



**BALTIC AND BLACK SEA  
PORTS & SHIPPING 2022**

# Reach IMO demands for CO2 reduction 2030-50

## Henrik Jevrell/Jaroslaw Rutkowski

*Sales Leader North East Europe*

Sep 27<sup>th</sup> 2022



## /// Facts & Figures Stemmann-Technik

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**Founded:** 1912 in Luxembourg  
since 1950 in Schüttorf · Germany

**Legal form:** Limited Liability Company [GmbH]  
**Owner:** part of **Wabtec Corporation** since 2014

Wabtec (**W**estinghouse **A**ir **B**rake **T**echnology) manufactures products for locomotives, freight cars and passenger transit vehicles, builds locomotives and is active in various other industry segments i.e. ports & maritime  
NYSE: WAB, S&P 500  
appr. 28k employees, 9 Bn US\$

**Employees:** about 640 [Schüttorf, Germany]  
about 110 [Poland]

**Areal:** 56.000 m<sup>2</sup>  
**Workshop:** 15.000 m<sup>2</sup>  
**Office:** 2.700 m<sup>2</sup>



# /// What's the Challenge? Zero emission latest in 2050 According to COP21 in Paris



global temperature shall not raise more than +2 degrees Celsums above preindustrial level



UNITED NATIONS  NATIONS UNIES

POSTAL ADDRESS—ADRESSE POSTALE UNITED NATIONS, N.Y. 10017  
CABLE ADDRESS—ADRESSE TELEGRAPHIQUE UNATIONS NEW YORK

Reference: C.N.735.2016.TREATIES-XXVII.7.d (Depositary Notification)

PARIS AGREEMENT  
PARIS, 12 DECEMBER 2015  
ENTRY INTO FORCE

The Secretary-General of the United Nations, acting in his capacity as depositary, communicates the following:

On 5 October 2016, the conditions for the entry into force of the above-mentioned Agreement were met. Accordingly, the Agreement shall enter into force on 4 November 2016, in accordance with its article 21, paragraph 1, which reads as follows:

"This Agreement shall enter into force on the thirtieth day after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55 per cent of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession."

5 October 2016



it is extremely likely that human influence was the dominant cause of global warming between 1951 and 2010



28.10.2014  Official Journal of the European Union L 307/1

1  
(Legislative acts)

DIRECTIVES

DIRECTIVE 2014/94/EU OF THE EUROPEAN PARLIAM AND OF THE COUNCIL  
of 22 October 2014  
on the deployment of alternative fuels infrastructure  
(Text with EEA relevance)

THE EUROPEAN PARLIAM AND THE COUNCIL OF THE EUROPEAN UNION,  
Having regard to the Treaty on the Functioning of the European Union, and in particular Article 91 thereof,  
Having regard to the proposal from the European Commission,  
After transmission of the draft legislative acts to the national parliaments,  
Having regard to the opinion of the European Economic and Social Committee (1),  
Having regard to the opinion of the Committee of the Regions (2),  
Acting in accordance with the ordinary legislative procedure (3),

NEWS | 09 August 2021

## IPCC climate report: Earth is warmer than it's been in 125,000 years


Landmark assessment says that greenhouse gases are unequivocally driving extreme weather – but that nations can still prevent the worst impacts.

**IMO-Goals:**  
2030: 40% CO2-Reductions  
2050: 70% CO2-Reductions  
compared to 2008

APAC SEPTEMBER 16, 2020 / 11:21 PM / UPDATED 4 DAYS AGO

### EU parliament votes to make ships pay for their pollution

Abstract

3 MIN READ  

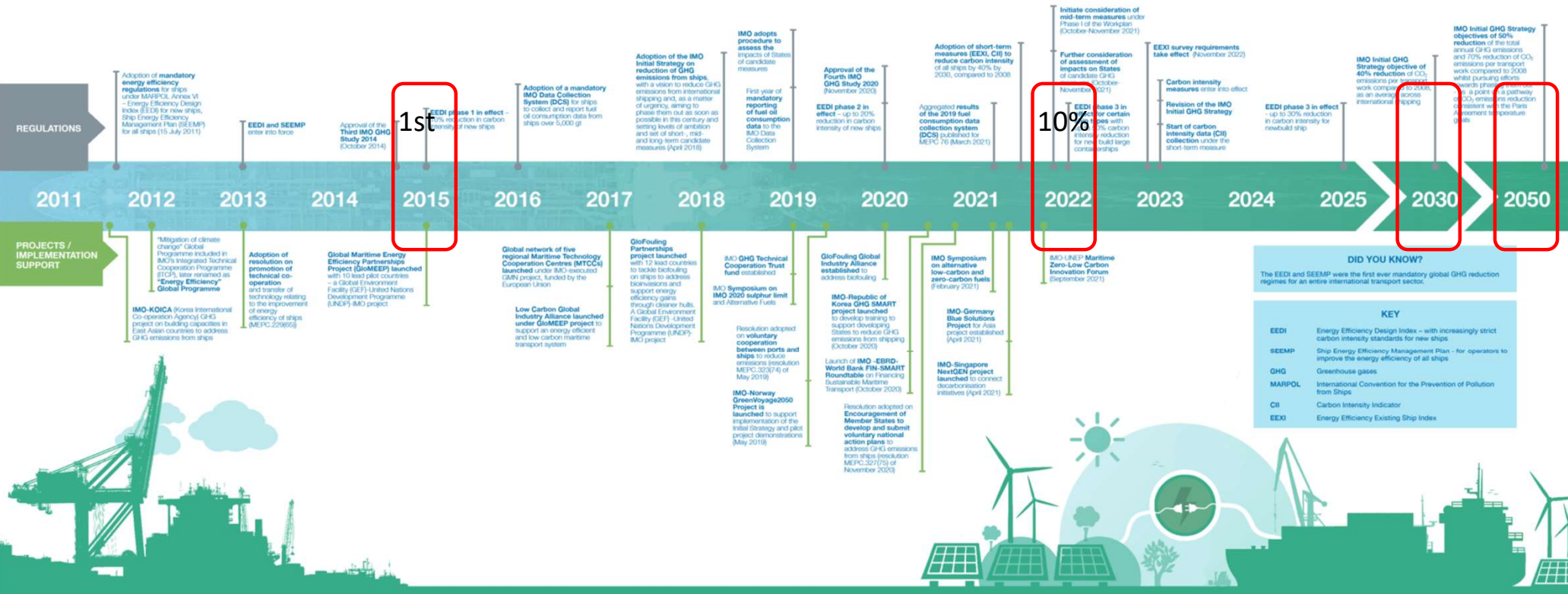
BRUSSELS (Reuters) - The European Parliament on Tuesday voted in favour of including greenhouse gas emissions from the maritime sector in the European Union's carbon market from 2022, throwing its weight behind EU plans to make ships pay for their pollution.



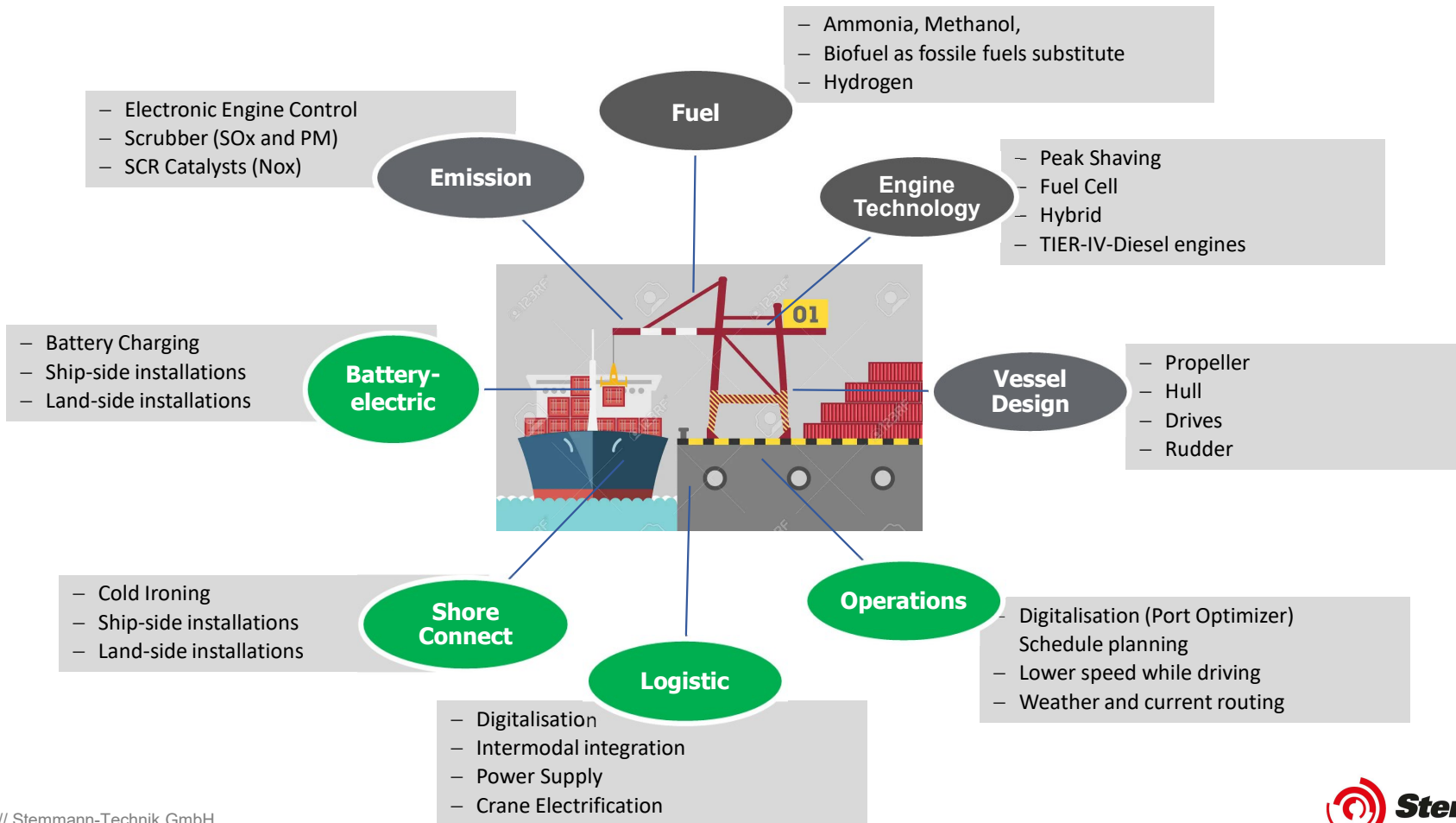
FILE PHOTO: Shipping containers are being loaded onto Xin Da Yang Zhou ship from Shanghai, China at Pier 7 at the Port of Long Beach in Long Beach, California, U.S., April 4, 2018. REUTERS/Bob Riba Jr/File Photo

# Addressing climate change

## A decade of action to cut GHG emissions from shipping

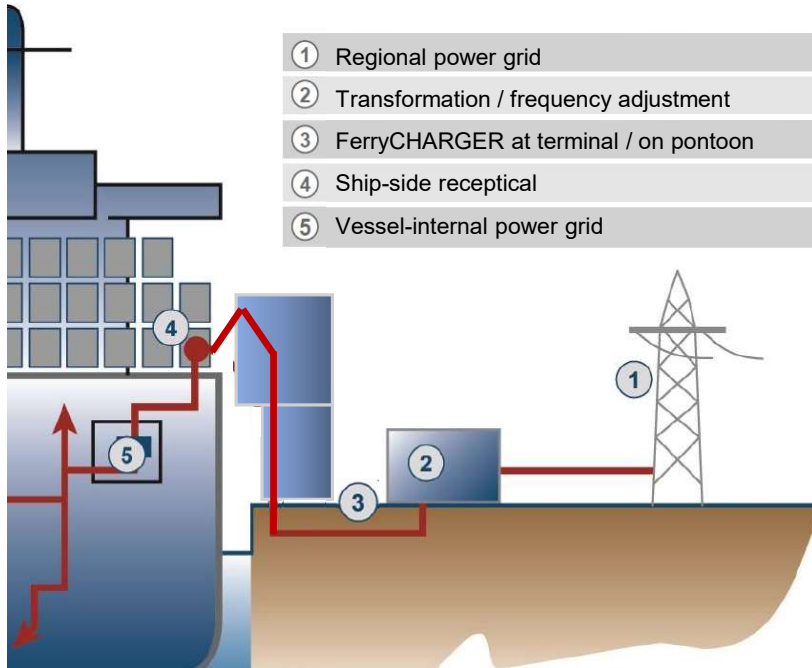


# /// Various Options to reduce CO2 and GHG Emissions



# /// FerryCHARGING

## Ferry Charging / Plug-In (Hybrid)



- Enabling battery charging 0,5 ... 25 MW
- Concept: mechanically guided, automated plugging
- Fully automated connection and charging
- Interchangeable - typically within fleet
- Standardisation pending

Battery-electric



## /// Charging solution



Battery-  
electric

Ferry charging.

- Today STT technology operates more than 20 crossings with their ferry chargers.
- Reliable solution with an average of 95- 99% uptime.
- The most busy crossing makes more than 15 000 connections / year.

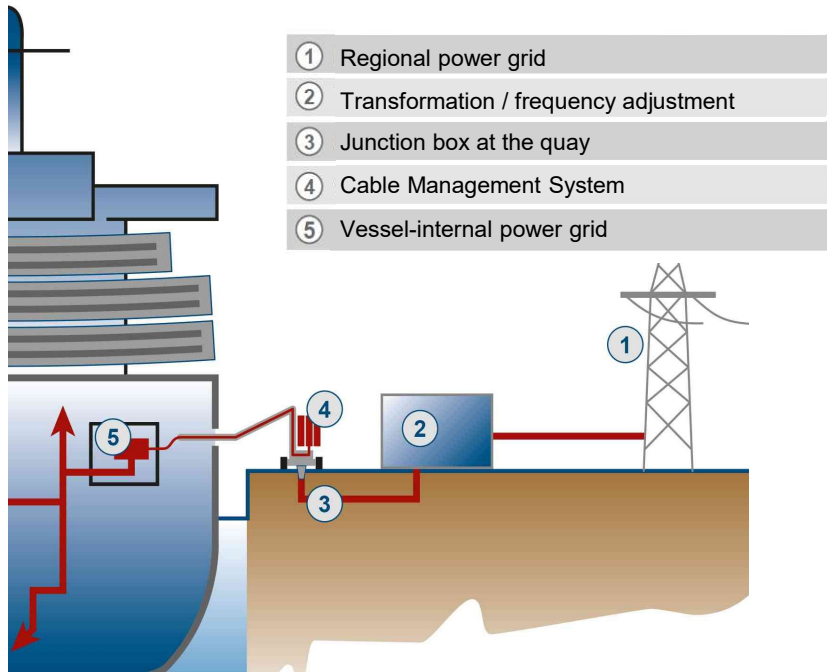
The most important

- Safty
- Reliable
- Flexible
- Inovating
- Customized

# /// ShoreCONNECT = On-shore power supply



## Shore power / Cold Ironing



- Enabling cold ironing 1... 20 MVA
- Concept: Extension Cord between landside and shipside plugs  
Manual connection
- Interchangeability
- Standard IEEE / IEC



# /// All Men are Created Equal – All Ports are Created Different: No Average, no Norm

Even within one port berths will be different

Shore  
Connect



# /// Crane electrification

Solutions from one supplier / One service agreement



Logistic

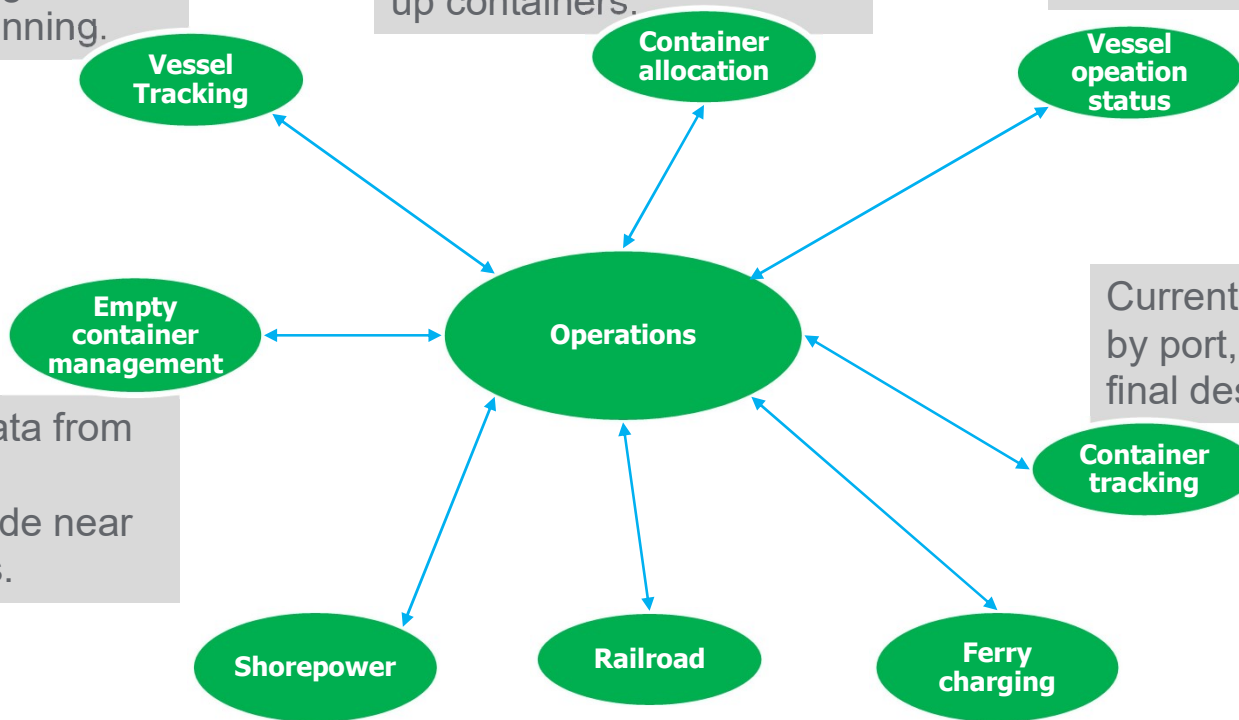


# /// Port Optimizer

Visibility to containers for equipment management and resource planning.

Ability to see which motor carriers are picking up containers.

Progress of ship discharge and loading activity.



Aggregation of data from shipping line and terminals to provide near real-time updates.

Current container status by port, city, state, and final destination.

## /// Reason for Going Green – Because it is Better for Environment?

### I should

- Pressure from various stakeholders (local/national politics, NGO's, local residents)
- I get quite a lot subsidies/funding

### I want

- Business case
  - It is cheaper (price kw/h, taxes, port fees)
  - Customers are asking
- Corporate target: i.e. going on zero emissions until 2040 -> sustainability report
- Practical advantage (i.e. 24h work)

### I must

- Defined by law (i.e. California, Norway, EU)
- Defined by regulations/norm (i.e. IMO – IEC 80005-1 /-3)



## /// Conclusion

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- World is facing massiv ecological problems – it is **time to act now**: below +1.5° celsius
- **Governments** all around the globe **are acting** (money & law)
- **All men are created equal** – each port is created different.
- You **can not copy paste solutions** from one port to another
- You need to **create customized solutions for each berth**

It's not easy being green but it's worth it





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