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The Ocean Renewable Energy Group

Responsible Renewable Energy Development

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Responsible Renewable Energy Development

- Renewable Energy Sector
- Challenges Facing Developers
- Responsibilities of Developers



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Responsible Renewable Energy Development

- Renewable Energy Sector
 - Comprised of:
 - Hydroelectric Energy
 - Wind Energy
 - Biomass Energy
 - Solar Energy
 - Tidal Current Energy
 - Wave Energy



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Responsible Renewable Energy Development

- Renewable Energy Sector
 - Who Are The Developers or IPP's
 - Renewable Energy Companies
 - Utilities
 - Engineering Companies
 - Mining Companies
 - Forestry Companies
 - Construction Companies
 - Technology Development Companies



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Responsible Renewable Energy Development

- Renewable Energy Sector
 - How Long Has the Industry Been Active
 - In Canada
 - In United States
 - Overseas



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Responsible Renewable Energy Development

- Challenges Facing Developers
 - Financing
 - Competitive Edge
 - Environmental, Social, and Regulatory
 - Engineering Design and Energy Optimization
 - Construction Phase
 - Operations and Maintenance Phase



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Responsible Renewable Energy Development

- Challenges Facing Developers
 - Competitive Edge
 - The Gold Rush
 - Timely Review and Approval
 - Cost of Implementation
 - Energy to Market



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Responsible Renewable Energy Development

- Challenges Facing Developers
 - Environmental, Social and Regulatory
 - Establish Baseline = time and high risk/\$
 - Lengthy Review = time and high risk/\$
 - Mitigation and Compensation = high risk/\$
 - Long Term Monitoring Program = high risk/\$



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Responsible Renewable Energy Development

- Challenges Facing Developers
 - Engineering Design and Energy Optimization
 - Finding a Balance – the “Best Fit”
 - Satisfying Environmental Constraints
 - Meeting Community Expectations



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Responsible Renewable Energy Development

- Challenges Facing Developers
 - Construction Phase
 - Finding Qualified Contractors
 - Construction Management
 - Environmental Requirements
 - Controlling Costs
 - Adapting to New Approaches and Techniques



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Responsible Renewable Energy Development

- Challenges Facing Developers
 - Operations and Maintenance Phase
 - Compliance Monitoring
 - Optimizing Energy Output
 - Facility Maintenance
 - Emergency Response/Health & Safety
 - Meeting Community Expectations



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Responsible Renewable Energy Development

- Responsibilities of Developers
 - Responsibilities and Challenges Appear to be Endless
 - Sophisticated Developers are taking the lead
 - Ocean Renewable Energy – adopt a similar step-by-step, methodical and sustainable approach



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