

WATER, ENERGY, ENVIRONMENT





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Innovation for Engineering

David R. Stewart, PhD, PE
ACEC Environmental & Energy Committee Meeting

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Discussion Outline

- Responding to RFP's
- How could this be different
- Utilization of new technologies for growth of the company
- Examples of how we can look at this differently

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Responding to RFP's

- This has been a fact of life for consulting engineers
- Selling of hours
- Lump Sum
- Different delivery methods –
Design/Build
– DBIA

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How can this be different?

- Consulting Engineers are great problem solvers
- They normally don't participate on the upside of their solutions – how can we move up the food chain?
- Sell IDEAS NOT HOURS

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Sustainability

- How are we at Stewart Environmental using sustainability to move in a better direction
- Stewart CMF
- Produced Water Development, LLC
- Stewart BiO2 Solutions
- Stewart Energy

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Stewart CMF

- Ceramic microfiltration systems
- Patented system for heavy metal removal – jointly developed with Coors Tek
- Obtained outside funding for patent and initial company formulation – exclusive license agreement
- Working with firms such as CDM to market this within their construction services division

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Produced Water Development

- Joint effort with Kennedy Jenks
- Started out with an idea developed at Wellington CO
- Obtained outside funding – OPM
- Potential to help solve issues for new water resources
- Based on patent pending application

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Stewart BiO2 Solutions

- Algae treatment for oxygen transfer
- Reduction of energy costs by 80% over mechanical aeration
- Patented process
- Removal of nitrogen and phosphorus as well with fixed growth system
- 30% margin on construction costs – results in an increase of normal fees of 100% to 300%

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Stewart Energy

- CRADA with Colorado State University
- Development of AD systems for CAFO's and Dairy Farms – most AD's have failed due to cellulose – this system solves this issue
- Production increases
- State Grant Process
- FFA conversion technology – Biofuels

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Why do this?

- Exciting for the engineers within the company
- Each new company (with the exception of Produced Water) is a virtual company
- Increase in revenue per employee goes from \$120,000 per employee to over a potential of \$300,000 per employee – results in better profits for the company

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Can all engineers do this - YES

- ACEC is made up of leaders – you too can increase your business and think outside the box (not like the cat in this morning's presentation)
- Requires a new way of thinking
- Risk tolerance needs to be higher with this system – talk with Tim Corbett at SmartRisk regarding how to mitigate risk
- Stewart does not normally respond to RFP's
- We have received government funding for development of some of these companies

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QUESTIONS?

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