



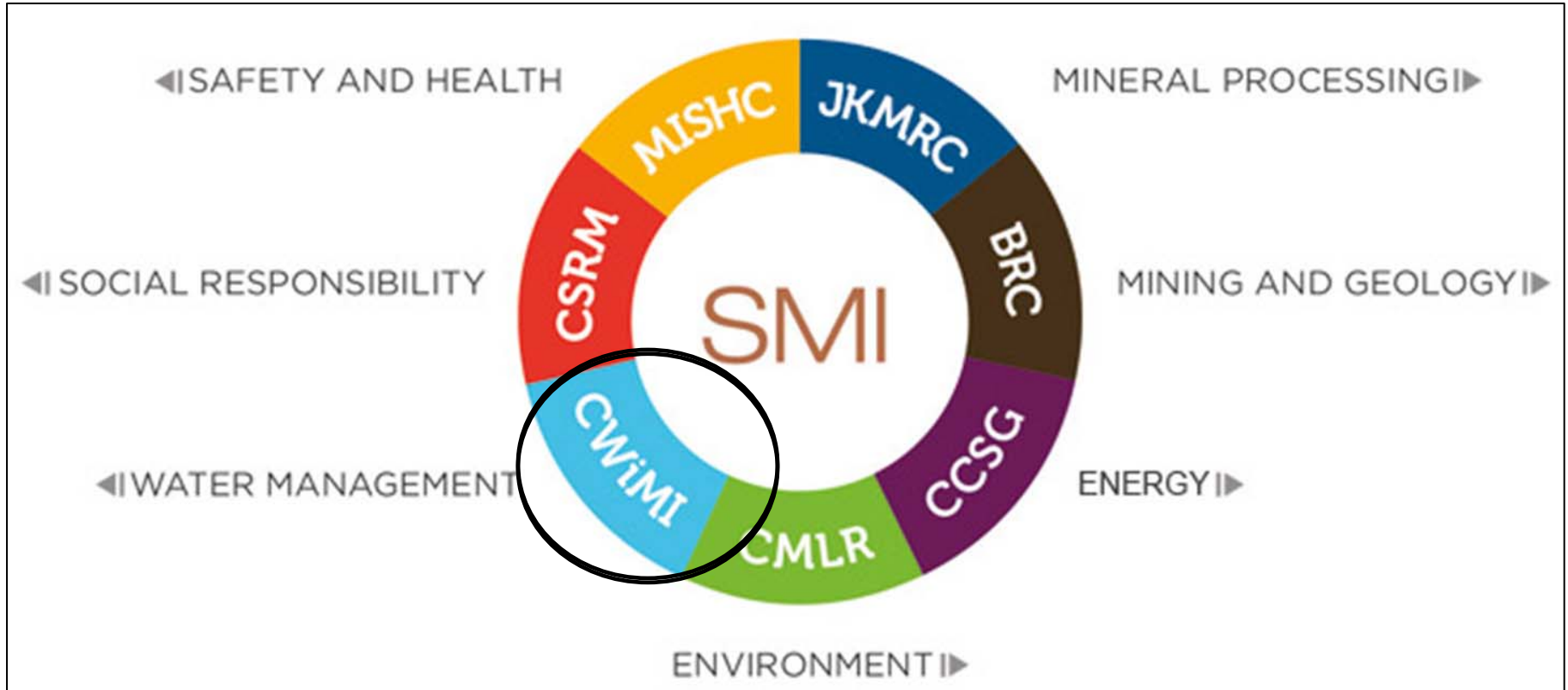
Corporate Sustainability Reporting for Water: Water Footprint, Global Reporting Initiative and the Water Accounting Framework

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Talk outline

- Comparing three sustainability reporting initiatives that report on **water use** in mining
 - The Water Accounting Framework
 - Global Reporting Initiative
 - Water Footprint
- Purpose of the initiative
- For each one will go through:
 - The indicators to be reported and how to calculate them
- Suitability of the indicators for water reporting in mining

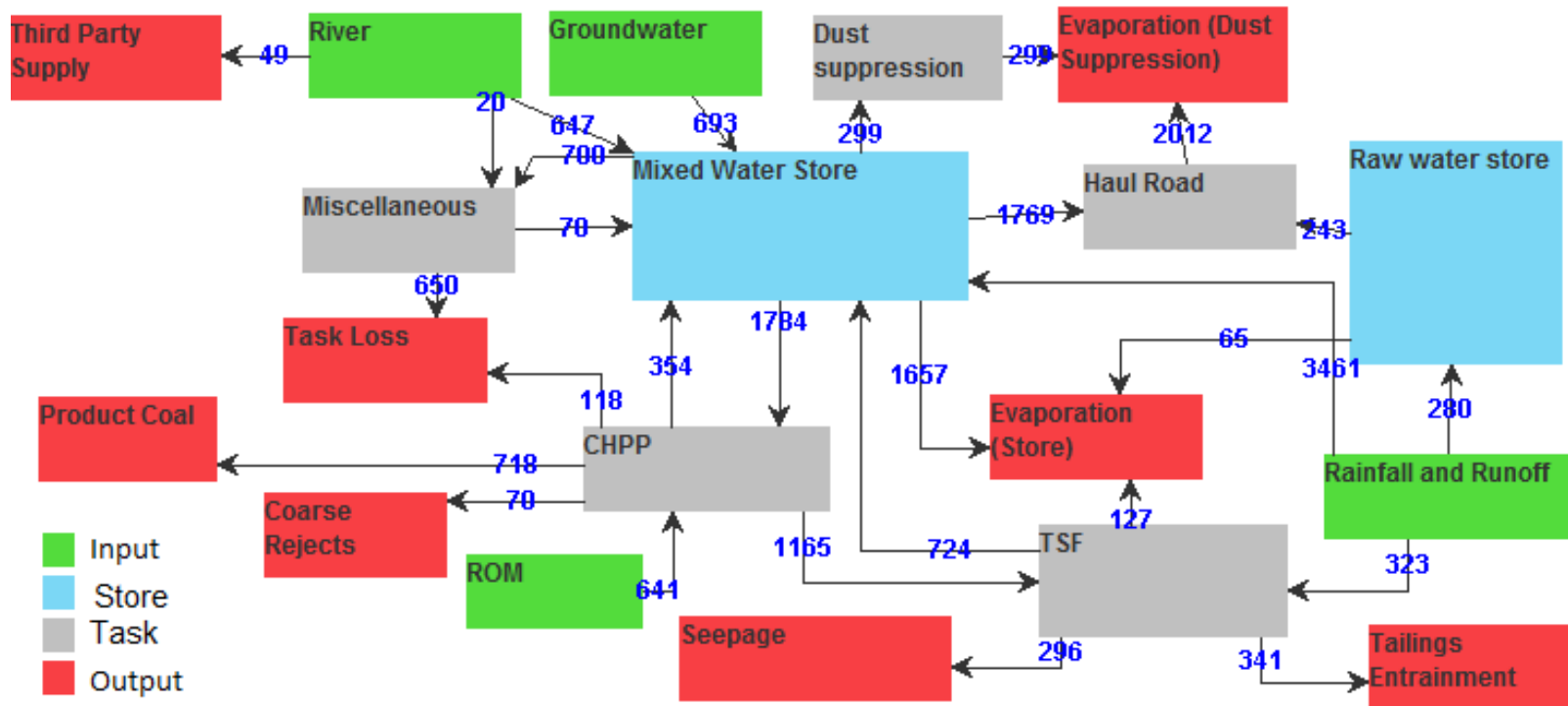


Purpose of Initiative

Water Accounting Framework	Global Reporting Initiative	Water Footprint
Provides definitions for consistent sustainability reporting of water.	Snapshot of 30 sustainability indicators for water, materials, biodiversity, effluent and transport.	To encourage downstream users to understand the concept of direct and indirect water use.
Can then provide numbers for other initiatives.	EN8 Total water withdrawals EN21 Discharged water EN10 Reuse and recycled water	Blue water footprint of a process step.



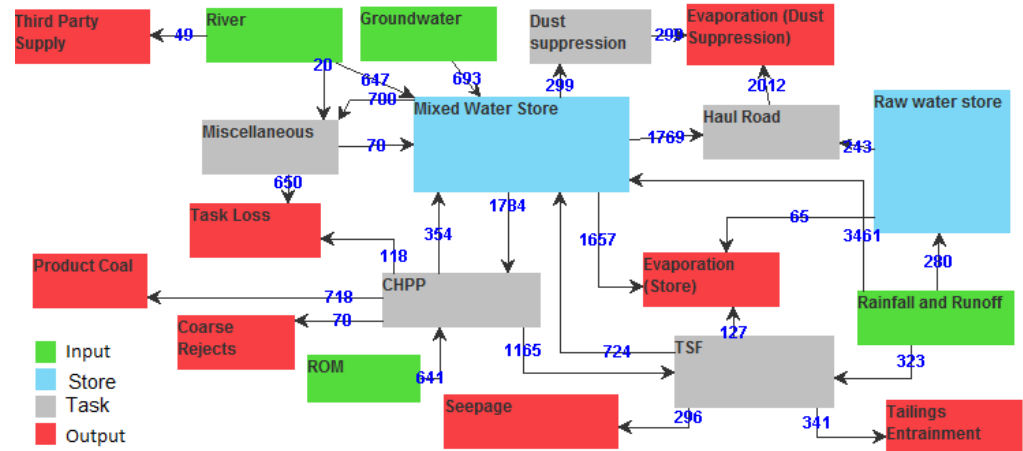
Site configuration using systems level representation



Water Accounting Framework Input-Output Statement

Inputs	Volume (ML)	Source	Quality
Rainfall	709	Surface	1
Runoff from undisturbed land	1334	Surface	1
Runoff from disturbed land	2019	Surface	2
River	716	Surface	1
Groundwater	693	Ground	2
Entrainment in ROM	641	Ground	2
Total Inputs	6112		
Outputs	Volume (ML)	Destination	Quality
Third-party entity	49	Third party	1
Evaporation from stores	1849	Other	1
Evaporation (dust suppression)	2311	Other	1
Seepage	296	Ground	2
Entrainment (tailings, product, coarse rejects)	1129	Other	2
Task Loss	768	Other	2
Total Outputs	6402		

Water Accounting Framework Reuse Efficiency



$$\text{Reuse Efficiency} = \frac{\text{Sum of Worked Water Flows to Tasks}}{\text{Sum of All Flows to Tasks}}$$

Sum of all flows to tasks = 6944 ML



Calculating the proportion of worked water



- Only 17% of the water in the store is worked water
- Sum of worked water flows to tasks = 2152 ML
- Reuse efficiency = 29%



GRI Indicators relating to inputs and outputs

EN8 Total water withdrawn by source.

Source	ML/year
Surface Water (inc seawater)	716
Groundwater	1334
Rainwater	4062
Waste Water	0
Municipal Water	0

EN 21 Total water discharge = 0



GRI Reuse and recycling EN10

- Volume of reused water including rainwater is 4552ML
- Rainwater inflates the reuse volume
- Reuse volume is reported against site inputs (which includes rainwater) 6112 ML
- Reuse efficiency 74%
- Climate driven metric
- Inconsistent definition



Water Footprint Process Step

- Blue water footprint: Surface water and groundwater that is not returned to the same catchment
- Evaporation, water in products, transfer to other catchments
- Can read off the output list of the Water Accounting Framework
- Third-party, Evaporation, Seepage, Entrainment (tailings, product, coarse rejects), Task Loss
- Total Outputs = 6402 ML



Comparison

Concept	Water Accounting Framework	Global Reporting Initiative	Water Footprint
Water use	Task demands	Water withdrawals	Water that is lost
Suitability to mining	Complete account. Feeds other initiatives. Consistent definitions.	Only reports inputs and discharge volumes. Definition of reuse flawed.	Blue water footprint of mining can be supplied to mining customers.
Reuse efficiency	<u>Vol worked water to tasks</u> Vol all flows to tasks =29%	<u>Vol of reused water</u> Vol of site inputs =74%	No equivalent



Thank you for your time

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 - For more information on the Water Accounting Framework go to www.wateraccounting.net.au
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- Questions?

