

TABLE 3 | SUMMARY OF CLIMATE RISKS BEFORE ADAPTATION, ALBANIA

| Risk Code No. | Description of risk | Magnitude of risk before adaptation | Asset class affected |
|---------------|--|-------------------------------------|---|
| 1 | Higher peak demand in summer due to higher temperatures could lead to lack of capacity. | Extreme | All |
| 2 | Less summer electricity generation from hydropower facilities due to reduced precipitation and runoff could reduce energy security. | Extreme | LHPP / SHPP |
| 3 | EU Carbon trading schemes add cost to thermal power generation. | Extreme | TPP |
| 4 | Changes in seasonality of river flows (including more rapid snowmelt due to higher winter temperatures) combined with mismanagement of water resources could decrease the operating time for SHPPs, resulting in decreased production. | Extreme | SHPP |
| 5 | Increased CAPEX / OPEX due to climate change could lead to reduced shareholder value. | Extreme | All |
| 6 | Higher peak summer demand across the region could increase import prices and reduce supply. | Extreme | All |
| 7 | Paucity of hydromet data makes it difficult to manage water resources and optimize operation of hydropower plants. | Extreme | LHPP / SHPP |
| 8 | Sea level rise could lead to increased coastal erosion, potentially affecting coastal infrastructure such as ports for oil export. | High | Oil Production & other coastal infrastructure |
| 9 | Lack of data (impact of climate change on wind patterns) creates uncertainty about optimal sites / design for generation using wind. | High | Wind |
| 10 | Climate change increases risk of competition between water users. | High | SHPP, LHPP & river-cooled TPP |
| 11 | Dry periods followed by heavy downpours of rain would exacerbate soil erosion from agricultural land, leading to increased sedimentation and reduced output from SHPP and LHPP. | High | LHPP / SHPP |
| 12 | Mal-adapted infrastructure design if climate change not built-in could lead to reduced operation / efficiency of assets. | High | All |
| 13 | Changes in extreme precipitation lead to higher costs for maintaining dam operations / security. | High | LHPP |
| 14 | Changing temperature, ground conditions and extreme precipitation could increase contamination risks associated with oil and coal mining facilities, potentially leading to increased risk of contamination of local water courses. | High | Oil and Coal Production |
| 15 | Reduced precipitation and increased temperatures can affect environmental performance of river water-cooled TPP abstracting and discharging water into local water courses. | High | TPP |
| 16 | Transmission and distribution losses increase due to summer temperature rise resulting in higher effective demand and reduced energy security. ¹ | High | Transmission & Distribution |

¹ Losses in the transmission network are already relatively high, due to the configuration of the electricity network. The main sources of power generation are in the north of the country, while the main electricity consumers are located in central and southern Albania.

| Risk Code No. | Description of risk | Magnitude of risk before adaptation | Asset class affected |
|---|--|-------------------------------------|-----------------------------|
| 17 | Concerns about unmanaged climate risks causes Albania to be less attractive to foreign investors. | Moderate | All |
| 18 | Changes in extreme precipitation and wind lead to transmission disruption. | Moderate | Transmission & Distribution |
| 19 | Loss of productivity for thermal plants due to higher air and water temperatures and / or reduced ability to abstract and discharge cooling water. | Moderate | TPP |
| 20 | Increases in landslips due to heavy rains resulting from climate change could increase the risk of loss of integrity for gas pipelines. | Low | Gas |
| Note: The <i>magnitude of risk</i> rating system presented here is described in Annex 2, Tables A2.1 and A2.2 | | | |