



European Investment Bank (EIB)

Luxembourg, 2 December 2021

Environmental and Social Completion Sheet (ESCS)¹

Overview

Project Name:	DEUTSCHE TELEKOM MOBILE NETWORK 5G
Project Number:	2018-0869
Country:	Germany
Project Description:	<i>The project concerned the investments for the coverage expansion and for the capacity increase of the promoter's very high-speed mobile broadband network in Germany and its evolution towards 5G services in view of the currently auctioned new 5G spectrum. The project resulted in an increased population coverage beyond the project targets. A particular focus was on coverage measures along the transportation corridors such as rail tracks and motorways and also 4G white spots. The launch of 5G services was successfully completed in 2019 mostly enabled through the deployments of 5G systems in the mid and high frequency bands.</i>

Summary of Environmental and Social Assessment at Completion

EIB notes the following Environmental and Social performance and key outcomes at Project Completion.

The project concerned several different investments such as the 5G roll-out combined with a 4G modernisation, mostly at existing mobile access network sites, the erection of new sites in rural areas and along transportation corridors as well as the installation of backhaul transmission links in form of underground fibre cables as well as aerial radio connections. Therefore, the project did not fall under the Annexes of the EU Directive 2014/52/EU amending the EIA Directive 2011/92/EU, and it was therefore not subject to mandatory Environmental Impact Assessments.

The major issue of mobile telecommunications networks are radiation emissions with potentially harmful effects to the environment. Therefore, the regulatory system in Germany requires construction approvals and site certificates issued by the competent authorities. The 5G rollout poses in this context a specific challenge as it adds more emissions in new bands (3.6 GHz) at existing sites. Due to these situation additional tests and simulations were required, which led to a slower 5G rollout in the 3.6 GHz band due to more complex planning and permitting requirements.

The promoter has a very detailed and comprehensive annual corporate responsibility reporting. In the 2020 report, the CO₂ emissions of the entire company including the US business as well as the strategy to carbon neutrality are also explained and its achievements reported. Overall, the growing network and above all the acquisition of Sprint in the US lead to an increase in scope 1 and 2 emissions. Most of the emissions are due to the power consumption of the equipment and only a very small part due to fuel, fossil fuel and district heating.

¹ The template is for ILs and FLs



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The promoter undertakes many measures, which result in a reduction of the power consumption such as the IP migration, the implementation of the code of conduct for the data centres and also the conclusion of power purchase agreements in several countries including Germany. In order to eliminate effects of acquisitions or divestments, indicators such as emission per customer or per terabyte-transported data are tracked. Both indicators are declining and demonstrate the effects of the efficiency improvement measures.

EIB Carbon Footprint Exercise

The outturn annual emissions of the project in a standard year of operation are estimated at:

- Absolute emissions: 166.2 kt CO₂/year
- Relative emissions: -11.7 kt CO₂/year

The emissions are based on the network part financed by the Bank and include a partial network renewal as well as the installation of additional new equipment at existing and additional new sites. The savings due to the network renewal drives the negative relative emissions.

The increased number of new sites to cover white spots and transportation corridors has increase the absolute emissions compared to the appraisal estimates.

Summary opinion of Environmental and Social aspects at completion:

EIB is of the opinion based on reports from the promoter that the Project has been implemented in line with EIB Environmental and Social Standards, applicable at the time of appraisal.