7 August 1942
US 1 Marine Div
(Va degrift)

1/7 Feb 1943,
Japanese forces withdraw

17 Jan 1943,
Japanese Seventeenth Army begins withdrawal from the Matanikau

0740/1200,
2 Marine Regt plus 1 Para Bn
Strong resistance overcome

0909,
5 Marine Regt lands unopposed
1 Marine Regt follows

PM, 8 Aug
Henderson Field taken

12/14 Sept.
Kawaguchi suffers heavy losses at Bloody Ridge

23/26 Oct.
Maruyama’s attacks repulsed

Night 20/21 Aug.
Ichiki’s detachment destroyed

Guadalcanal

 american attacks

Japanese counterattacks and withdrawals

US Defense perimeter 9 August
US positions 23 October

Early December, 1 Marine Div relieved by 25 Inf, 2 Marine and Americal Divs (XIV Corps [Patch])
Increasing Combat Effectiveness
“Go Further, Stay Longer, Less Risk”

Expeditionary Warfare Conference

25 Oct 2011
Col Bob “Brutus” Charette
Distributed Operations
“Enabled By Technology Advances”

- 250% Increase in Radios
- 300% Increase in IT/Computers
- 200% Increase in # of Vehicles
- 75% Increase in Vehicle WGT
- 30% Decrease in MPG
  - MTVR – 4.3 MPG
  - HMMWV – 8.0 MPG
  - MRAP – 4.0 MPG

Increased Risk and Dependence

Planned Force

Force Fighting Today

UNCLEARED

WEIGHT

FUEL

12 Positions
~25 miles X ~27 miles = ~675 sq miles AO Influence (~1,000 Marines)
Lighten the Load, Don’t Give up Lethality

Batteries Alone:
380% Weight Increase
2,400% Cost Increase

Vietnam

Today
Logistics Convoy Study
24 Mar 10 – 30 Jun 10

- 299 Fuel/Water Convoys (98 Days)
- 6 Marines WIA hauling Fuel/Water
- 1 Marine WIA per 50 Fuel/Water Convoys
Increasing Combat Effectiveness
Reducing Risk

- Lethal: "More Tooth less Tail"
- Austere: "Reduce Footprint"
- Fast: "Lighten Load"

Ethos

Renewables

Efficiency

Today

Unclassified
Strategic Framework

Mission

By 2025 we will deploy Marine Expeditionary Forces that can maneuver from the sea and sustain C4I and life support systems in place; the only liquid fuel needed will be for mobility systems which will be more energy efficient than systems are today.

E2W2 CBA/ICD

Three Pillars Required to Accomplish the Mission

Energy Strategy and Supporting Requirements Documents Written in Parallel to Achieve CMC’s Priority; …to “Implement New Capabilities…”
Today’s Deployed MAGTF

1 Gallon JP-8

$7.68 / Gallon
260,000 Gallons / Day
52 Fuel Trucks / Day
or
18,980 Fuel Trucks / Year
$729M / Year

0.5% Improvement ~0.5M gals/yr.
95 Fuel Trucks or $3.6M

5% Improvement ~4.7M gals/yr.
949 Fuel Trucks or $36M

15% Improvement ~14M gals/yr.
2,847 Fuel Trucks or $109M

25% Improvement ~24M gals/yr.
4,745 Fuel Trucks or $182M

Small Improvements in Energy Efficiency...Big Impact!
Expeditionary Energy Goals
“A Starting Point”

25% Doctrine, Training, Organization, and Leadership = Behavior Change
“Expeditionary Ethos”

10-15% Increased Efficiency of Ground Vehicles and Equipment

5-10% Renewable / Alternative Energy

10% Increased Efficiency in Aviation

~50% Reduction by 2025

Starting Baseline
OEF 2010
(Will be adjusted as we gain greater insights into actual use across the MAGTF)

Creating a more Capable MAGTF, Today and Tomorrow
ExFOB
“Capabilities-to-Combat-to-Programs”
ExFOB
“Capabilities-to-Combat-to-???”

**Hybrid Power System**
- Greater Than 80% Fuel Savings
- Break Even Weight approx. 3 Months
- Break Even Fuel Cost approx. 1 Year
- Concerns: Complexity / Weight

**Direct Current Air Conditioner**
- Great Than 70% Fuel Savings
- Break Even Cost Immediately
- Concerns: Durability / Heating
“We Are Looking For A Few Good Technologies”

- **Temp Independent Electronics**
- **Efficient Cooling / Heating of Personnel**
- **Energy Storage**
- **Energy Harvesting**
  - Solar
  - Kinetic
  - Thermal
  - Waste
  - Etc…
- **More Efficient Electronics / Vehicles / Equipment**
- **Vehicles as a Power Source**
- **New Leadership and Training**

*We don’t create markets, we protect our Nation!*