

US DEPARTMENT OF THE NAVY Driving Alternative Fuels Adoption



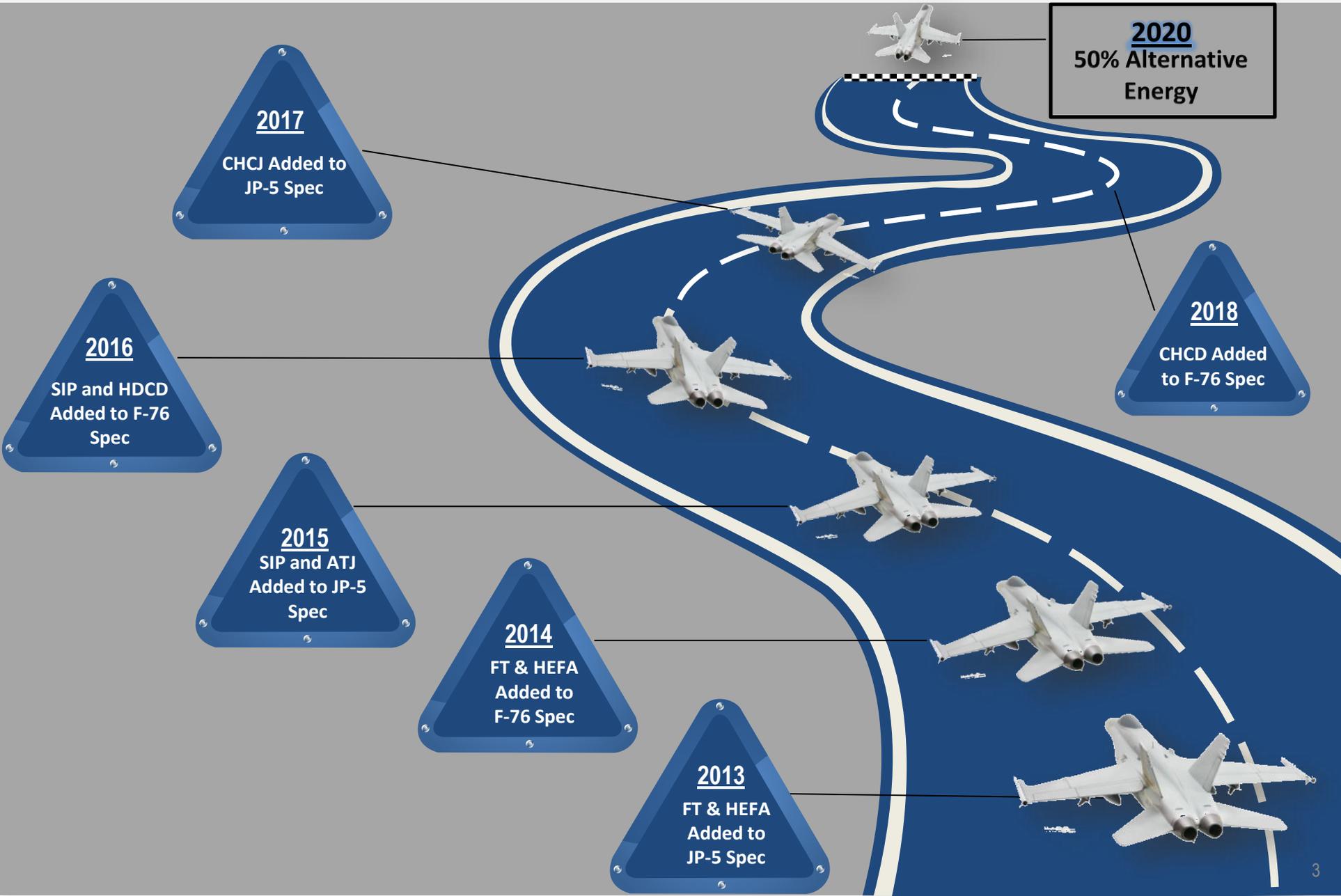
Chris Tindal
Director for Operational Energy
Office of the Deputy Assistant Secretary of the Navy (Energy)



Energy Security

- **Sufficiency, Surety, and Sustainability**
 - **Assured access to reliable supplies**
 - **Ability to protect and deliver sufficient energy for operational needs (training and wartime)**
 - **Meet the above two parameters at a stable, affordable cost for the foreseeable future**
- **Global oil markets convey substantial economic and supply risk**
- **More energy options allow our operators added flexibility**

Step 1: Prepare the Market





Step 2: Cultivate Potential Suppliers

Company	Location	Feedstock	Conversion Pathway	Fuels	Capacity (MM gpy)
	US Gulf Coast	Fats, Oils, and Greases	Hydroprocessed Esters and Fatty Acids (HEFA)	F-76	82
	McCarran, NV	Municipal Solid Waste	Gasification – Fischer Tröpsch (FT)	JP-5, 8	10.8
	Lakeview, OR	Woody Biomass	Gasification – Fischer Tröpsch (FT)	F-76, JP-5,8	12

- **\$510M Combined Agency Funding***
- **Less than 50% Cost Share**
- **Cost-competitive with conventional petroleum w/o subsidies**
- **Produced domestically**
- **Replicable business plans**



Step 3: Open the Market

- **Rocky Mountain/ West Coast bulk fuels contract solicitation released April 2015 for fuel delivery starting 1 October 2015**
 - Covers San Diego, Bremerton, Hawaii
- **Western Pacific bulk fuels contract solicitation released May 2015 for fuel delivery starting 1 Jan 2016**
 - Covers west of Hawaii to the Middle East
- **Inland/ East/ Gulf Coast bulk fuels contract solicitation will be out in the fall of 2015 for fuel delivery starting 1 April 2016**
 - Covers Norfolk, Mayport, and Jacksonville
- **Atlantic/ European/ Mediterranean bulk fuels contract solicitation will be out at the end of 2015, with fuel delivery starting 1 July 2016**



Step 4: Keep Implementing - Great Green Fleet 2016

- Year-long event throughout CY 2016
- Highlight deploying ships with 3+ energy conservation measures (ECMs) or alternative energy for propulsion, deploying aircraft with 2+ ECMs or alternative energy propulsion
- Ushers in the “New Normal”
- Maximize likeness to Great White Fleet, but no dedicated group or itinerary for 2016
- Maximize use of alternative energy (e.g. alternative fuels or nuclear power) in use



What else is needed for the industry to take off ?

- It is clear that work remains
- What else can be done? Give us your ideas
- What can't be done
 - Offtakes beyond 5 years (anything beyond 1 year is challenging)
 - Offtakes before facility is producing fuel
 - Another major capital infusion

A photograph of an F/A-18E Hornet fighter jet on the deck of the USS Nimitz (CVN-68). The jet is positioned on a runway, with its landing gear down. The deck is visible in the foreground, and the ocean is in the background. A person in a green uniform is visible in the lower foreground, looking towards the jet. The sky is blue with some clouds.

THANK YOU

*F/A-18E, Pacific Ocean
USS Nimitz (CVN-68)*