

## Dar Al Riyadh Insight #73

### Construction Environmental Sustainability - Supply Chain Opportunities

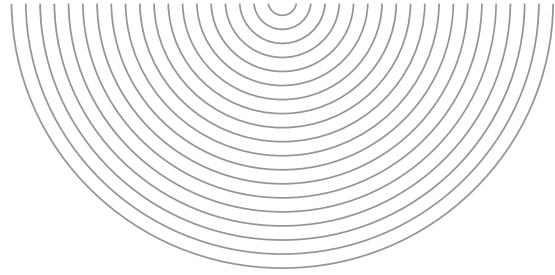
*Dar Al Riyadh Insights reflect the knowledge and experience of our Board, executives and staff in leading and providing PMC, design and construction management services. Dar Al Riyadh believes in the importance of broadly sharing knowledge with our clients and staff to improve project outcomes for the benefit of the Kingdom of Saudi Arabia.*

#### Supply chain opportunities

Environmental sustainability during construction is aided by a number of supply chain decisions and strategies. These include:

- Evaluation of supplier's sustainability practices and performance. Various sustainability indexes exist and increasingly public companies are providing supplementary information and disclosures in this regard.
- Inclusion of sustainability clauses (not just environmental sustainability) in supply chain contracts and requiring flow down to their subcontractors and suppliers where appropriate.
- Cradle to grave environmental sustainability impacts associated with use of supplier's materials or products. Increasingly this will require consideration of embedded carbon.
- Consideration and evaluation of alternative sustainable materials and battery limits of procurements:
  - Materials to be evaluated – paint, steel, cement, concrete aggregate, wood products, PVC products, carbon fiber products
  - Modified battery limits of procurements – prefabrication to reduce waste at site; prefabricated steel sections and structures; skid mounted equipment and assemblies; precast concrete panels and deck sections; concrete batch plant on site.

Key supply chain strategies, some have been previously mentioned, include consideration of alternative shipping strategies; pre-fabrication and pre-assembly; provision of materials in lengths that do not have to be cut; bulk packaged (versus individually packaged) quantities; load consolidation to reduce deliveries to site; return of unused materials to suppliers; return of packaging to suppliers; staging and dispatch of last-mile deliveries; lay-down areas that minimize energy requirements of moving materials on site; minimizing number of onsite moves of materials on-site; sku reduction to minimizing "surpluses" and inventories; reducing waste factors in materials orders; and small tools management.



This last strategy, small tools management, is worth a couple of words. First, buy for durability and longevity, this minimizes disposals. Second, build in accountability. On one project workers received and signed for their small tools up front. If the tool broke, they brought the broken tool to the supply center where it was replaced. If they lost the tool they received a new one but their pay was docked for the cost. At the end of their contract period they got to keep the small tool. The result – lower small tool costs and almost no contribution to the waste stream.