

ETIHAD RAIL

Corporate Presentation



The UAE - A Diversifying Economy

Etihad Rail is in line with the objective for further diversification of the UAE's economy as set by the National Charter 2021 and the Abu Dhabi Economic Vision 2030

UAE Economic Visions

- The **UAE National Charter 2021** sets the key themes of **socio-economic development** of the UAE. Specifically, the charter calls for a shift to a **diversified and knowledge-based economy**
- **Abu Dhabi Economic Vision 2030** forms a **roadmap** for the Emirate of Abu Dhabi
- Targets an **increase** of the **GDP contribution from non-oil sectors to above 60%** by 2030
- Twelve **strategic industry sectors** identified, including **Transportation & Logistics**



Key economic projects (Selection)

Etihad Rail



Saadiyat Island



DP World Terminal 3



AUH Airport Expansion

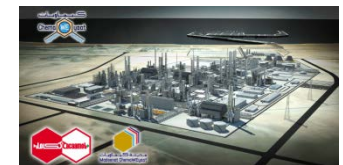


ENEC Nuclear Plant

مؤسسة الإمارات للطاقة النووية
Emirates Nuclear Energy Corporation



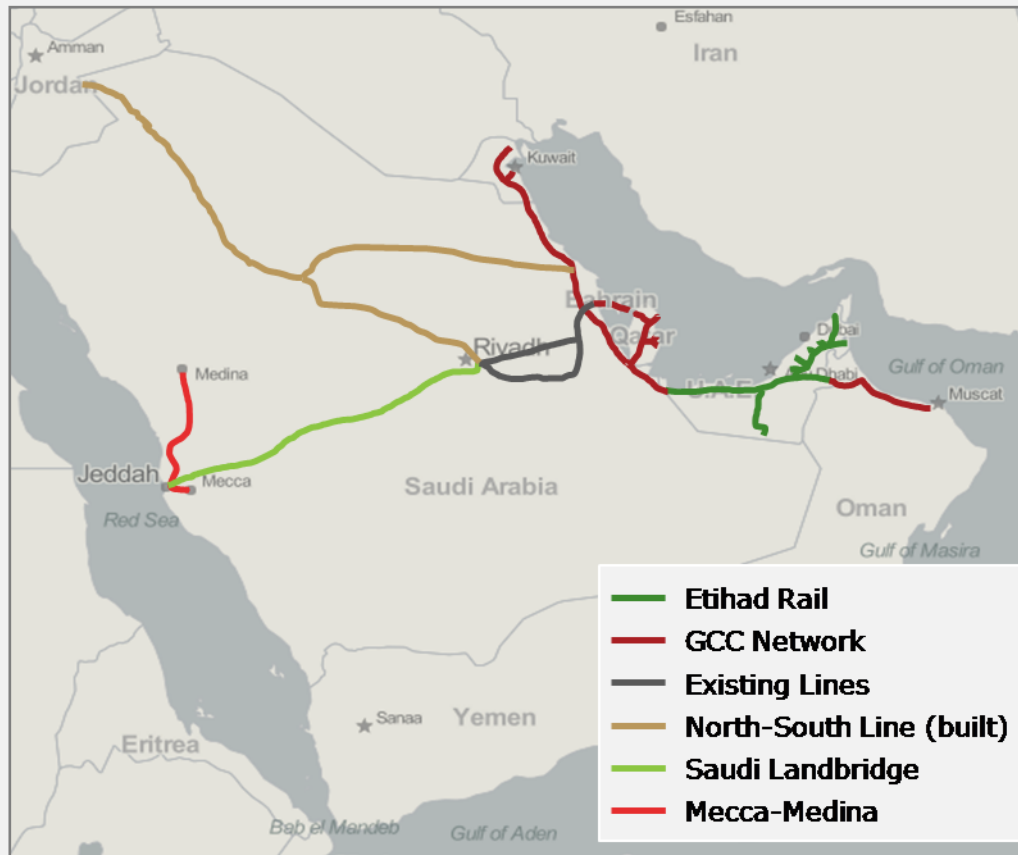
CMAG Chemicals City



Part of the GCC railway network

Etihad Rail is a central part of the envisaged GCC railway network. Further rail projects in the region also drive the development of the railway industry in the Middle East

GCC railway landscape



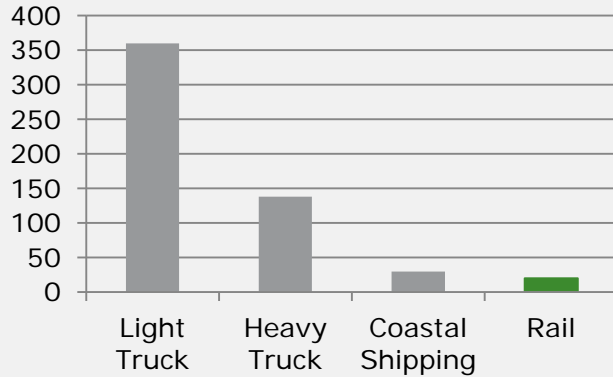
Remarks

- Total value of **rail projects** in the region is estimated to be **USD 79bn¹**
- Joint project for development of **USD 30bn GCC railway network**
- **Coordination committee** for GCC railway project **established**
 - Harmonization of technical standards
 - Construction schedule synchronisation
 - Operational planning
 - Bilateral access regime
 - Customs & immigration

Economic & Social Benefits

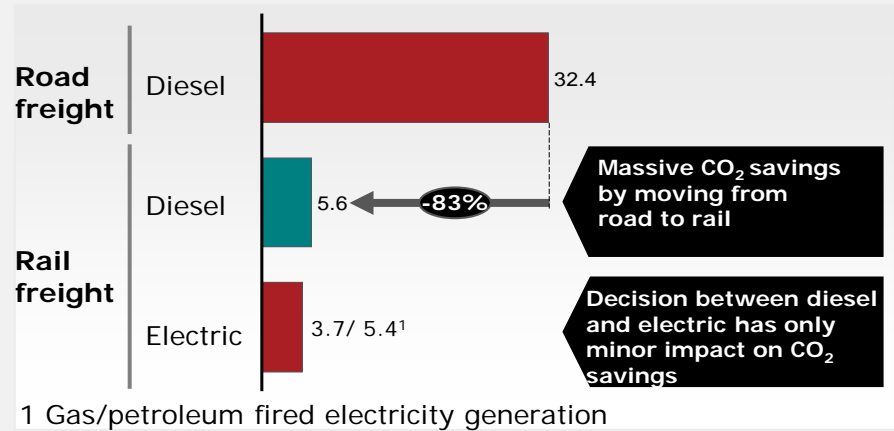
Reduced carbon footprint

CO₂ Emissions by Mode
in g / tkm



- If Etihad Rail achieves its forecasted traffic volumes, **green-house gases will fall by more than 2.2 million tons per annum.**
- That's equal to **375,000 cars off the road** or **planting 52 million trees!**

CO₂ emissions in kg/1,000 net ton-km



Source: "CO₂ Emissions from Freight Transport in the UK" prepared 2007 by the Logistics Research Centre at Heriot-Watt University for the British Government's Commission for Integrated Transport

Economic & Social Benefits

Road Safety

Fatality rate per billion passenger miles traveled

Car (most dangerous)	7.2
Airplane	2.3
Bus	2.0
Train (safest)	0.5



04 Saturday, April 3, 2010 www.thenational.ae

theem

↳ Traffic injuries

Crashes rob country of Dh21 billion per year

→ Costs, continued from 1

In Abu Dhabi alone, it is estimated that annual economic losses due to road crashes are more than Dh6bn. That was the figure cited by Dr Jens Thomsen, the section head for occupational and environmental health and the head of the road safety programme at the Health Authority Abu Dhabi.

Economic & Social Benefits

Efficiency & Sustainability

In addition to the railway being a highly efficient mode of transport, it is also much more environmentally sustainable than road transport

- Saving of **truck trips**
- Saving of **truck-km**
- Reducing **road congestion**
- Saving of **carbon emissions**
- Saving in **road accidents**

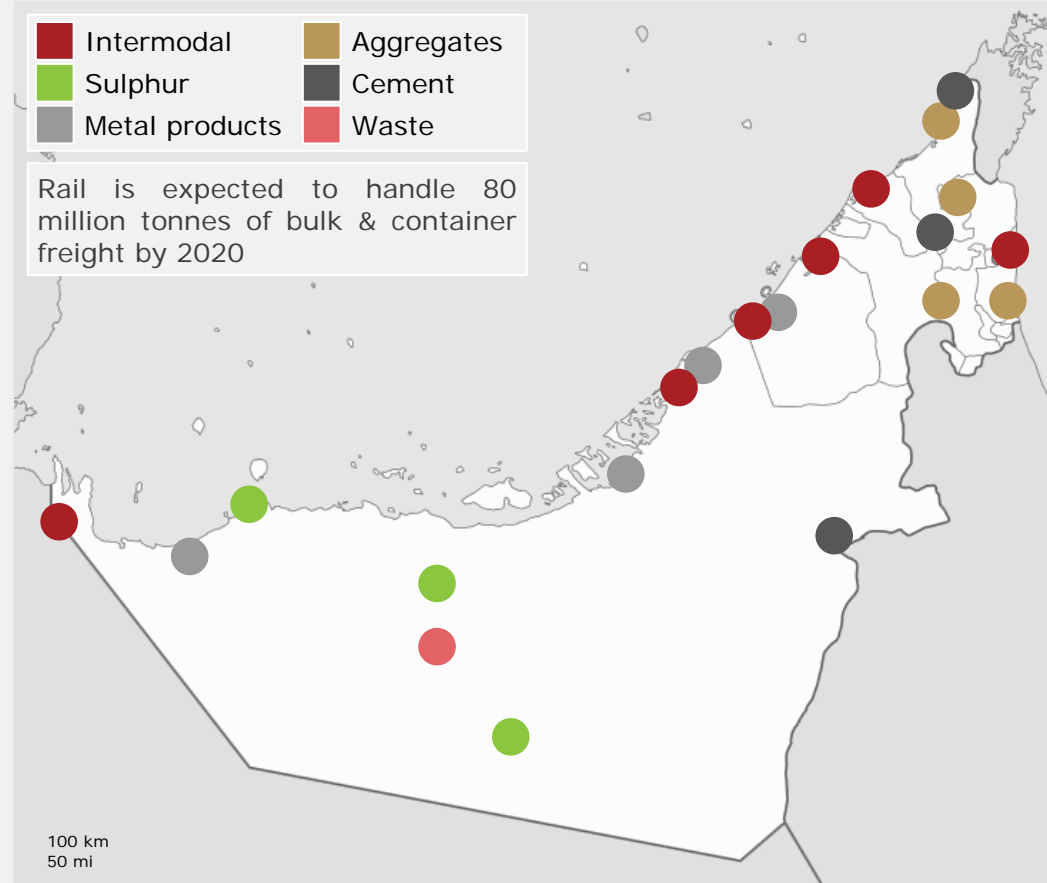
- **A single freight train** can carry the load of **up to 400 trucks...**
- ... this is equivalent to **making room on our highways for more than 1,000 cars**
- Shifting freight from trucks to rail also **reduces highway wear and tear** and the **pressure to build costly new highways**



Drivers of freight traffic demand

Intermodal traffic, construction materials, metal products and granulated sulphur are anticipated to be the main drivers of traffic demand for Etihad Rail

Traffic generators in the UAE



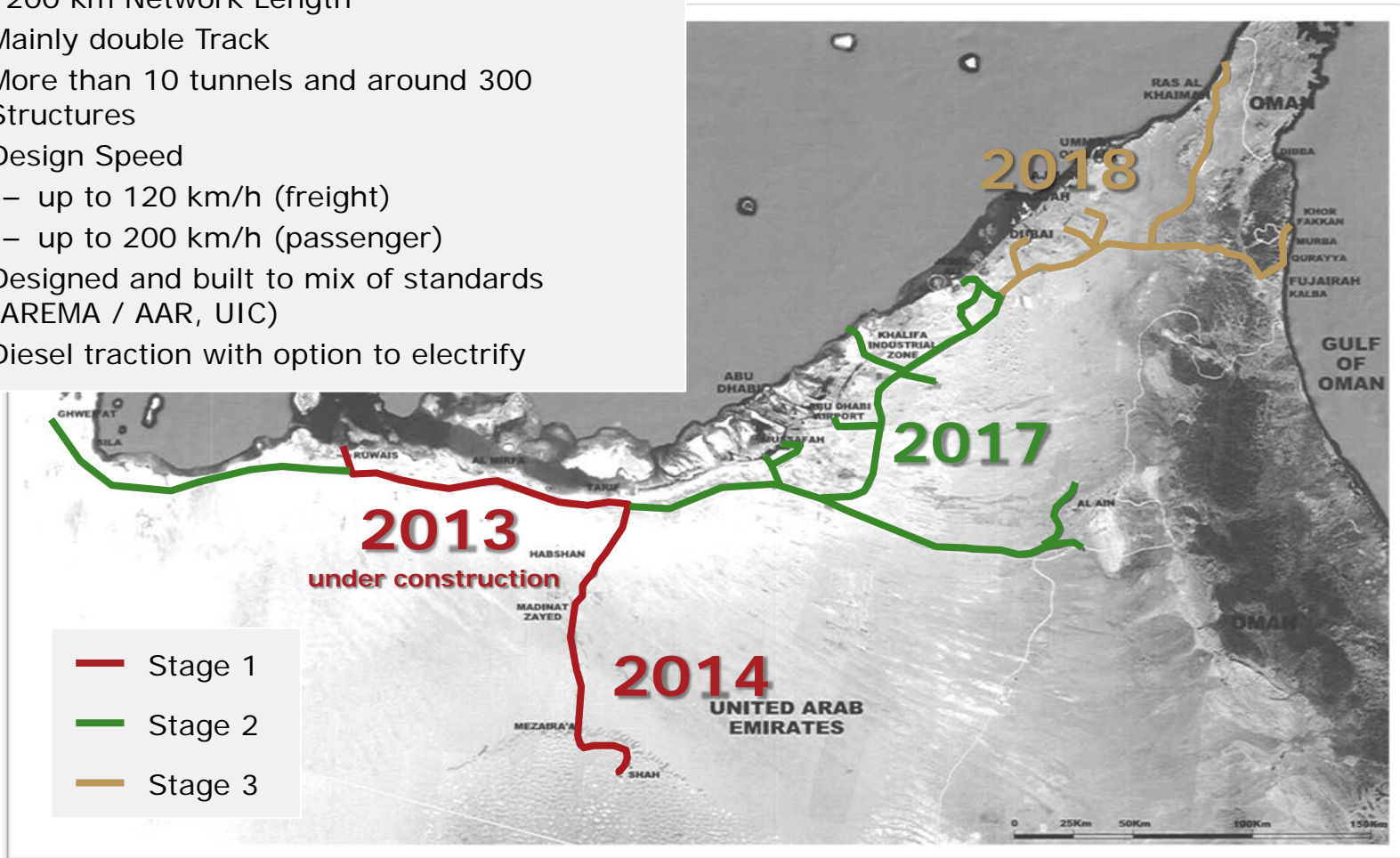
Remarks

- **Intermodal traffic** in the UAE is characterized by the **ports in Jebel Ali and Taweelah**, as well as the **border connections to KSA**
- Granulated **sulphur** from sour gas fields to exporting port **already acquired as first revenue service**
- **Aggregates** from the Northern Emirates and **construction materials** form the **majority of the rail bulk volumes**
- **Steel and aluminium factories along the coast** are further generators of bulk traffic

Key Facts and Network Phasing

Key Facts

- 1200 km Network Length
- Mainly double Track
- More than 10 tunnels and around 300 Structures
- Design Speed
 - up to 120 km/h (freight)
 - up to 200 km/h (passenger)
- Designed and built to mix of standards (AREMA / AAR, UIC)
- Diesel traction with option to electrify



Project status

All key contracts have been put in place and the implementation of the Etihad Rail project is now well under way

- Preliminary Engineering
 - Engineering services contracted
 - Stages 1 & 2 complete, PE for Stage 3 ongoing

- Project Management Consultant
 - International consortium contracted
 - PMC staff fully mobilized and on site

- Design and Build contract
 - Contract awarded in October 2011
 - Construction now underway next to sleeper factory

- Independent Safety Assessor
 - ISA contract awarded to Lloyd's Register
 - Safety consulting services by Good Harbour

- Rolling Stock
 - Seven EMD SD70 locomotives procured
 - 240 covered hoppers supplied by CSR

- Information Technology
 - SAP system and implementation support contracted
 - Document management system in place

ATKINS

**PARSONS
AECOM**

saipem 
Dodsai

**Lloyd's
Register**

ELECTRO MOTIVE

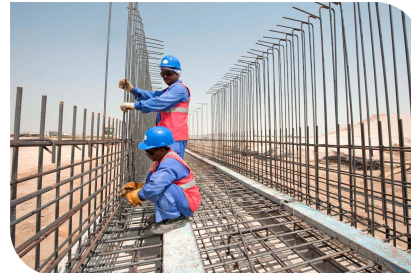
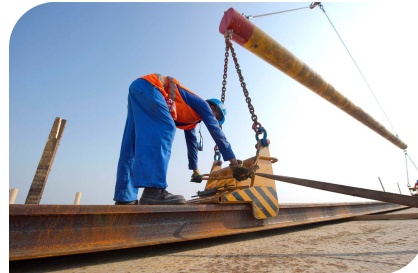

CSR

SAP[®]

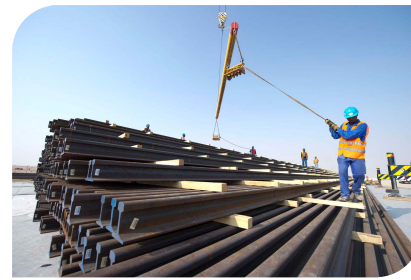
Stage I: Project Progress



Stage 1 construction is well underway.
Rolling-stock delivery imminent.



**Construction site
SEP 2012**



Partners & Customers

Etiihad Rail has signed a number of agreements and MoUs with customers benefitting from the railway in Stage 2



To transport more than 15 million containers of animal feed (hay) to Khalifa Port by 2030



The possibility of transporting 600,000 containers annually via Etihad Rail's intermodal rail terminal at Jebel Ali Port



DHL to cut its use of trucks and ships and adopt rail as a main means of transport



Transport of 7 million tonnes of raw materials from the quarries in Oman to Al Ain and on to end users via assembly and distribution centres



HOYER to use rail as a main means for transporting hazardous materials in a safe and sustainable manner



Etisalat will be able to utilize the railway infrastructure and extend its fiber optic network to areas not covered so far



Transport of 14 million tonnes of finished iron goods annually, thus reducing the truck traffic on the Musaffah road network by 1 truck every 3 minutes



Du will utilize the railway infrastructure to invest in expanding its network in the Western and Northern regions of the U.A.E.

Thank You