

Open Forum 2023

Energy Requirements

Rizwan Janjua | Head, Technology

World Steel Association

13 Sep 2023

Disclaimer

This document is protected by copyright. Distribution to third parties or reproduction in any format is not permitted without written permission from worldsteel.

Antitrust

As worldsteel meetings are also meetings of competitors, antitrust and competition law concerns are paramount and certain areas of discussions must be totally avoided:

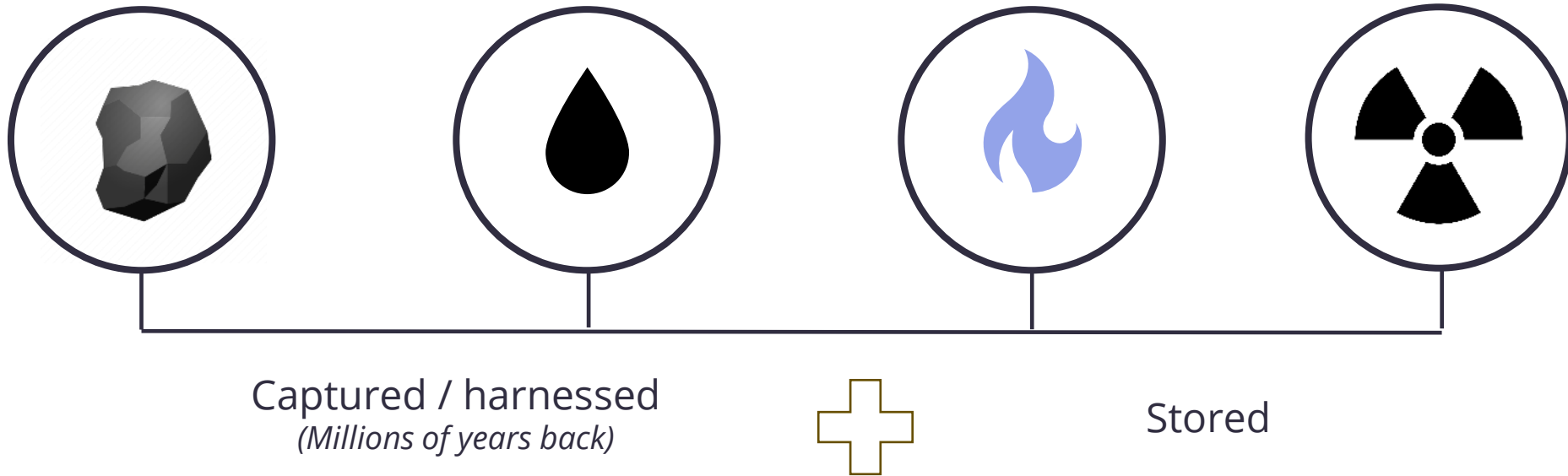
- No discussions on current or future pricing, pricing terms or any component of price
- No discussions on current or future production output or current or future capacity or capacity utilisation involving non-public information, or desired capacity or production output or capacity utilisation levels, or coordinated capacity, capacity utilisation or production output increases or decreases
- No discussions on allocating geographical or product markets or customers or classes of customers
- No discussions on concerted actions involving costs (including concerted actions against suppliers)
- No discussions on future raw material prices, price terms or negotiating strategies
- No discussions regarding how to respond to price increases or other charges from suppliers or whether or how to pass on any costs to customers
- No discussion on contemplated trade actions or complaints about trade flows
- No discussion on non-public company-specific forward looking commercial strategies or plans

Visit [worldsteel.org\About us](https://worldsteel.org/About-us) for detailed antitrust guidelines.

Session Outline

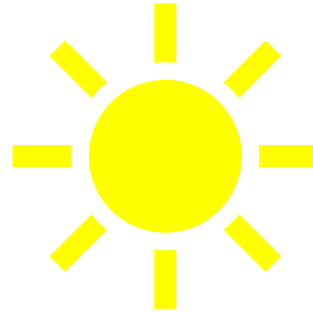
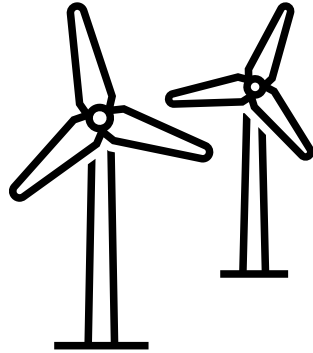
- **Presentation**
 - Dr. Valentin VOGL, Analyst, ARIA
- **Presentation**
 - Mr. Cyril Duchanois, Vice President - OneB2B Solutions- Metals Segment, TotalEnergies
 - Mr. Christian KOULIC, Global Market Executive, TotalEnergies
- **Presentation**
 - Mr. Bruno GERRITS, Client Engagement Manager, Europe, Global CCS Institute

Energy sources: Current paradigm



Concentrated sources of energy – mined, stored, and used when needed | Supply chains well established

New paradigm



Capture
(intermittently)



Storage?

Capture and storage need to move ahead hand in hand

Energy storage – work in progress

Solar tower



Source: Denis Zhitnik/Shutterstock.com

Pumped hydro



Source: Energy Monitor (energymonitor.ai)

Renewable energy is inherently intermittent. Capture is only half the solution – Storage is the key to our needs.

Session focus

Although coal and natural gas will remain important, hydrogen, renewable energy and biomass are expected to grow significantly.

- How much energy steelmaking needs?
- State of renewable energy
- Bridging the difference between available and required energy
- Moderated discussion, Q&A



Dr Rizwan Janjua
Head, Technology
Janjua@worldsteel.org

worldsteel

A S S O C I A T I O N

worldsteel.org | constructsteel.org | steeluniversity.org | worldautosteel.org | worldstainless.org

