The Solutions Network

Rochester, New York

Project Planning & Getting Buy-In

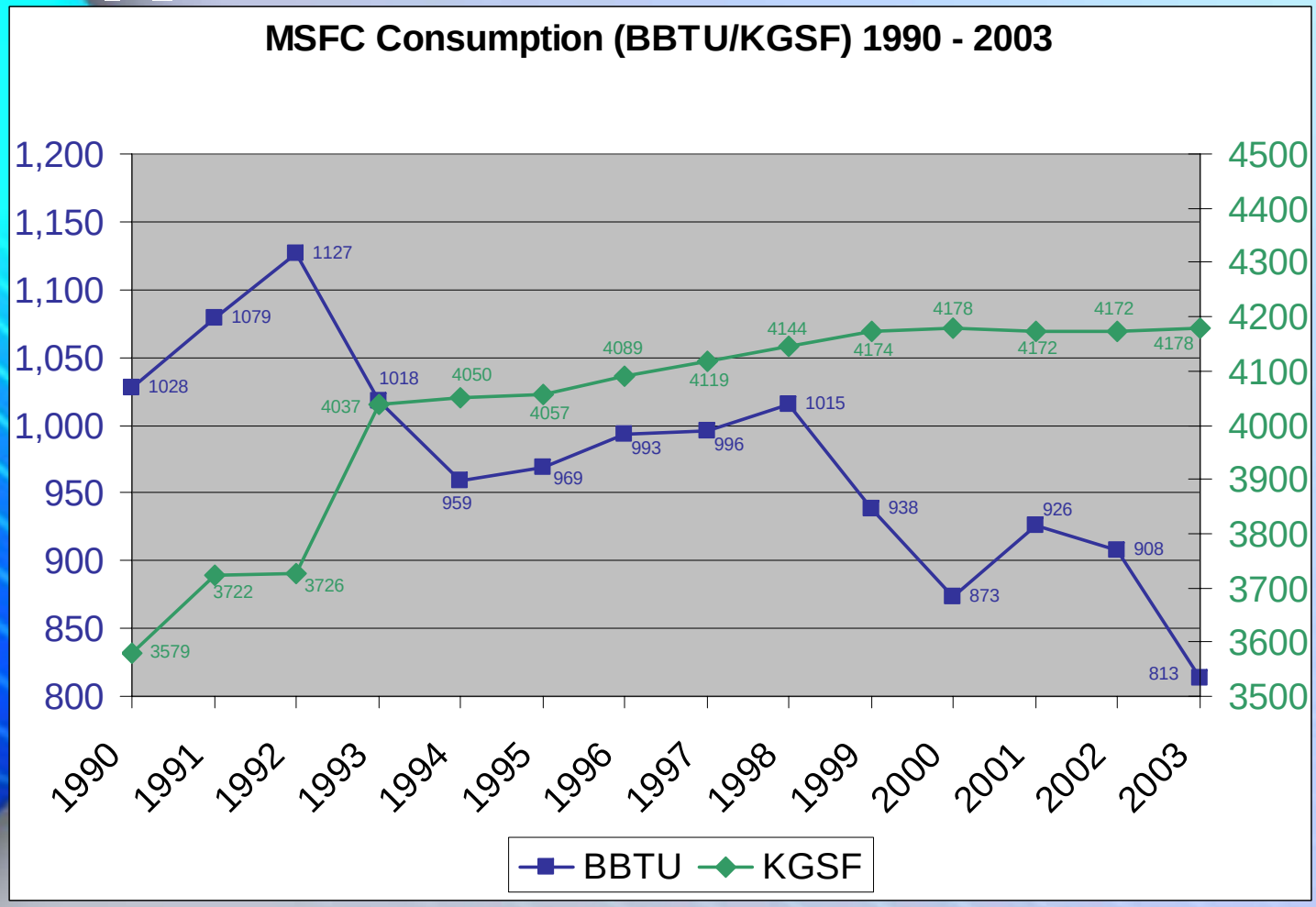
Cedreck Davis

NASA – Marshall Space Flight Center

Huntsville, Alabama

NASA's Marshall Space Flight Center was activated on July 1, 1960 and is one of the primary Centers for the design and development of space transportation systems, orbital systems, and scientific and application space payloads. Marshall is a tenant of the U. S. Army's 38,000 acre Redstone Arsenal and is located on 1,840 acres in north central Alabama on the Tennessee River adjacent to the city of Huntsville. The Center has some 250 buildings and structures totaling 4.5M square feet.

Building Growth
vs
Energy Usage
(from 1990 to present)


MSFC Consumption (BBTU/KGSF) 1990 - 2003
1,200
1,150
1,100
1,050
1,000
950
900
850
800
4500
4400
4300
4200
4100
4000
3900
3800
3700
3600
3500
1028
1079
1127
1018
959
969
993
996
1015
938
873
926
908
813
3579
3722
3726
4037
4050
4057
4089
4119
4144
4174
4178
4172
4178
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
BBTU
KGSF

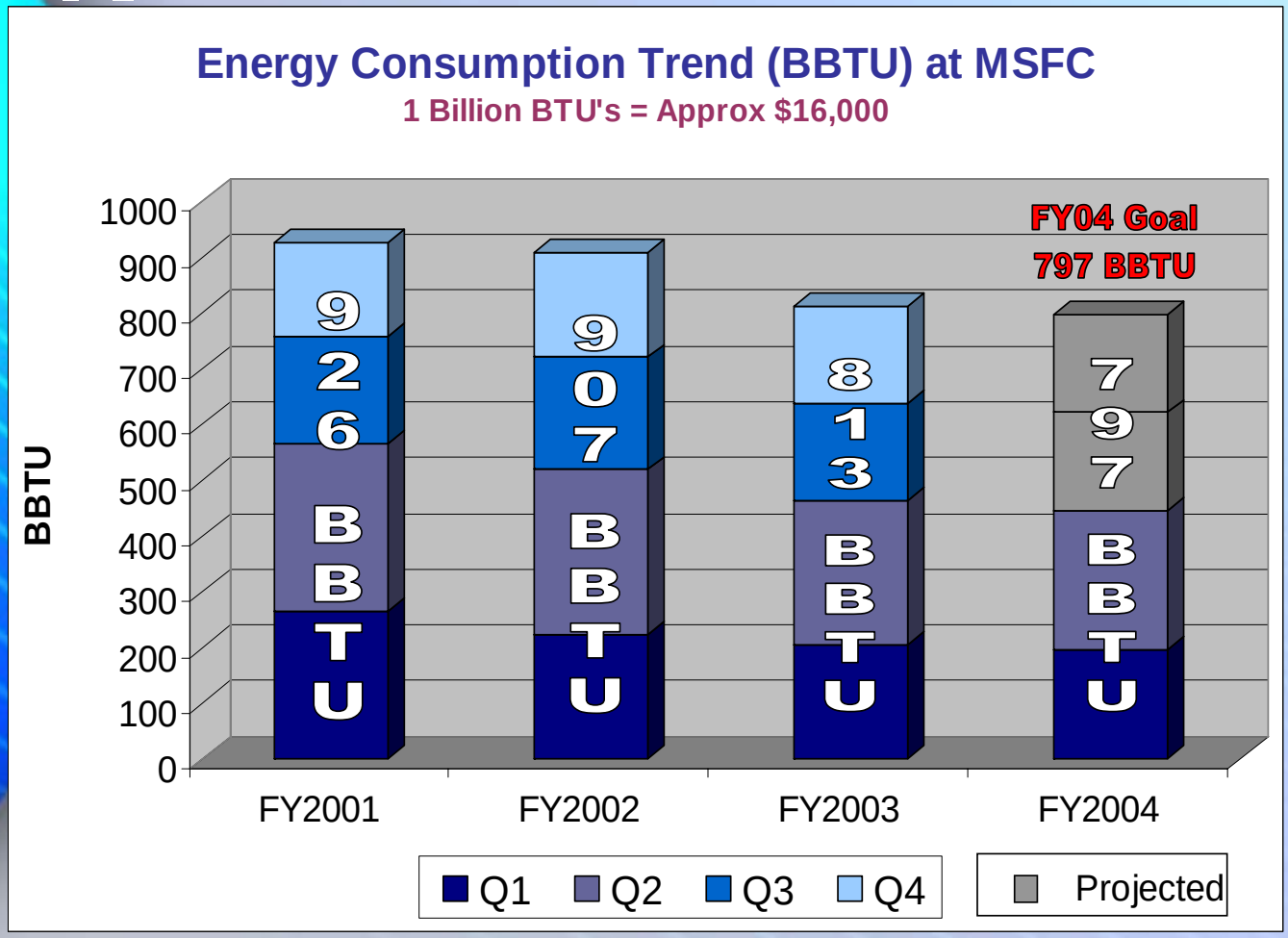
Requirement To Meet The 2010 Energy-Efficiency Goals At Marshall Space Flight Center

800 BBTU

Cost/Savings For 1BBTU

$16,000

Program Progress Monitor


Energy Consumption Trend (BBTU) at MSFC
1 Billion BTU's = Approx $16,000
BBTU
1000
900
800
700
600
500
400
300
200
100
0
FY04 Goal
797 BBTU
926 BBTU
907 BBTU
813 BBTU
797 BBTU
FY2001
FY2002
FY2003
FY2004
Q1
Q2
Q3
Q4
Projected

Approach

- Set Goal of 16BBTU Reduction Annually
- Commitment by management to invest a minimum of $1M annually
- Investment Strategy
  - 75% ECM's & WCM's
  - 15% Energy audits and engineering studies
  - 5% monitoring/metering
  - 5% pilot projects

Approach *(continued)*

- Develop a long-term energy and water management plan *(CH2MHill)*
- Update/revise engineering standards annually to comply with energy mandates and requirements
- Perform energy and water conservation audits for future year projects

Approach *(continued)*

- Design future year projects
- Train all personnel in engineering related functions
- Develop an energy-efficiency team comprised of one person from each organization
- Train energy-efficiency team members
- Implement program
- Re-evaluate program