Methods for Floating Debris Removal
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Our Vision

To create value in water
Ovivo at a glance

- 1500 employees
- 38 Offices across the world
- Water expertise in 17 industries
- Supported through 15 Global Centers of Excellence.
Our Heritage
Financial Strength

- Asia Pacific: 14.6%
- Americas: 43.7%
- EMEA: 41.7%

In thousands of CADS:

<table>
<thead>
<tr>
<th></th>
<th>March 31, 2010 YE</th>
<th>March 31, 2009 YE</th>
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<tbody>
<tr>
<td>GLV Inc. ticker symbol on Toronto Stock Exchange (TSX)</td>
<td>GLVA</td>
<td>GLVB</td>
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<tr>
<td>Shareholders equity</td>
<td>271,765</td>
<td>198,460</td>
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<tr>
<td>Cash and cash equivalents</td>
<td>32,703</td>
<td>7,590</td>
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<tr>
<td>Total debt</td>
<td>52,970</td>
<td>51,174</td>
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<tr>
<td>Total net debt on invested capital ratio</td>
<td>6.9%</td>
<td>18.0%</td>
</tr>
<tr>
<td>Total unused financing sources</td>
<td>214,330</td>
<td>114,262</td>
</tr>
<tr>
<td>Revenues</td>
<td>500,679</td>
<td>597,279</td>
</tr>
<tr>
<td>Normalized EBITDA</td>
<td>17,102</td>
<td>36,493</td>
</tr>
<tr>
<td>Backlog</td>
<td>442,345</td>
<td>257,446</td>
</tr>
<tr>
<td>Number of employees</td>
<td>2,350</td>
<td>1,600</td>
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Financial Partners:
- Bank of Montreal
- BNP Paribas
- Comerica Bank
- Export Development Canada
- HSBC Bank
- JPMorgan Chase Bank
- National Bank of Canada
- Royal Bank of Canada


On November 30, 2009, the acquisition of Christ Water Technologies was completed whereby CWT’s backlog is included in that of the March 31, 2010 backlog figures.
Our Strategy

1. To truly internationalize our business
2. To fully develop a partnership approach with our customers
3. To offer a complete flow sheet of products in order to provide more **complete solutions** to the industry
4. To Deliver Operational Excellence.
A New Global Force in Water

tomorrow is looking very different... 200 years of world class heritage... local reach... global expertise...

Ovivo is a single, global platform bringing together the world’s best expertise in water.
Our Goal is simple

To be the BEST Water Company
In the world ...

One project at a time
Power Industry
Why Remove Debris?

- Improve thermal performance
- Increase plant output
- Increase plant profitability
- Improve Plant Efficiency
- Reduce environmental impact.
What are the Problems?

- Condensers are either old and under sized due to loss of tube surface (tubes plugged)
- Condensers have been Re-tubed with alternative material that is more susceptible to micro fouling and scaling
- Traveling screens at the intake require continuous maintenance and allow significant debris carry over through the screens
- Cooling towers - deterioration of the cooling tower fill or structure is causing tube blockage
- In many countries there have been changes in regulations preventing plants dosing chemicals to fight foulants in the cooling water intake system.
Bulk Debris Removal

Bosker Automatic Bar Screen Raking Machine
Power Station Intake

Operating Sequence

1. Start Position
2. Gripping Position
3. Travel Position
Bosker Operation
Gripper Options

Finer Mesh for Finer Solids

Heavy Duty
Bosker Bar Screen Cleaning Machine

Aigas Dam, Scotland – 1 x 3000HD for Scottish Hydro, Installed 1998
Fine Mesh Travelling Water Screens

- Through Flow Screens
- Centre Flow Screens
- Drum Screens
Straight Through Flow Band Screen

Water Flows Directly “Through” (Thru) The Band Screen
Debris Carry Over in Thru Flow Screens

Debris not removed is “Carried Over” to “Clean Side”

Influent Side is in contact with Effluent Side.
Debris Carry over cannot be avoided.
Influent Side is totally separated from Effluent Side.
An endless ‘belt’ of mesh panels supported by frame

Debris collected on the outside of the mesh is lifted above deck level and is washed off into a debris trough or gully

Larger trash particles which might not adhere to the mesh are lifted by elevator plates fitted horizontally across the trailing edge of each panel.
Drumscreen Design

- A double entry Drumscreen consists of a rotating structure with mesh panels attached to the periphery.
- The water being screened enters the centre of the drum from each side and passes outwards through the mesh panels.
- Debris is collected on the inside of the mesh and, as the drum rotates, is lifted above deck level where it is washed off into collecting hoppers.
Fine Screen Options Summary

• Through Flow Band Screens Permit Carry Over

Carry Over is unavoidable with Through Flow Screens and Further Screening such as a Debris Filter or regular tube sheet cleaning is essential

• Band Screen – Lower Capital Cost Higher Life Cost

The life of the wearing parts of a band screen typically last up to 5 years. Therefore, over a 30 year life, the end user must expect to buy at least 6 sets of moving parts for each band screen on a typical plant when using Travelling Band Screens.

• Drumscreen - Higher Capital Lower Life Costs

Rotating Drum screens require a more complex civil construction, but this is offset by the ability of the machines to handle a larger flow per unit and hence fewer units are required which also reduces the amount of ancillary plant required.
Tube Sheet without Debris Filter
Final Debris Filtration
In Line Debris Filter

- Fully Automatic Self Backwashing Screen
- Sizes from 300mm to 2800mm
- Apertures 2mm to 10mm
- Low Pressure Drop <1psi.
Inside Debris Filter Before Cycle
Inside Debris filter after cycle
Tube sheet with a Debris Filter
Conclusion

- Debris Removal from cooling water is vital for efficient condenser operation and power generation
- Various Systems are available for Debris Removal
  - Automatic Bar Screen Raking Machines (Bosker)
  - Travelling Water Screens of various designs
    - Centre Flow Band Screens
    - Drum Screens
  - Debris Filters
- The most Effective Cooling Water Systems are designed to work together by experts such as Ovivo
- Regular maintenance and automation is of vital importance.