

EBRD COVID-19 Resilience Framework - Environmental and Social Assessment Training Programme

Module 10 – Typical environmental and social risks for the district heating sector

Introduction

The purpose of Module 10 is to provide a summary of typical environmental and social risks that may need to be assessed for a Project within the district heating sector. It should be noted that these are just examples of potential risks and the consultants will need to use their professional judgement and knowledge of the sector to identify specific risks on each given Project.

District heating sector

- Use of feedstock (e.g. biomass), which is not from a sustainable source, or is potentially contaminated with other materials such as stone, which reduce the efficiency of the combustion process.
- Presence of historic unlined and/or uncovered fly-ash ponds at converted district heating plants (e.g. coal to gas; or diesel to gas, etc.) generating a risk of soil and groundwater contamination.
- The generation of air emissions to the atmosphere, leading to a deterioration in local and regional air quality, as well as contributing towards global climate change through the generation of greenhouse gases. District heating systems typically rely on gas turbines to heat water. This could generate high ambient air quality concentrations of sulphur dioxide (SO₂), nitrogen oxides (NO_x), particulate matter (PM), carbon monoxide (CO), and carbon dioxide (CO₂). The concentration of pollutants released depends upon the chemical concentration of the gas, the type of pollution control technology used at the thermal power plant, and other factors.
- Impacts to biodiversity from land clearance activities to provide space for boilers and heat pumps leading to habitat loss, degradation, fragmentation, and species displacement.
- The alteration of terrestrial habitat from the construction of right of ways to provide a path for water pipelines and heat pumps. This is particularly important to consider if the right of way passes through forested areas which could alter terrestrial habitat, bird and bat species, and increase the risk of forest fires.
- The alteration of aquatic habitats through the installation of water pipelines that cross wetlands, watercourses, and require the removal of riparian vegetation. Construction works near (or within) watercourses may also generate increased soil erosion and water turbidity.

District heating sector (continued)

- The generation of hazardous wastes containing residual quantities of hazardous chemicals used, such as biocides and corrosion inhibitors.
- Increased health and safety risk to the workforce from the need to enter confined spaces, the storage and handling of chemicals, the risk of fire and explosion, and from the generation of dust.
- The potential presence of asbestos used for insulation of boilers and pipes and its release during repair and refurbishment works, leading to impacts on human health.