

CRITICAL REVIEW DISCUSSION SUPPLEMENT

Oil Sands Research Bibliography

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ABSTRACT

The 2019 Critical Review by Brook et al. (2019) summarized much work by Environment and Climate Change Canada (ECCC), but discussants in Altshuler et al. (2019) found it lacking in terms of the publications and reports examined and referenced. A more complete bibliography of relevant work is compiled here with a brief guide to resources that might facilitate future efforts to critically examine oil sand extraction processes, emissions, control measures, and effects on local, regional, and global environments.

PAPER HISTORY

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Introduction

This supplement to the 2019 Critical Review documents more than 850 printed resources related to oil sands extraction processes, emissions to air/land/water, emission control measures, transport and transformation, and potential adverse effects. Most of the citations were identified by searches on Web of Science, GoogleScholar, and SCOPUS data bases. ERA (2019) has compiled a large number of grey-literature reports available for download, most of which are not referenced here. WBEA (2019) has also posted annual reports on air quality trends as well as additional research reports. A large number of Environmental Impact Assessments (EIA's) have been prepared for different projects, but only a few are included here.

Most of the citations are specific to the oil sands region (OSR) of northern Alberta, Canada, although there are also references from other parts of the world with similar resources, such as China, Malaysia, Nigeria, and Russia..

Several prior reviews provide initial gateways to the literature on various topics. Percy (2012) has compiled a series of overview articles on emissions, processes, and ecosystem effects. Kapadia et al. (2015), Masliyah et al. (2004), Rao and Liu (2013) Upreti et al. (2007) and Vittoratos and Kavscek (2019) review several aspects of the oil sands extraction and upgrading processes. Dhar et al (2018), Foster et al. (2019), Lima and Wrona (2019) and Tolton et al. (2012) summarize information related to different OSR ecosystems. Harner et al. (2018) provide a comprehensive assessment for polycyclic aromatic

compounds (PAC) from their emissions to ecosystem effects. Liu et al. (2019) take a broader view of worldwide oil sand resources and their exploitation potential, while Zou et al. (2015) focus on similar resources in China. Garibaldi (2009), Mantyka-Pringle et al. (2015), Usher (2000), and Wanvik and Caine (2017) address important aspects of Traditional Ecological Knowledge (TEK) and how this is relevant to today's environmental issues.

It is recognized that any bibliographic listing of this type will be incomplete and possibly outdated within a few years, but it is hoped that its documentation here can be of use to future reviewers on various aspects of this important energy resource.

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