Hatfield-4201: Remediation and reclamation monitoring

Remediation and reclamation monitoring

Challenge

Challenge ID:	HCP-4201	Originator:	Onshore: Hatfield
Title:	**Remediation and reclamation monitoring.**		
Theme:	ON 4.2: Environmental monitoring - Continuous monitoring of changes throughout the lifecycle		
Consortium Lead:	C-CORE	Interviewed Company:	C-CORE
Geography:	ON.REG.00 - Generic onshore		

Challenge Description

What is not possible / not adequately addressed at present?
There is a need for improved quantification of the recovery of vegetation in disturbed areas, e.g. seismic lines, well pad areas. Ongoing monitoring and biomass estimates of re-growth would support regulatory requirements to assess restoration. Also need for improved integration and development of vegetation re-growth models with monitoring. Further need to separate naturally occurring trends in vegetation from project specific impacts.
What effect does this challenge have on operations?
Typically a regulatory requirement to assess, monitor and report recovery of developed and remediated areas. Repeated environmental assessment may be required compared the baseline.

Thematic information requirements:	Distribution and status of infrastructure Land cover Ortho base images Land use

What do you currently do to address this challenge? How is this challenge conventionally addressed?
In-situ monitoring performed and supported by field surveys and local knowledge. LiDAR based assessments are sometimes performed for vegetation structure and height to assess regrowth rates. An assumption of the recovery period may be made due to lack of data.
What kind of solutions do you envisage could address this challenge?
More frequent and consistent land cover trend analysis. Integrated biomass models with remote sensing inputs to support scientific evidence that regrowth has been fully integrated into surrounding environment.
What is your view on the capability of technology to meet this need? Are you currently using EO tech? If not, why not?
Biomass estimates can require very high-resolution data which can be expensive on a regional basis or even on site basis (e.g. distributed well pads). High resolution satellite image archives can be limited. Need to use information derived from different

Challenge Classification

Impact on Lifecycle (0=none, 4=high):		Climate / Topography / Urgency:	
Pre-license:	3	Climate class:	Generic climate
Exploration:	1	Topographic class:	Forest / woodland
Development:	2	Seasonal variations:	Warmer weather focus
Production:	3	Impact area:	Environmental
Decommissioning:	4	Technology urgency:	3 - Immediately (0-2 years)

Challenge Information Requirements

Update frequency:	Annually

Data currently used:	LiDAR Aerial imagery High resolution optical imagery
Spatial resolution:	Basin to License
Thematic accuracy:	Not specific
Required formats:	Not Specific
Timeliness (Vintage):	Within six months
Geographic extents:	Regional
Existing standards:	None

Relevant products

Content by label

There is no content with the specified labels