



Indianapolis Airport Authority

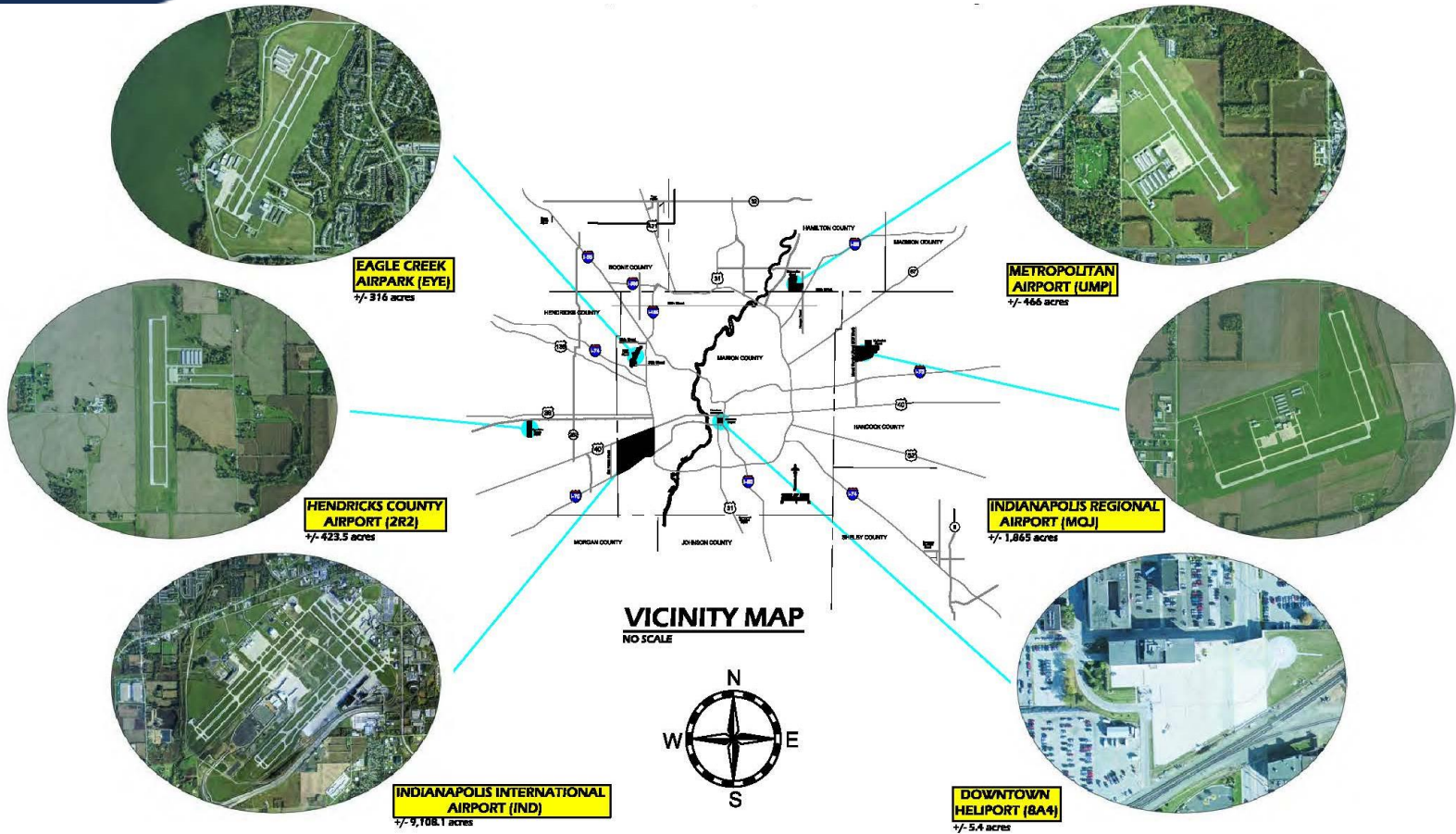
Airport Sustainability

IND Solar Farm

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IAA Airport System





Facts

- Runway 5L/23R — 11,200' x 150'
- Runway 5R/23L — 10,000' x 150'
- Runway 14/32 — 7,280' x 150'
- Category III instrument landing system (ILS) on runways 5L & 5R
- Category I ILS all other runways
- 135 daily flights to 32 nonstop destinations
- 3.7 million enplaned passengers (2012)
- 4.7 million tons of cargo (2012)
- Over 9,000 people employed at the airport
- \$4.57 billion annual economic impact (2012)





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IND Solar Farm - Phase 1 & 2





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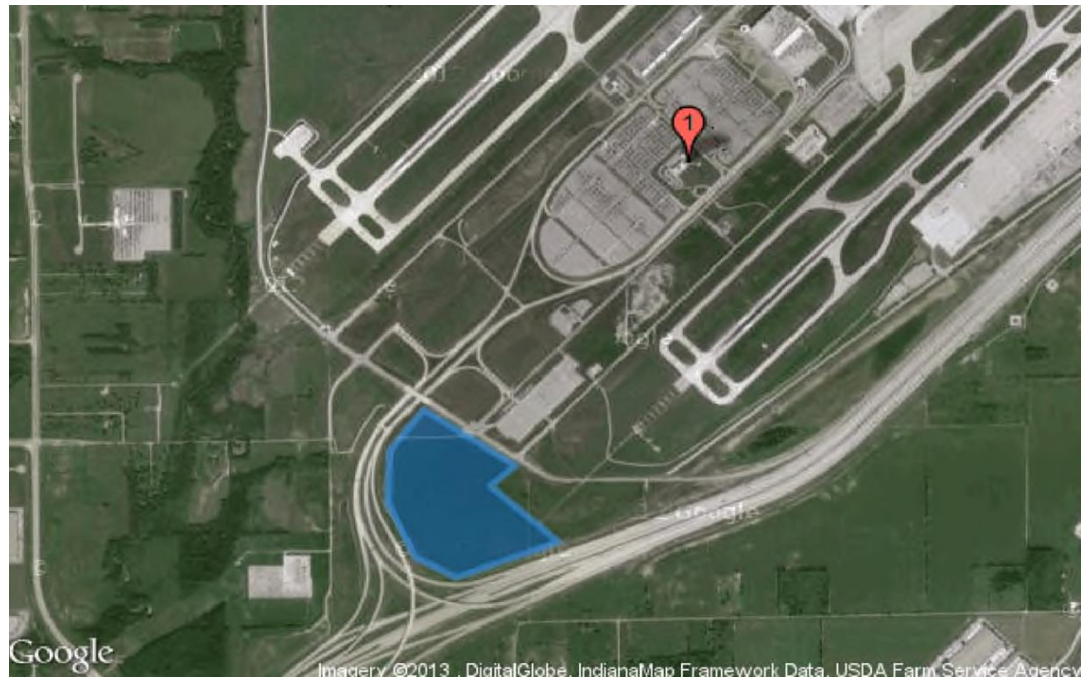
IND Solar Farm - Phase 3





Initial Site Considerations

- Large tract non-aviation land area needed (60+)
- Fairly close proximity to substation to keep construction costs viable
- Reflectivity analysis





Strong Long-Term Investment Strategy

- **Limited legacy costs...**
 - Little to no maintenance costs (no or few moving parts)
 - Favorable Lease Terms – Significant Non-Airline Revenue Source
 - IAA held harmless for damages / liabilities
 - Lasting product
 - Production warranties up to 30 years
 - Original commercial panels produced by Bell Lab in 1954 are still functioning



Bell Labs, 1955



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Strong Long-Term Land Use Strategy for IAA





Viabile Private Investment Strategy

- Lower cost components
 - Solar modules have dropped tremendously (from \$2.60 down to \$.80 per watt)
 - Cost of other system components are falling as well (racking; inverters; etc...)





Financing Hurdles

- Major investment of time to locate a financing firm/investors for a green project of this size
- Financing completed with an off-shore bank, due to IURC's ability to terminate the Power Purchase Agreement's 20 cents/kwh rate, being cited by US banks
- Established long-term relationship between eventual buyer (GES) and Cathay Bank was helpful
- \$35-40M privately funded green projects are not common within the US



FAA Hurdles

- Archeological Impact – Conducted to ensure that no significant historical artifacts or dwellings exist on the proposed development site.
- Environmental/Wetlands Impact – Conducted to ensure there was no adverse impact to the natural habitat.
- FAA #7460 (Notice of Proposed Construction) – Approves the actual development and establish the maximum height of construction on the site for air spacing & any special development restrictions.
- Reflectivity Analysis – An extensive reflectivity analysis was conducted to assess the potential glare to the Air Traffic Control Tower and arriving aircraft - included the use of the Solar Glare Hazard Analysis Tool (SGHAT).



FAA Hurdles

- FAA Land Release – Required FAA approval for the development area to be released for non-aviation use.
- Land Lease Agreement for Airports - Requires Fair Market Value Assessment for Lease Agreements
- Tree Removal
 - Indiana Bat Habitat
 - Protected Wetlands
- Construction/Field Issues
 - FAA 7460 review and use of cranes
 - Laser restrictions for construction equipment
 - Drainage, erosion control and site restoration



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IND Solar Farm

Thank you!

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