

Asset-Level Data for Cement and Iron & Steel Sectors

Matthew McCarten
15th July 2021

OVERVIEW

Background

Iron & steel production and cement production are two of the most emissions intensive industries, accounting for around 5% and 6% of global CO2 emissions respectively.

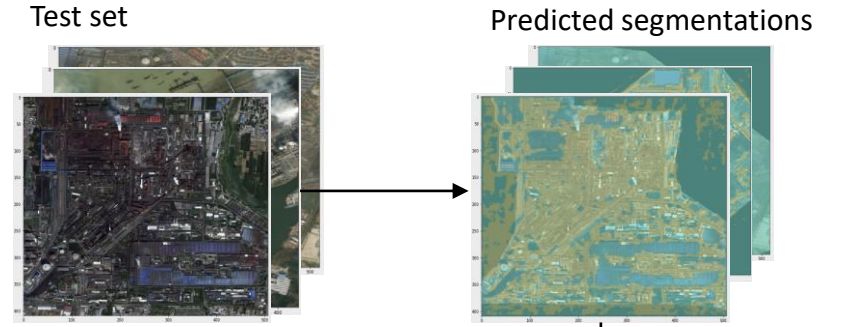
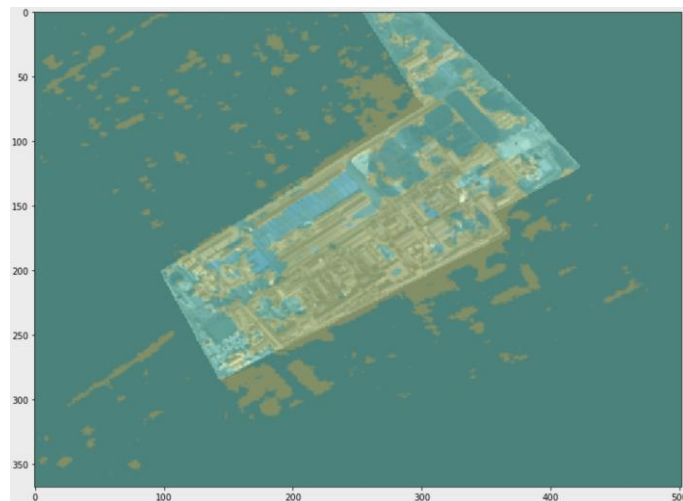
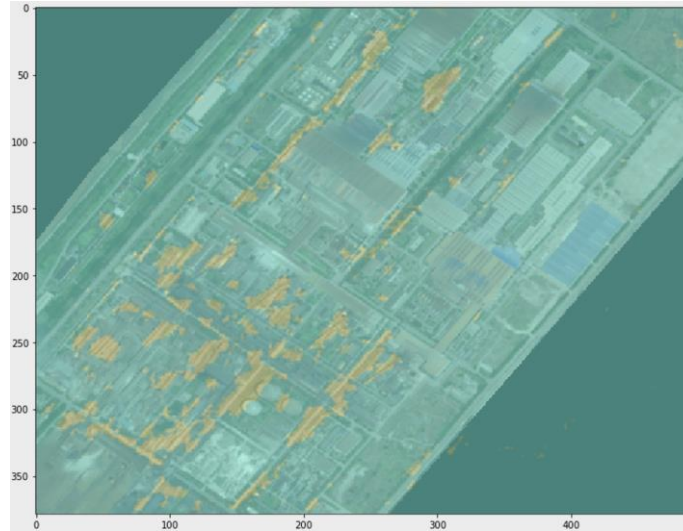
Challenge

Current proprietary asset-level datasets for iron & steel production and cement production only cover approximately 70% of global assets, with significant gaps in certain regions (in particular China with ~50% coverage). Furthermore, the information provided in these datasets are often inadequate for various types of analyses.

Solution

Open source, complete and regularly updated global asset-level datasets including exact details on asset location, production process and capacity, and ownership. With complete global datasets we can better understand emissions from sectors/regions and improve geospatial risk assessments, including being able to compare which companies and portfolios have the greatest risk(s) and/or impact(s) relevant for a wide range of financial institutions, supervisors, policymakers and civil society users.

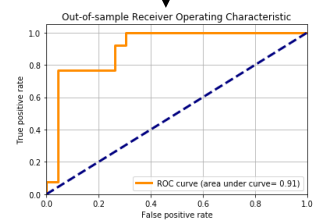
ASSET IDENTIFICATION



Per-image scores

S_1, S_2, \dots, S_{36}

Quantify test set performance

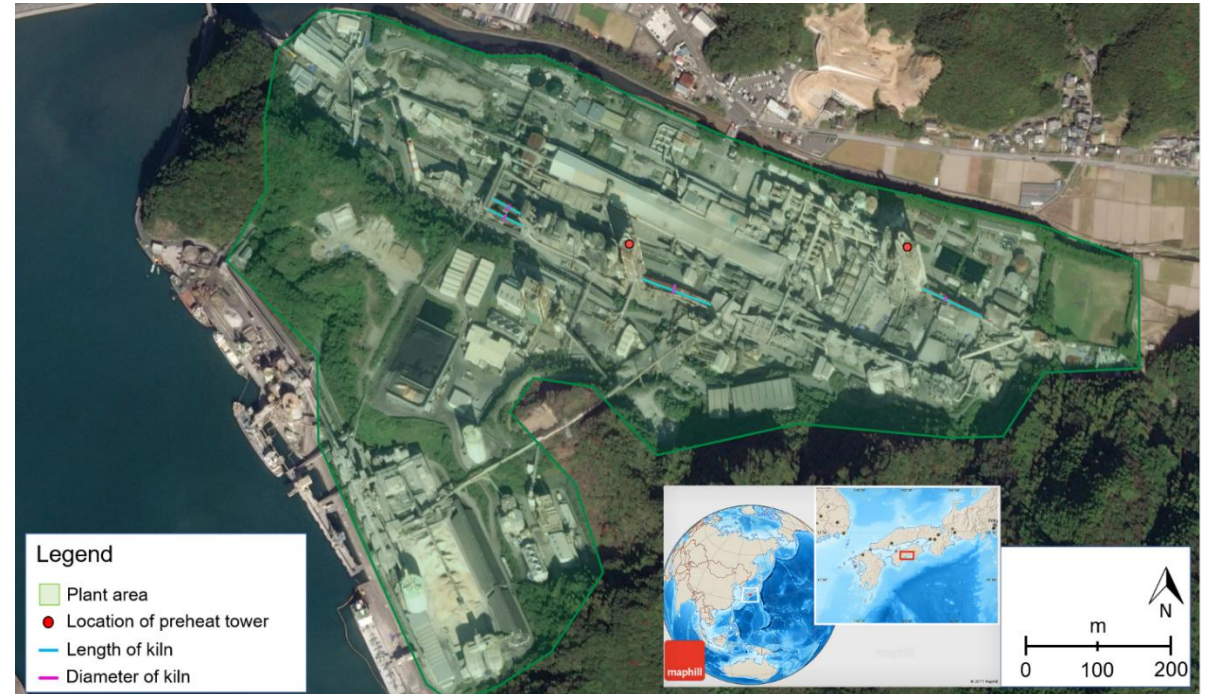


ASSET IDENTIFICATION



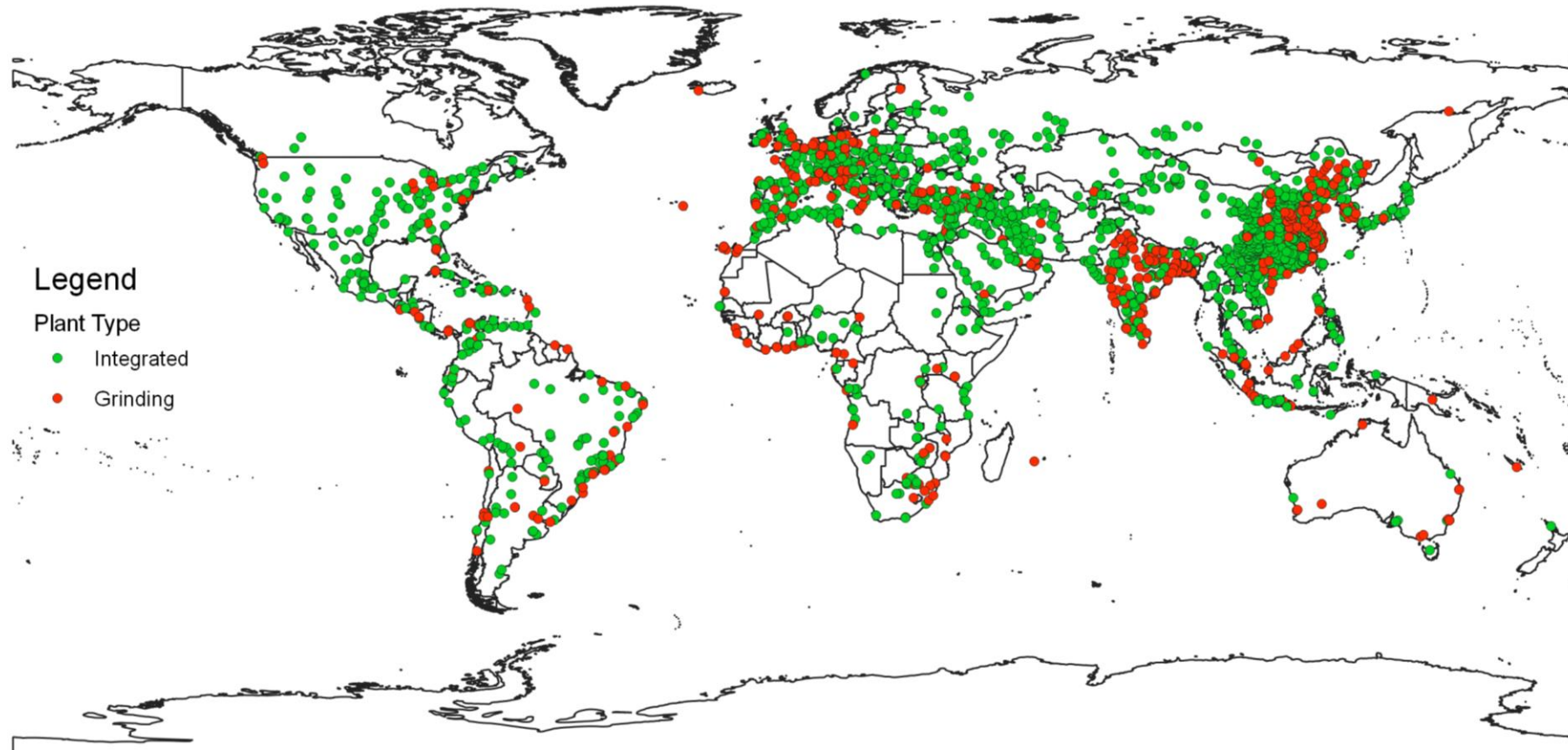
Source: OSM and Google Earth

ASSET ANNOTATION



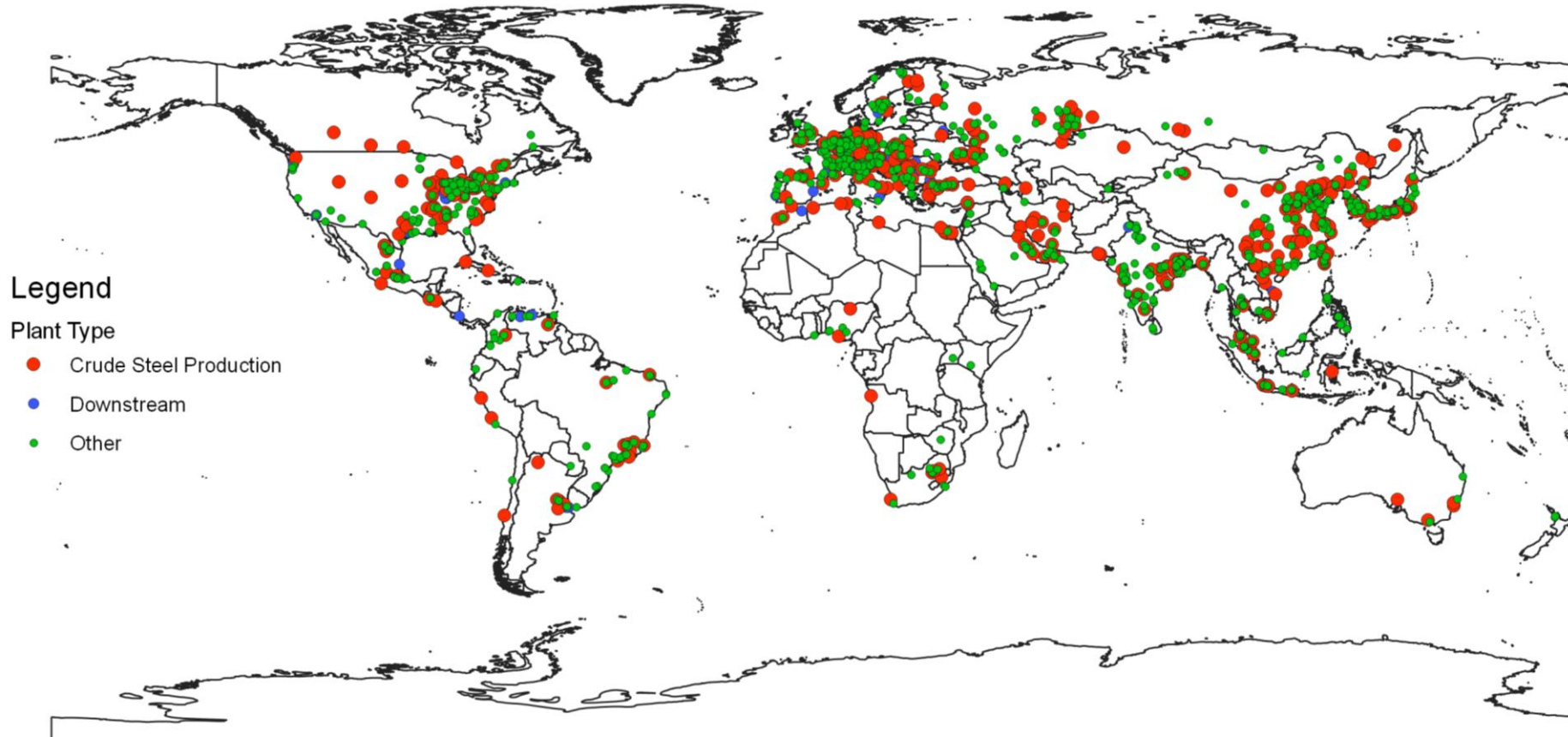
Credits: Image © 2021 Maxar Technologies

CEMENT PRODUCTION ASSETS



3,117 cement production assets accounting for ~90% of global cement production capacity

IRON & STEEL PRODUCTION ASSETS



SFI Iron & Steel dataset – 1,598 assets accounting for ~70% of global crude steel production

SFI and Global Energy Monitor Merged dataset – 1,785 assets accounting for ~85%-90% of global crude steel production



EXAMPLE USE CASES



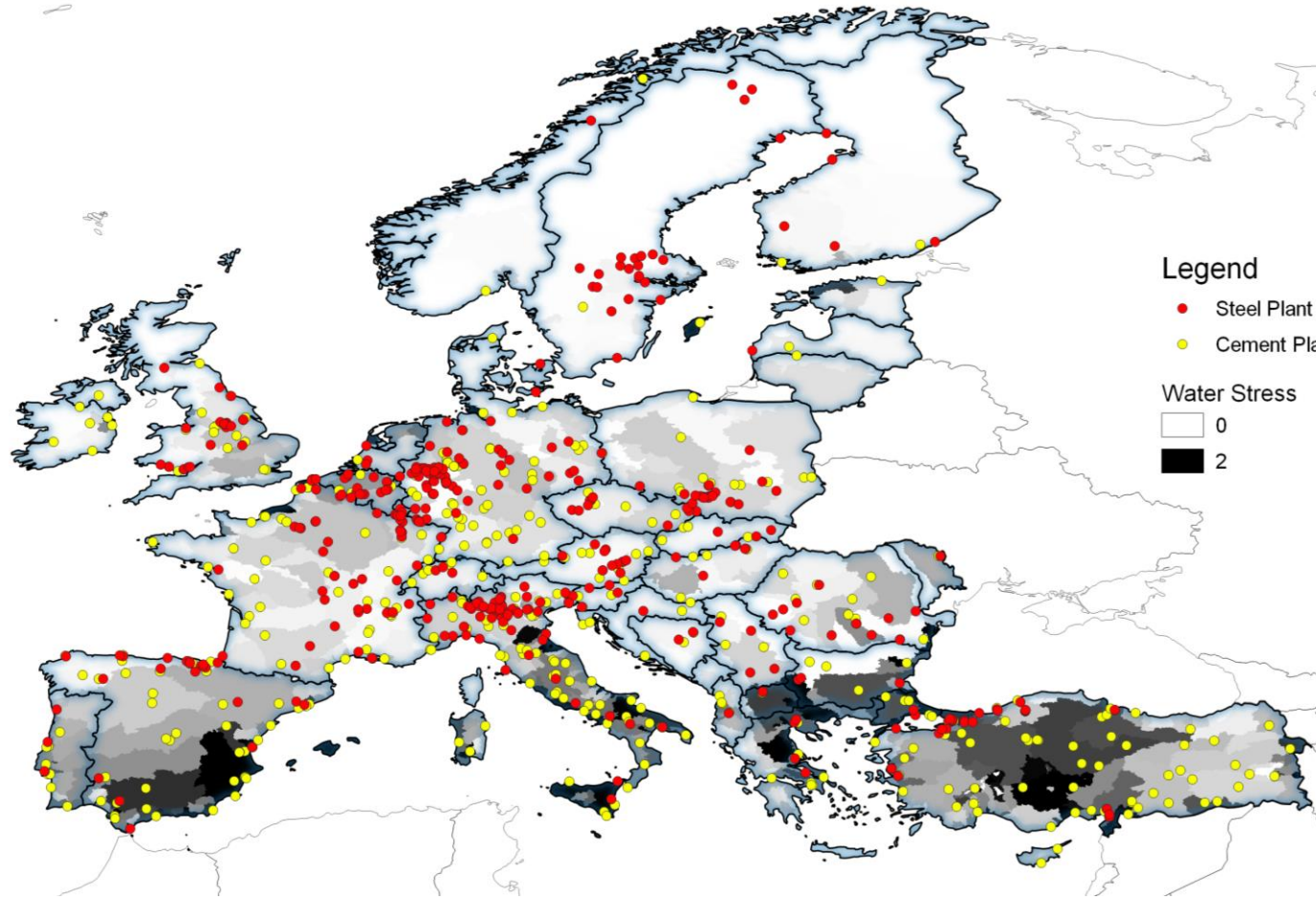
**SPATIAL
FINANCE**
INITIATIVE

IS PART OF



CGFI
UK Centre for
Greening Finance
& Investment

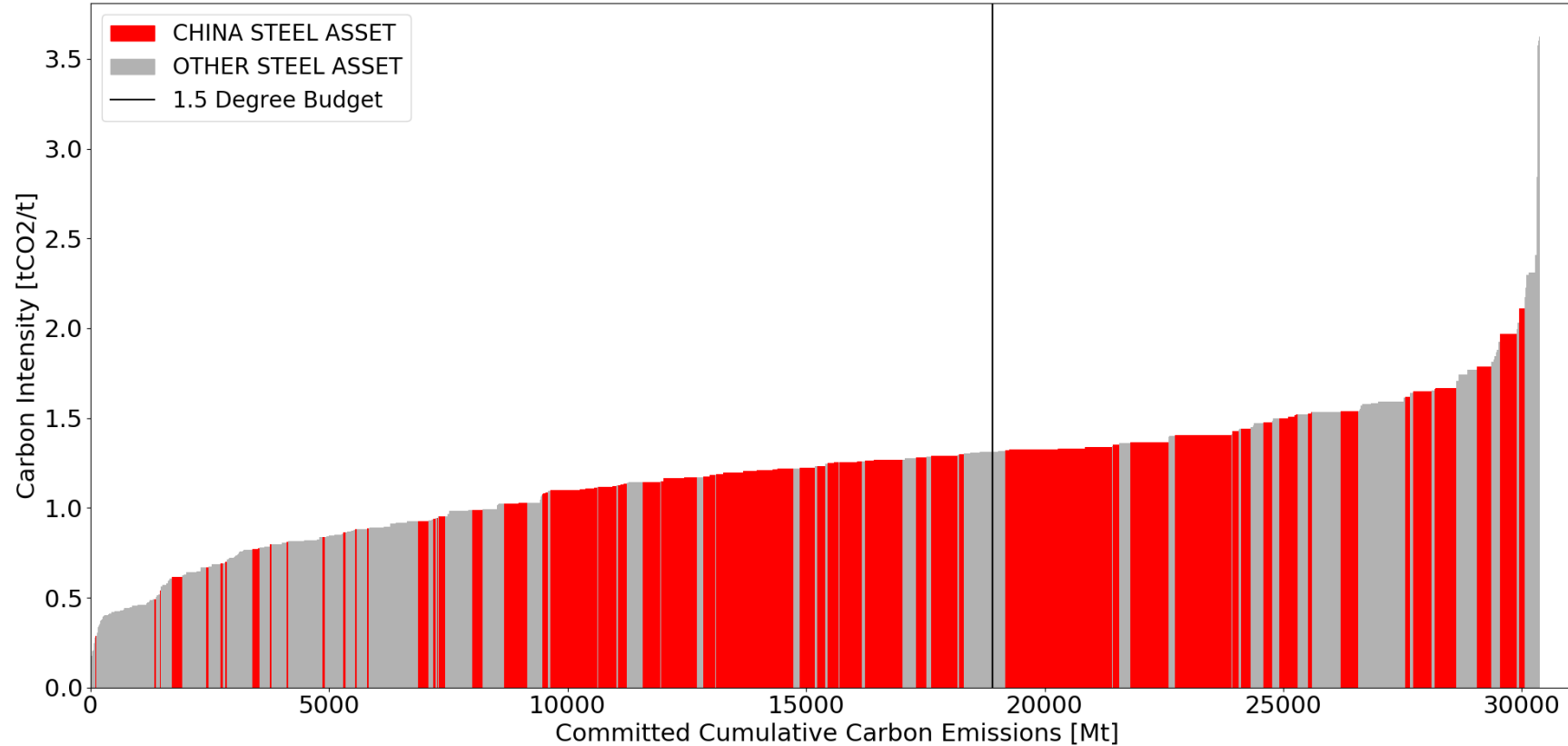
PHYSICAL RISK



Source: WRI Aqueduct

TRANSITION RISK – CARBON LOCK-IN CURVE

CARBON LOCK-IN CURVE: GLOBAL



34.6% of CHINA crude steel producing assets incompatible SR 1.5°C
29.7% of CHINA crude steel capacity incompatible SR 1.5°C

THANK YOU

Datasets are available to download from:
<https://spatialfinanceinitiative.com/geoasset-project/data/>