Water – Energy Nexus

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Outline

• Environmental Background
• Real Estate & Facilities
• Opportunities
• Energy
  • Water
• Knowledge Transfer
“Toyota and the other automakers will not survive the 21st Century unless we pull together now and find ways to limit the car’s impact on our planet. We need to make this new century the start of a unified effort to better tune the automotive industry to the needs of the earth. It is more than just good business for Toyota; it is the key to the future of our industry and a necessity for a healthy future for people everywhere.”

Fujio Cho, President of Toyota Motor Corporation
Toyota’s Global Earth Charter

Contribute toward a prosperous 21st Century Society
• Pursue all possible environmental technologies
• Take action voluntarily
• Work in cooperation with society
• Work to achieve zero emissions
• Participate in the creation of a recycling-based society
TOYOTA’S ENVIRONMENTAL PLANNING

Earth Charter

Report

Action Plan
The Continuum

Strategic Activities

REAL ESTATE & FACILITIES CONTINUUM

Tactical Activities

REAL ESTATE
WORKPLACE STRATEGY
PROJECT DEVELOPMENT
CONSTRUCTION MANAGEMENT
FACILITIES OPERATIONS

PLAN
DO
CHECK

A C T
Sustainability Filter

Three Areas of Focus:
• Green Building
• Resource Reduction
• Sustainable Operations

Demonstrate environmental leadership by utilizing practices, processes, and products that are sustainable, address end use cost, and meet business needs in a socially responsible manner.
1. **Procure** and use resources in the most environmentally intelligent, cost effective, and reliable manner possible.

2. **“Pay it Forward”** to affect a similar shift in the organizations and culture of our business partners.

2. **Participate** in public, private, and professional organizations to share knowledge and accomplishments.
Environmental Opportunities

Identify environmental opportunities with every project and task, big or small

- **Real Estate acquisition**
  - Create tenant demand for green buildings

- **Building Development and Operations**
  - Energy efficiency and renewable energy
  - Water efficiency
  - Waste reduction and recycling – Conversion Technologies
  - Janitorial process and products

- **Business Partners & Procurement**
  - Pay It Forward
  - Reduced packaging
  - Create market demand for recycled content products
  - Create market demand for products that comply with RoHS requirements
LEED™ Certified Projects

• HQ South Campus  -  NC Gold
• TLS Portland  –  NC Gold
• Washington DC Office  –  CI Silver
• Lexus Florida Training Center  –  CI Gold
• Toyota Phoenix Training Center  –  CI Silver
• Toyota Inland Empire Training Center  –  CI Gold
• New York Office  –  CI Gold
• TRD North Carolina  –  NC Certified
Lexus Renovation

- Sustainably developed
- NOT LEED™ Certified
Warehouse Lighting Retrofit Projects

- Requires 50% Less Energy.
- Better Color Contrast.
- Longer Lamp Life.
Renewable Energy

- **Photovoltaic Solar Panels**: South Campus  536 kW
- **PV Power Purchase Agreements**: NAPCC  2.3 MW, NY PDC  1.5 MW
- **Renewable Energy Purchase** – TLS Portland, Lexus Dallas Training
- **Renewable Energy Credits** – Washington DC, Lexus Florida Training, Toyota Phoenix Training, Toyota Inland Empire Training
- **Feed-In-Tariffs**
### Recycled Water Carbon Avoidance

<table>
<thead>
<tr>
<th></th>
<th>Electrical Energy Use (kWh per million gallons)</th>
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</thead>
<tbody>
<tr>
<td>Potable water</td>
<td>31,200</td>
</tr>
<tr>
<td>Recycled water</td>
<td>1,200</td>
</tr>
<tr>
<td>Net energy avoidance in using recycled water</td>
<td>30,000</td>
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|                                |                                             |
| Recycled water use (%)         | 82%                                          |
| Recycled water use (gallons)   | 25,305,588                                   |
| CO₂ avoided (metric tons per year) | 300 (reduction)                             |

PV System avoids 315 MTCO₂E annually
Recycled Water

- HQ South Campus
- TLS Portland – *rainwater harvesting*
- Lexus Florida Training Center
- Toyota Phoenix Training Center
- Toyota Inland Empire Training Center
- North American Parts Center Ontario, CA
LEED™ Certified Dealerships

- Pat Lobb, McKinney, TX
- Beaverton, OR
- Vancouver, WA
- Salt Lake, UT
- Denver, CO
- Las Cruces, NM
- Las Cruces, NM
- Victorville, CA
- Beaverton, OR
- Mark Miller, Salt Lake, UT
- Superior, Oakland, CA
- Valley Hi, Victorville, CA
- Kendall, Eugene, OR
- Robinson, Jackson, TN
- Robinson, Nashville, TN
- Robinson, Conway, AR
- Nalley, Roswell, GA
- Greg LeBlanc, Houma, LA
- James, R & H, Owings Mills, MD
- Pat Lobb, Rockwall, TX
- Duran, Granbury, TX
- Caldwell, AR
Toyota’s Partnerships

National Parks

Toyota grants and vehicle donations to enhance environmental education in our national parks system
Summary

• Sustainability as part of corporate vision and business plan
• Difficulty in making business case for under-valued resources
• Seek opportunities
• Address all aspects of sustainability endeavors (people, profit, planet)
• It’s not ALL about LEED™
• Pay It Forward
MOVING FORWARD …

“Environmental action is one of the most important issues that businesses must address. However, they should not look at addressing such as if it were something negative, but, rather, they should view it as a prime opportunity for continuing growth. Especially as industry enters a period of transition that takes place roughly every 100 years, we believe it is important in business management to understand this transition and see it as a huge business opportunity.”

Fujio Cho, President, Toyota Motor Corporation
Questions?