WATCHING WATER - EVALUATING CORPORATE RISKS

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Wall Street appears well aware of the investment opportunities in water-related stocks.

Much less attention has been paid to those sectors that rely on clean water as an input into supply chains or production processes, or have waste water as an output.

This report represents an initial effort to outline water-related risks and to understand how they may affect various companies and industries in the coming years.
## Water-related risks at company level

<table>
<thead>
<tr>
<th>Risks</th>
<th>Supply Chain</th>
<th>Production Process</th>
<th>Product Use</th>
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<tbody>
<tr>
<td><strong>Physical</strong></td>
<td>Temporary non-availability of water disrupts supply chain</td>
<td>Temporary non-availability of water disrupts operations</td>
<td>Non-availability or scarcity of water required for using product or service limits growth</td>
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<td></td>
<td>Water scarcity drives up input prices</td>
<td>Increased capital expenditure on water treatment, water extraction, or alternative technologies to circumvent water problems raises costs</td>
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<td></td>
<td>Intensifying competition for scarce water constrains growth</td>
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<td><strong>Regulatory</strong></td>
<td>Suspension or withdrawal of supplier’s water license or discharge permits disrupts supply chain</td>
<td>Reallocation to more urgent needs during drought disrupts operations</td>
<td>Non-issuance of water license or restrictions on use of particular products or services due to water intensity raises costs or checks growth</td>
</tr>
<tr>
<td><strong>Reputation</strong></td>
<td>Competition with household water demand constrains suppliers’ growth</td>
<td>Increased capital expenditure on wastewater treatment to meet or exceed standards</td>
<td>Public outcry regarding water intensity of product damages brand, reputation, hinders growth</td>
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<tr>
<td></td>
<td>Responsibility &quot;by association&quot; for suppliers’ water pollution damages brand or reputation, hinders growth</td>
<td>Competition with household demands, or pollution incidents, damages brand or reputation, hinders growth</td>
<td></td>
</tr>
</tbody>
</table>

Source: World Resources Institute
In conclusion...

- Exposure to water scarcity and pollution is not limited to onsite production processes, and may actually be greater in companies’ supply chains than in their own operations.

- The power-generation, mining, semiconductor manufacturing, and food and beverage sectors are particularly exposed to water-related risks, in our view.

- In our opinion, corporate disclosure of water-related risks is seriously inadequate and is typically included in environmental statements prepared for public relations purposes rather than in the regulatory filings on which most investors rely.

- We recommend that investors assess the reliance of their portfolios on water resources and their vulnerability to problems of water availability and pollution.
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<th>Overweight (%)</th>
<th>Neutral (%)</th>
<th>Underweight (%)</th>
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<td>50%</td>
<td>17%</td>
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<td>11%</td>
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<td>54%</td>
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