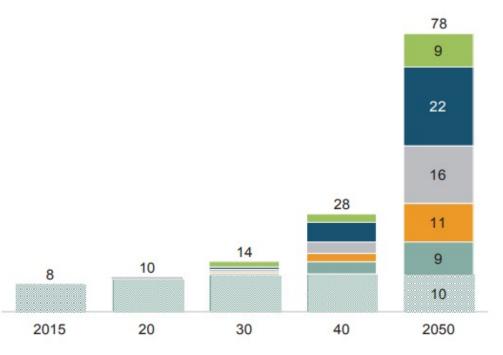
Environmentally friendly metal catalyst recovery to support sustainable energy development and waste management



Problem Statement



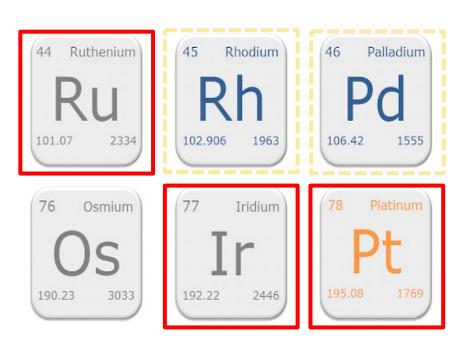
Hydrogen demand could increase 10**fold** by 2050



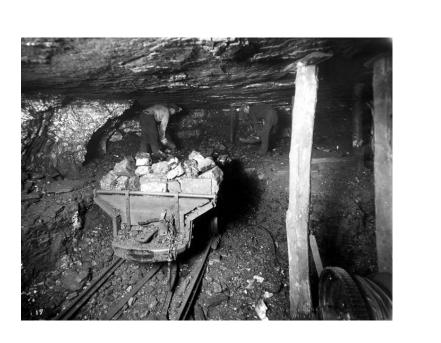
Current **fossil H₂** production associates large CO₂ emission.



Clean H₂ production is achieved by **electrolysis**

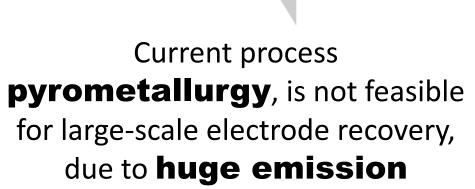


Platinum group metal (PGMs) are key component for electrolysis



PGM demand could increase ~30 times, which can not be handled by **mining**





Value Proposition

We directly extract PGMs from end-of-life products in a sustainable way!



Registered IPs and

exclusively licensed

by CriMaRec



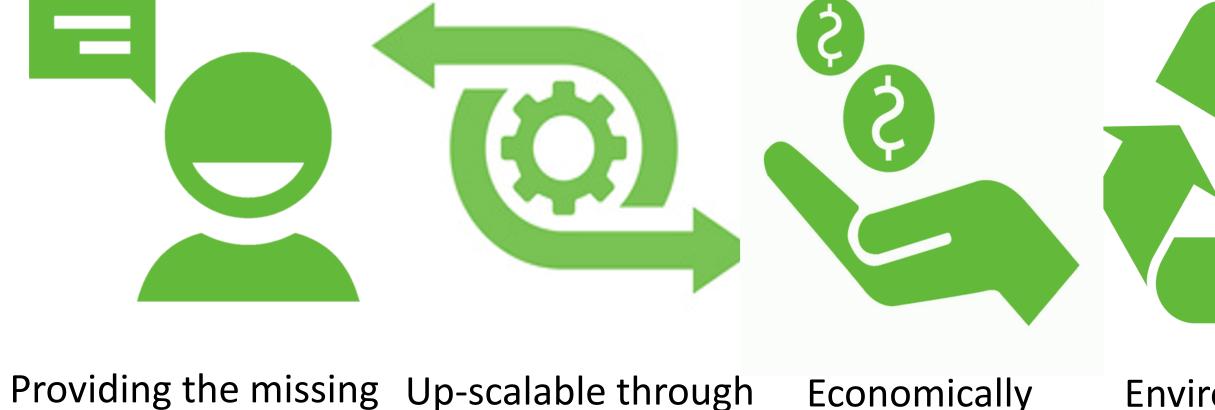
technology for the

growing market

Economically viable



Environmentally friendly PGM



classic engineering technology process

recovery process **Especially silicon carbide**

(A) PGM Collectors

solution

(G) E&FC end users

(F) E&FC

systems

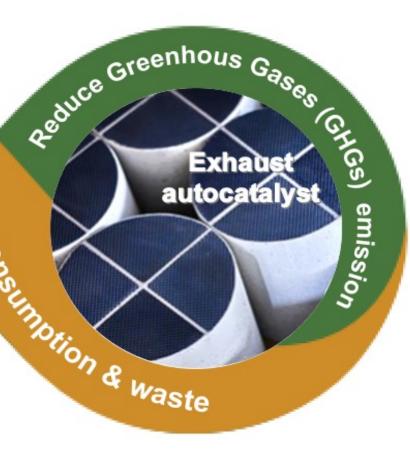
(B) PGM / non-**PGM** separation

Value chain for PGMs in renewable catalyst for clean H₂ production and usage

(C) PGM refinery



Green extraction technology for PGMs



based autocatalyst and gas diffusion electrode have a huge demand for the technology with market demand accumulation!

(E) E&FC components (D) E&FC Catalyst

E&FC: electrolyzer & fuel cells

Technology Description

- The technology to be further developed and upscaled is a hydro-electrochemical route to dissolve and process metal catalysts directly targeting PGMs of high surface area.
- The dissolution is carried out in aqueous solutions using well-selected combination of mild, inexpensive chemicals with efficiency up to 99%.
- The kinetic can be further improved with additives or product-removers to reduce redeposition or passivation.
- The process is flexible, easy and fast, which can be customized and combined towards individual demands.

Intellectual Property Rights

- The patent application is in PCT phase.
- The associated IPRs including technology knowhow are exclusively licensed by CriMaRec.

Team



PhD in Chemistry Shuang Ma Andersen CTO / Co-founder

Principle investigator in energy material and production process. Industrially applied research covers electrocatalyst, electrode structure and specialized in PGM catalyst recycling. Experienced in management, dissemination & collaboration



MBA Lars Christian Larsen CEO / Co-founder

25 years' experience in industrial catalyst market for diesel vehicles using PGMs, solid knowledge in business. Wide network in autocatalyst industries and engineering partners, OE project management in Europe, Russia, US and China.



MBA Jens Kristian Damsgaard Chairman of the board

Co-founder of several tech university spinouts funded by venture capital. The spinouts were either acquired their technology was licensed by corporates. Skilled in technology transfer, venture & corporate venturing.

Current State

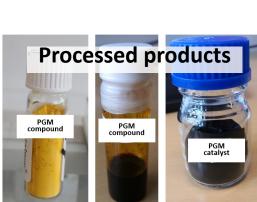
The technology is in trial operation of small scale with a few liters size. TRL 4, targeting to achieve 7 in the coming year













Business opportunity and Call to action

The technology is especially developed towards silicon carbide based autocatalyst and fluorine containing gas diffusion electrodes. CriMaRec is currently participating a large EUPD project and prepare to establish more soft funding.

We are looking for Investors: Business angels or pre-Seed/Seed VCs. Corporate partners: existing companies that would work with us on either the technology side or the commercial side.







