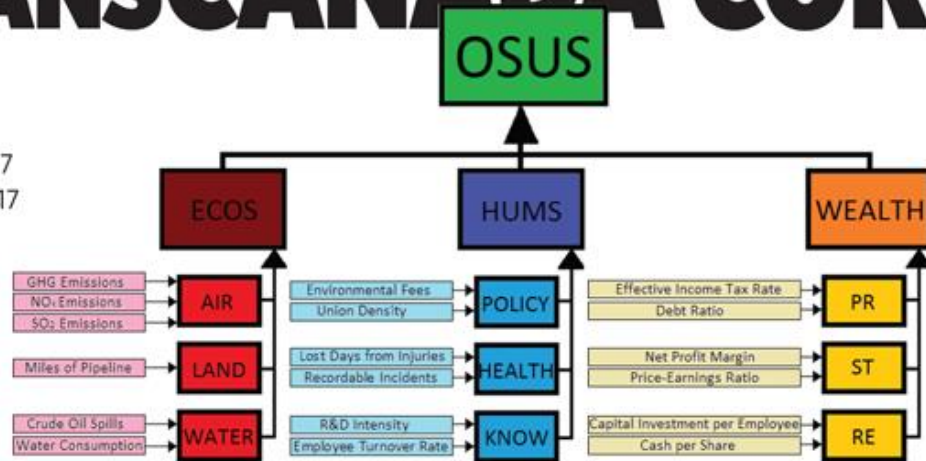


SUSTAINABILITY OF TRANSCANADA CORP.

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A fuzzy logic approach with a modified version of the sustainability assessment by fuzzy evaluation model was used to assess the sustainability of TransCanada Corporation relative to other companies in the energy industry. Data on eighteen basic indicators from a five year period from 2011 to 2015 was collected from annual reports and sustainability reports from energy companies and online databases. These basic indicators are categorized into nine secondary indicators: impacts on air quality (AIR), land integrity (LAND), water quality (WATER), political aspects (POLICY), health (HEALTH), education (KNOW), wealth pressures (PR), wealth state (ST), and wealth responses (RE). These secondary indicators are further categorized into three primary indicators which impact the overall sustainability (OSUS) of the company: ecological sustainability (ECOS), human sustainability (HUMS), and economic welfare (WEALTH). After normalizing, smoothing, and fuzzifying

the raw data into suitable inputs for the modified SAFE model, it was determined that for TransCanada Corporation: its ECOS is bad, HUMS is average, and WEALTH is bad. This gives a crisp value of the OSUS to be 0.259 on a normalized scale from 0 to 1 and fuzzy values of EL(0.0060), VL(0.1149), L(0.6782), and FL(0.2009), which suggests that TransCanada is an overall low sustainable company. The modified SAFE model was also used to assess the sustainability of other companies in the energy industry: Enbridge Inc., Encana Corporation, and Suncor Energy Inc. It was determined that TransCanada Corporation is much less sustainable relative to its peers which have overall sustainability crisp values of 0.443, 0.428, and 0.491, respectively. Sensitivity analysis performed indicates that TransCanada minimizing crude oil spills and improving their economic welfare would be the most influential actions to developing their overall sustainability.

WORK SPACE SHOWCASE

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