**Concept for Solid Waste Management Project**

Gen TAKAHASHI  
General Manager,  
Global Business Development  
JFE Engineering Corporation

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**Traditional Waste Dumping**

- CH₄ Emission  
- Global Warming  
- Pollution

*Hazardous situations for the communities and local economies*

- Land Availability  
- Difficult to secure new Landfill space

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**Environmental Harmony in Japan**

- Emission level is lower than environmental standard

- Waste Heat Reuse for Local Community

- Close to waste generator and short transportation distance

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**Why WTE? ⇒ Benefit!**

- Waste
- Power Generation
- Heat Utilization
- ODGO

- CH₄ Greenhouse Effect
- Odor

- Direct Disposal

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**JFE Smart Infrastructure**

- Water Purification  
- Sewage Treatment  
- Biogas / Biomass  
- Gas Engine  
- Waste to Energy

- Water & Gas Pipeline  
- City Landmark

*JFE can offer the world leading technology*

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**“Waste to Energy” Failure Case**

Source: Internet

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**Integrated Approach for Waste**

<table>
<thead>
<tr>
<th>Wastes</th>
<th>Pre-Treatment</th>
<th>Conversion</th>
<th>Utilization</th>
</tr>
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<tbody>
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</table>

**JFE's Stoker Furnace**

*Proven Track Record*  
*Minimization of environmental impact*

- Unburned gas: CO, H₂, NH₃  
- Low DXN  
- Low NOₓ  
- Excellent Turbulence  
- Combustion gas: O₂, NOₓ, CO₂  
- Two-Way Flow

**Anti-DIOXINs Technology**

1. **Dioxin reduction control**
2. **Dioxin removal by Activated Carbon**
3. **Dioxin together by Activated Carbon**
4. **Dioxin decomposition by SCR**

**Low Calorific Value Waste Experience**

- **We can manage low calorie MSW!**
- **Our Experience**
- **JFE delivered more than 160 plants in Japan**

**Reference; Stoker Furnace (Nerima, TOKYO)**

- **Completion**: Nov 2015  
- **Capacity**: 500 tpd (250 tpd × 2 lines)  
- **Power Gen.**: 18.7 MW  
- **Site Area**: Approx. 15,000m²  
- **Flue gas treat.**: dry-type flue gas treatment system, bag filter, wet scrubber, deNOₓ reactor  
- **Ignition Loss of Bottom Ash**: 55%

**JFE’s JCM Project ; WTE in Yangon City**

- **First WTE Project with JCM**  
- **First WTE Project in Myanmar**

**Design Calorific Value of Waste**

<table>
<thead>
<tr>
<th>Min. LHV</th>
<th>7,100 kcal/kg</th>
<th>1,700 kcal/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. LHV</td>
<td>14,300 kcal/kg</td>
<td>3,400 kcal/kg</td>
</tr>
</tbody>
</table>

**Emission Performance**

<table>
<thead>
<tr>
<th>Dust &amp; Fly ash</th>
<th>0.01 g/Nm³</th>
<th>0.04 g/Nm³</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOₓ</td>
<td>10 ppm</td>
<td>91 ppm</td>
</tr>
<tr>
<td>NOₓ</td>
<td>50 ppm</td>
<td>85 ppm</td>
</tr>
<tr>
<td>HCl</td>
<td>10 ppm</td>
<td>430 ppm</td>
</tr>
<tr>
<td>DXN</td>
<td>0.1 ng-TEQ/Nm³</td>
<td>0.1 ng-TEQ/Nm³</td>
</tr>
<tr>
<td>Hg</td>
<td>0.05 g/Nm³</td>
<td>Unregulated</td>
</tr>
</tbody>
</table>

**JCM Project Details**

- **Counterpart**: Yangon City Development Committee  
- **Site**: Mingalardon area, Yangon City, MYANMAR  
- **Technology**: Waste to Energy (WTE) Incinerator: 60ton/day  
- **Generator**: 0.7MW  
- **GHG Emission Reduction**: 4,700t-CO₂/year  
- **Ground Breaking Ceremony**
JCM Project Scheme; WTE in Yangon City

Japanese Government  

September 16, 2015  

JCM Agreement  

Myanmar Government

JCM Subsidy from G of Japan  

Yangon City’s Budget

JFE Engineering Corporation  

International Consortium  

Yangon City Development Committee

✓ Construction  
✓ Supervisor Dispatch  
✓ Operation  
✓ Maintenance  
✓ Monitoring  
✓ Reporting

Thank you  

http://www.jfe-eng.co.jp/en/