

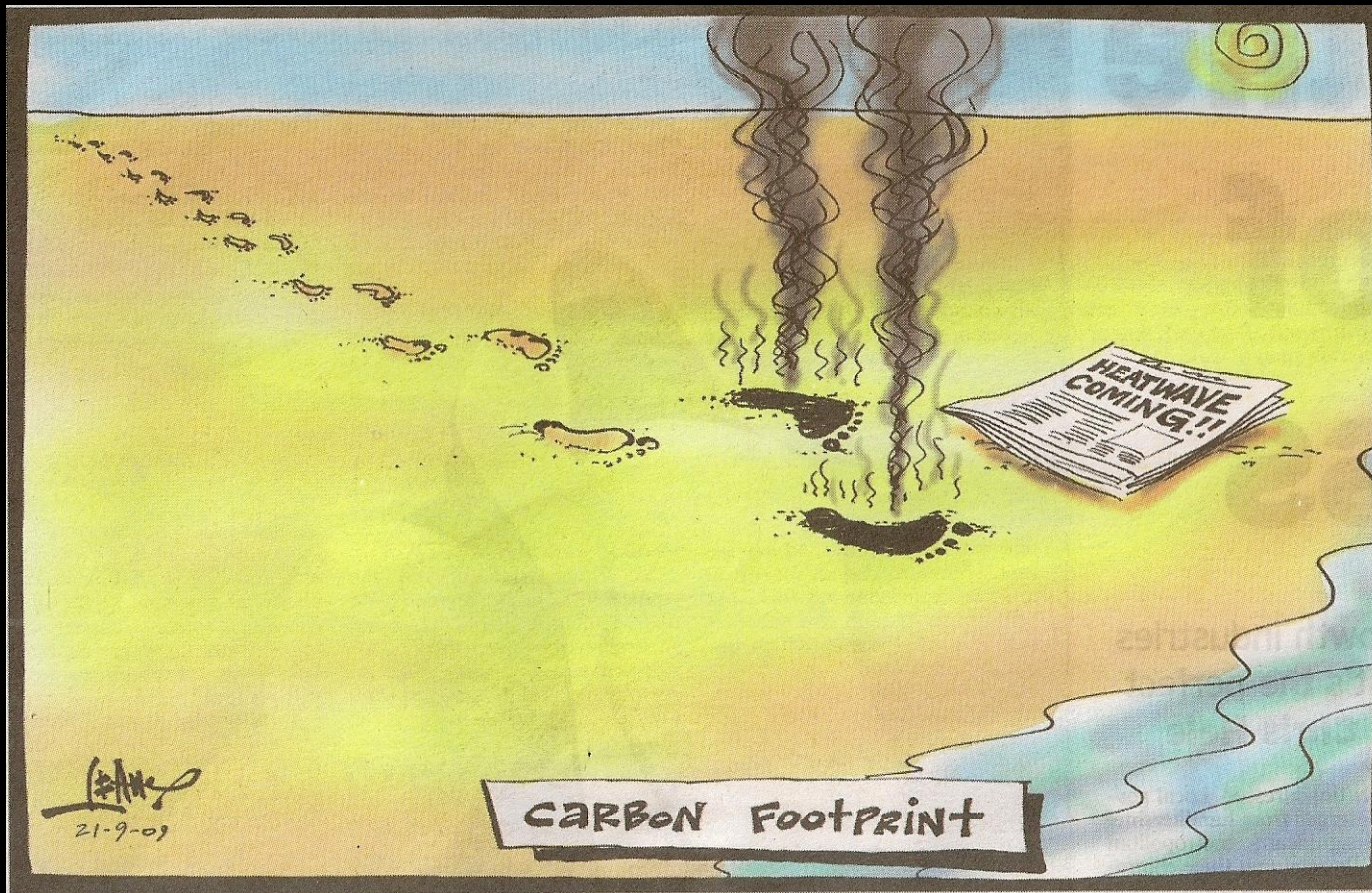


The Water, Energy, Climate Change Nexus – Challenges and Opportunities for the 21st Century

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“Acceptable ideas are competent no more and competent ideas are not yet acceptable”

Stafford Beer, Platforms of Change, New York, John Wiley and Sons: 1975



Challenges

1. Rapid growth consumption
 2. Poor productivity per unit of resource
 3. Real cost not factored
 4. Perverse feedback loops
 5. Costly demand patterns
 6. Embryonic systems thinking and management
 7. Insufficient account of climate change impacts
 8. Solutions compound challenges
 9. Woefully inadequate R&D budgets
 10. Achieving community comprehension without catastrophe
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Opportunities

1. Nexus is a system attribute – plan and manage accordingly
 2. Remember Laws of Thermodynamics
 3. Sustainability means local in situ solutions
 4. Transitional energy tech offers efficiency <100ML vs >10000 ML but not sustainability
 5. Lifecycle analysis and management broadens options
 6. Full accounting for climate change means mitigating impacts of short term solutions
 7. Move beyond investment for ‘latent demand’ to least cost planning
 8. Convergence technologies underpin new business models
 9. Stand the system of its head and start with the consumer
 10. Move beyond social to personal infrastructure
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