PROJECT PROFILE

LEED® Facts

Kennedy Space Center
Building K7-0418 Propellants North
Administration & Maintenance Facility
Kennedy Space Center, FL

LEED® for New Construction – Version 2.2
Certification Awarded Aug 24, 2011

Platinum 56*

Sustainable Sites	12/14
Water Efficiency	5/5
Energy & Atmosphere	16/17
Materials & Resources	5/13
Indoor Environmental Quality	13/15
Innovation & Design	5/5

*Out of a possible 69 points

Kennedy Space Center

Building K7-0418 Propellants North
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LEED for New Construction

23% Renewable Energy

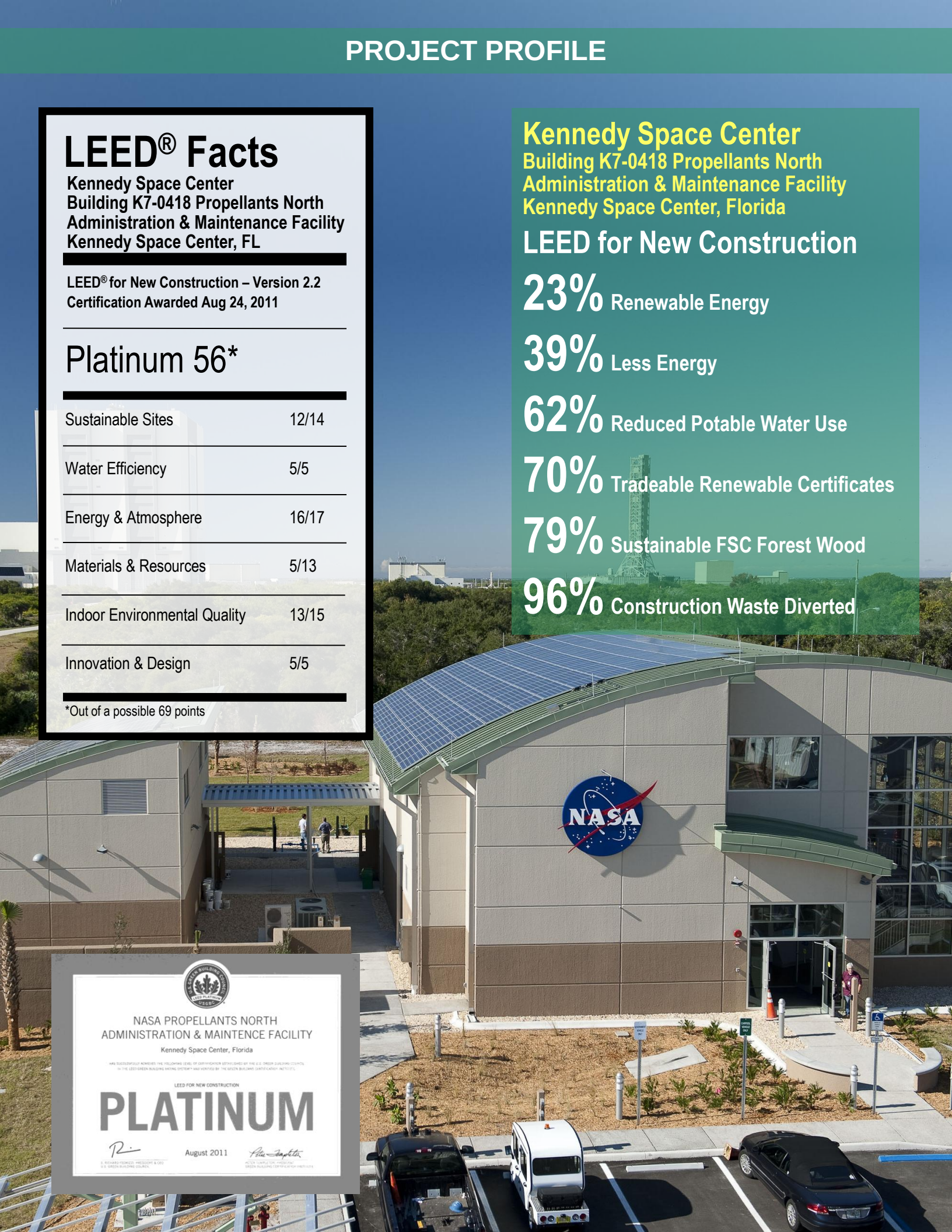
39% Less Energy

62% Reduced Potable Water Use

70% Tradeable Renewable Certificates

79% Sustainable FSC Forest Wood

96% Construction Waste Diverted



PROJECT PROFILE

Kennedy Space Center Building K7-0418

NASA's First Carbon Neutral Facility

PROJECT DESCRIPTION

The Propellants North Administration & Maintenance Facility is a new hub for fueling spacecraft and will tap into earth's most natural resources. The building features a covered e-vehicle parking area with integrated solar panels; 300 photovoltaic panels which allow the facility to achieve net-zero energy status; a 7,500-gallon rainwater harvesting system that offsets potable water use in the facility's toilets and irrigation; and incorporates crawlerway rocks and windows from Kennedy's Launch Control Center firing rooms as a way to recycle NASA mementos back into the building design.

SUSTAINABLE SITES (12/14)

The facility was constructed on a remediated brownfield site. The facility provides bicycle storage for 5% of the building occupants as well as shower facilities. Two parking spaces are reserved for low-emitting and fuel-efficient vehicles, and no new parking was added. There is 36,827 square feet of open space adjacent to the facility and 51% of the site area (not within the building footprint) has been restored with native planting. 62% of non-roof surfaces have been paved with high reflective material and 100% of the roof surface has a Solar Reflectivity Index greater than 86 to reduce heat island effect. Additionally, the project implements a Stormwater Management Plan that does not increase run-off from the pre-site conditions.

WATER EFFICIENCY (5/5)

Within the facility, potable water usage has been reduced by 62% through the installation of low-flow toilets, urinals, and rainwater harvesting for sewage conveyance. Outside the facility, irrigation potable water is reduced 100% and sewage potable water is reduced by 90% compared to the calculated baseline.

ENERGY & ATMOSPHERE (16/17)

Energy consumption at the facility is 39% less than the ASHRAE 90.1-2004 baseline due to an improved thermal envelope, high-efficiency glazing, reduced lighting power density, daylighting controls, occupancy sensors, photovoltaic panels, and high-efficiency heating and cooling equipment. Renewable energy in the form of photovoltaic panels accounts for 23% of the total annual energy cost. In addition, the project has purchased Tradable Renewable Certificates equal to 70% of the predicted annual electrical consumption over a 2-year period. The HVAC systems use no CFC-based refrigerants and total refrigerant impact is less than the allowable limit. The facility also underwent an enhanced commissioning process and provided a Measurement and Verification Plan.

MATERIALS & RESOURCES (5/13)

The project diverted 648 tons of on-site generated construction waste from the landfills, which represents 96% of the total construction waste. 14% of construction material contains recycled materials, and 15% of all building material consists of local materials. Additionally, of all wood-based products used, 79% are from FSC-certified forests.

INDOOR ENVIRONMENTAL QUALITY (13/15)

The facility incorporates carbon dioxide monitoring in occupied spaces and direct airflow measurements in the non-occupied areas to monitor ventilation. Designated smoking areas are provided at least 25 feet from all building opening and air intakes. All indoor adhesives, sealants, paints, and coatings are within the VOC limits. The facility also contains environmentally-friendly carpet and composite wood materials. Task lighting is provided at individual workstations. Daylighting exposure is provided in 78% of regularly occupied spaces and 93% of occupied spaces have direct line of sight views.

INNOVATION IN DESIGN (5/5)

The facility has received exemplary performance for diverting construction waste, its use of Tradeable Renewable Certificates, potable water reduction, and use of non-potable water for sewage conveyance.

"While our NASA primary mission is exploration, the agency also tends to another important mission – protecting planet Earth. This facility behind me is a sterling, or should I say platinum, example of how NASA and KSC are leading the way."

MIKE BENIK, NASA Kennedy Space Center, Director of Center of Operations

AWARDS

► 2012 Engineering Excellence Grand Award for Building/Technology Systems, ►Florida Institute of Consulting Engineers
► Presidential Award, White House
►NASA Blue Marble Award

The viewing windows shown here were originally part of Kennedy's Launch Control Center, and re-installed at exactly the same angle in the new facility as a way to recycle NASA's legacy architectural elements back into the design.

Owner: NASA, Kennedy Space Center
Architect: Jones Edmunds and Associates Inc. (JEA)
Structural Engineer: JEA
MEP Engineer: JEA
Commissioning Authority: X-nth, Inc.
Contractor: HW Davis Construction Inc.
Project Size: 10,730 SF
Project Cost: $4,600,000
Completion: January 2011
Photography: NASA

ABOUT LEED

The LEED Green Building Rating System is the national benchmark for the design, construction, and operations of high-performance green buildings. Visit the U.S. Green Building Council's Web site at www.usgbc.org and the Central Florida Chapter of USGBC at www.usgbc-cf.org to learn more about how you can make LEED work for you.