

The potential for resources of the critical metals in Scotland

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Global demand for minerals is steadily increasing, particularly for the critical metals. The critical metals include those which have the greatest supply risk and are of the most economic importance. The EU Raw Materials Initiative has identified 14 metals and minerals as currently critical to the EU: antimony, beryllium, cobalt, fluorspar, gallium, germanium, graphite, indium, magnesium, niobium, platinum group metals (PGM), rare earths (REE), tantalum and tungsten. Other metals, such as tellurium, rhenium and lithium, may also be considered critical in the future. Historically production of these metals has been low, but demand is growing due mainly to their use in emerging technologies, such as those required for a low carbon economy. It is important to evaluate the potential for indigenous resources of these metals in order to ensure availability of adequate and secure supplies.

There has been very little investigation of critical metal resources in Scotland. However, some are known to occur in a number of geological settings. There is potential for platinum group metals in the Caledonian mafic-ultramafic intrusions of north-east Scotland (at Knock and Arthrath), in the Loch Borrallan alkaline intrusion in the Assynt region and in the Unst ophiolite, Shetland (Gunn and Styles, 2002). Ongoing studies by BGS on the Caledonian alkaline igneous intrusions of the north-west Highlands have identified high concentrations of REE. In particular, values of about 2% total REE have been reported in the Cnoc nan Cuilean intrusion of the Loch Loyal Complex in Sutherland. Cobalt was mined in Perthshire during the eighteenth century from the Silver Glen Mine in Alva. Cobalt mineralisation has also been identified at Coille-Bhraghad Mine near Inverary and at Hilderston Mine near Linlithgow. High tellurium values have been identified in the Auch area of Scotgold's Cononish gold and silver project near Tyndrum.