“The soft (non-technical) factors towards a successful AFR program”

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Topics of Presentation

- Introduction Alternate Resource Partners
- Objective of Project & Methodology
- McKinsey 7-S Organizational Model
- Strategy
- Structure
- Systems
- Skills
- Staff
- Style
- Shared Values
Introduction Alternate Resource Partners I

- Company started in 2009
- Consultants, engineers, trainers, coaches & field operators for resource management
- Worldwide experience in both mature and emerging countries replacing all fossil fuels by waste – to - AFR
- ARP & partners have > 125 years experience in all aspects of resource management and cement manufacturing when it comes to AFR
Introduction Alternate Resource Partners II

Main activities ARP:

- Resource management business development in cement, lime & electric power industry,
- Waste – to – AFR market research, feasibility study, etc.,
- Pre- & Co-processing Marketing & Sales training & coaching,
- Consulting, reviews & audits on health, safety & environmental behaviour,
- HAZOP Studies on waste/AFR Installations
- Development of specialized recycling machines for waste to AFR activities, example: oil - filter recycling machine for emerging countries
Project Goal

• To recommend a structure for an AFR organization that will optimize the value of using alternative fuels and raw materials in its combined operations (Cement & AFR)
Methodology

• Conducted 45 interviews with members of:
  – Cement Groups, Corporate and Plant Level
  – Consultants and former and current staff of competing companies

• Extensive review of Organizational Design literature and consultation with University of Michigan Business School faculty

• High degree of consistency on success factors
McKinsey 7-S Organizational Model

- Strategy
- Shared Values
- Structure
- Systems
- Style
- Skills
- Staff

- Hard Elements
- Soft Elements

- Interdependent
- Alignment
McKinsey 7-S Organizational Model

- 7-S Model – Waterman, Peters, Phillips = McKinsey Consultants
- All of the elements affect all the others
- All elements must be aligned and spring from the strategy of the organization
- AFR and cement organizations must be aligned on same strategy
- Coordinated effort between AFR and cement that produces value
- Most organizational change issues focus on the:
  - HARD Elements – Strategy, Structure, Systems
  - Ignore SOFT Elements – Style, Staff, Skills, Shared Values
- In designing a successful AFR program all must be considered
- SOFT Elements prove to be the most critical to success or failure
- Extensive review of Organizational Design
Critical Differences Between Waste and Cement

<table>
<thead>
<tr>
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<th>Cement</th>
<th>Waste</th>
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<tbody>
<tr>
<td><strong>Business</strong></td>
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<td><strong>Product</strong></td>
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<td><strong>Service</strong></td>
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<td><strong>Focus</strong></td>
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<td><strong>Stability</strong></td>
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<td><strong>Opportunity</strong></td>
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<td><strong>Speed of Response</strong></td>
<td><strong>Slow</strong></td>
<td>Fast</td>
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<td><strong>Capital Intensity</strong></td>
<td><strong>High</strong></td>
<td><strong>Low</strong></td>
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<td><strong>Market</strong></td>
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<td></td>
<td>Small # of stable customers w/ similar needs</td>
<td>Large # of customers w/ specialized needs</td>
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AFR Organization must bridge these two worlds
Challenges to AFR Success

- Technical:
  - Alternatives in waste infrastructure
  - Permitting; slow process, high degree stakeholder input
  - Stakeholder Relations: High level of engagement essential
  - Sourcing – Need to understand market & change with it
  - Process & Systems – Knowledge & Innovation

- Cultural
  - Variability inconsistent with cement culture
  - Fear for safety
  - Fear of the unknown
  - People want what is best and easiest for them
  - Lack of service orientation
  - Innovation not valued – Risk averse

Most Difficult
Well-Functioning AFR Organization

• Service Orientation and Capability

• Coordination, Communication & Trust between AFR and Manufacturing at Corporate & Plant level

• Operates in Waste Markets
  – Understand market & able to respond to changes
  – Supports market price structure

• Provides AFR to Plants
  – Maximum value - Sufficient quantity & best price
  – Minimum impact to operations – Pretreatment Facilities

• Assists in Design of Systems and Processes

• Communications and Public Affairs Capability
  – External - Legislators, regulators, NGOs, community
  – Internal – Policies, initiatives, values, priorities, best practices
McKinsey 7-S Organizational Model

- Strategy
- Structure
- Shared Values
- Systems
- Style
- Staff
- Skills

- Hard Elements
- Soft Elements

- Interdependent
- Alignment
Strategy

- Structure
- Systems
- Shared Values
- Skills
- Staff

Style
Strategy

- Cement company will strive to be the lowest cost, sustainable producer of cement in the markets that they serve.

Driving Forces are:

- Industry is consolidating = $ needed for acquisition
- Imports increasing cost pressure
- Greater attention from environmental & community groups
AFR Consistent with Sustainable Development

- AFR turns environmental and social risks into opportunities
- AFR embodies all legs of the triple bottom line:
  - **Economic Growth**
    - Energy cost savings + waste recycling income
  - **Environmental Protection**
    - CO$_2$, SO$_2$, NO$_x$ reductions
  - **Social Responsibility**
    - Solution to society’s waste problems

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**Triple Bottom Line**

- Increased Stakeholder & Shareholder Value
Existing AFR Organization

VP Manufacturing

AFR Manager

Manager Business Development

Waste Recycling Service Manager

Regional VP Manufacturing

Plant Manager

AFR Manager

Plant AFR Manager

Waste Recycling Service Manager

Waste Recycling Service Manager

Waste Recycling Service Manager
Proposed AFR Structure

Functional VPs
- EH & S Manager
- Public Affairs Manager
- AFR Support Engineer
- Operations Manager

AFR company General Manager
- Sales & Marketing Manager
- Regional Recycling
- Regional VP Manufacturing

Separate company under CEO or COO
- Pretreatment Facility
- Cement Plant Manager
- AFR Service Manager

Regional Recycling
- Plant AFR Manager

AFR Service Manager

Global Fuels Conference & Exhibition
Alternate Resource Partners
Public Affairs

- Coordinates lobbying/regulatory issues/community relations/internal communications/training
- Also reports to VP Communications/Public Affairs to ensure alignment
- Located in AFR area to maintain technical/market knowledge
- Gives cement credibility to organization
- Coordinate AFR process and material handling challenges and communicate best practices to plants
  - Lack of knowledge prime cause of rejection of wastes
  - Flexible handling systems critical to success
- Connects Group company to Corporate AFR Organization
Environment

- Coordinator for permitting, environmental management, and health & safety
- Safe handling of waste essential to managing risk
- Communicates environmental best practices to plants
- Located in Corporate or Pretreatment Plant
Critical Interface

- AFR Service Manager would focus on sales and service
- Majority of ARM and Non-Haz fuels local – w/in 200 miles
- Plant AFR Manager would focus on integration of AFR into kiln operations
- Allows better focus of effort and alignment of skills
Lateral Coordination

Strategic Forces | Lateral Coordination | Lateral Processes

Variety | High | Matrix
Change | | Integrators
Interdependence | | Formal Groups
Connections | | E-coordination
Speed | Low | Voluntary

Cement = Need for Lateral Coordination LOW
AFR = Need for Lateral Coordination HIGH
Lateral Processes

- Net Meeting – Connects AFR Managers
- Co-location of Staff – AFR Manager w/ Production Staff
- Mentoring – Transfer values and culture
- Rotation of Staff – Expands point-of-view
- Formal Groups – Facilitates coordination and cooperation
Formal Linking Structures

AFR Operations Committee

AFR Company Corporate Staff  Regional VPs

AFR Steering Committee

Plant AFR Committee

Facilitate coordination, cooperation at all levels
Plant AFR Committee

- Resolve issues and set priorities
- Coordinate service and operations
- Same structure as in some successful AFR operations with various Cement companies
Communications

- Communications structure is not optimal for aligning company to AFR
Legal Protection

- Having the AFR company as a separate entity offers varying levels of liability protection depending on level of connection to Cement company.
- When having high degree of connection to Cement company, little legal protection.
- Using Limited Liability Company for legal protection of Cement company may be perceived as lack of transparency by stakeholders.
  - Erecting a “Corporate Veil”
Systems needed

• Concrete process structures in order to integrate AFR into plants
  – Project Management
  – Waste Market Surveys
  – AFR Communications strategy
  – The AFR Code of Conduct
  – Process Impacts & Emission Monitoring
  – IT Integration
  – Waste Material Database

• Will Need:
  – Standardized Approval Structure
  – System to track waste documentation
Align Objectives & Compensation Systems

- Objectives and Compensation System must tie Cement Plant and AFR Company together

  - Metrics for AFR company sales staff should be based on value added to plant (volume/quality/price) and service provided to waste generators
AFR Skills to bring

- Service
- Conflict Resolution
- Lobbying
- External and Internal Communications
  - Engagement and collaboration with stakeholders
- Technical Skills
  - How waste market works
  - How AFR must be chosen and pretreated
  - How to handle AFR and introduce into the kiln
  - How to manage the kiln to minimize negative impact of AFR and maximize use of AFR
Staff

- Structure
- Strategy
- Systems
- Shared Values
- Style
- Skills
Plant AFR Manager & AFR Service Manager

• BOTH must be able to speak the language of BOTH waste and cement production
  – Need engineering background
• BOTH need excellent negotiation, conflict resolution and communications skills
• Training for BOTH should include mentoring by sales and cement production staff
• BOTH must be excellent problem solvers
• BOTH need a combination of Engineering and Sales skills
  – Plant AFR Manager needs more engineering & cement credibility for driving operations
  – AFR Service Manager needs more sales and service orientation to engage and manage waste generator accounts
Service Orientation

- Waste generators want their liability taken care of consistently and permanently
- Must maintain relationship with waste generators in order to ensure consistent flow of materials. If we do not fulfill their needs they will go elsewhere.
- Cement plants often treat waste generators like suppliers
- AFR is a complete business
  - Cannot be run solely from perspective of plant needs
  - Must look at demands in market and work with plant to provide solutions for those demands
  - Can create other value generating business
Company Service Orientation

- AFR company must maintain “Dual Service” orientation
  - Waste Recycling company to generators
  - Alternate Fuels and Raw Materials company to cement plant
Strategic Focus

• Because AFR is such a departure from cement culture, it needs a **STRONG FOCUS** in order to succeed
  – Make it CONSTANT focus of Cement operations
    • Second priority in (weekly) meetings - after Safety and BEFORE Production
    • Instruct Control Room Operators to let Management know whenever AFR is taken off
    • Hold AFR kick-off meeting of ALL production staff
    • Tell manufacturing to devote 70% of their time to AFR
  • Focus may be reduced once AFR is accepted part of normal operations
AFR = Sustainable Development

• Commitment to Sustainable Development must be made clear to all levels of the organization
• AFR should be driven as part of overall strategic Sustainable Development initiative
  – Emphasize critical importance of AFR to LOW COST
• AFR requires the OPERATIONALIZING of Sustainable Development VALUES to be successful
  – Transparency
  – Stakeholder Involvement
  – Corporate Social Responsibility
  – Outstanding safety and environmental performance
  – Need for INTERDEPENDENCE and COOPERATION
Shared Values

• INTERDEPENDENCE NOT currently a high value in Cement companies
  – INDEPENDENCE currently valued much more highly

• STABILITY valued over INNOVATION

• Values change is slow and difficult = must be clearly laid out and reinforced by CEO and all Senior Management
  – Verbal communication
  – Symbolic Communication
  – Action
Key Elements for AFR Structure

- Separate company able to fulfill the requirements of providing service to waste generators and AFR of consistent quality to cement kilns while maintaining industry price structure and maximizing value.

- Lateral processes to facilitate communication, cooperation and effective integration of AFR into plants.

- Top management’s strategic commitment to AFR and Sustainable Development communicated clearly and VISIBLY to all levels of Cement company community.

= AFR SUCCESS
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Thank You for Your attention

Questions?? – Remarks!!
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