



Department
for Transport

UK SAF Clearing House: Delivery Partner

Supplier briefing event

14th November 2022

Agenda

Item	Lead	Indicative timing
Welcome	Michelle Carter, Head of Transport, Innovate UK KTN	10:00
Sustainable aviation fuel (SAF): UK government ambitions	Elliot Spindler, Head of Advanced Fuels Funding Programmes, DfT	10:05
Background to the UK Clearing House	Michelle Carter, Head of Transport, Innovate UK KTN	10:10
Presentation on the US Clearing House	Mark Rumizen, FAA	10:20
UK SAF Clearing House Delivery Partner: requirements, procurement process and timelines	Phoebe Bendall, Advanced Fuels Funding Programmes, DfT	10:30
Questions and comments from attendees	All (KTN facilitating)	10:45
Closing remarks	Michelle Carter	11:20



Welcome

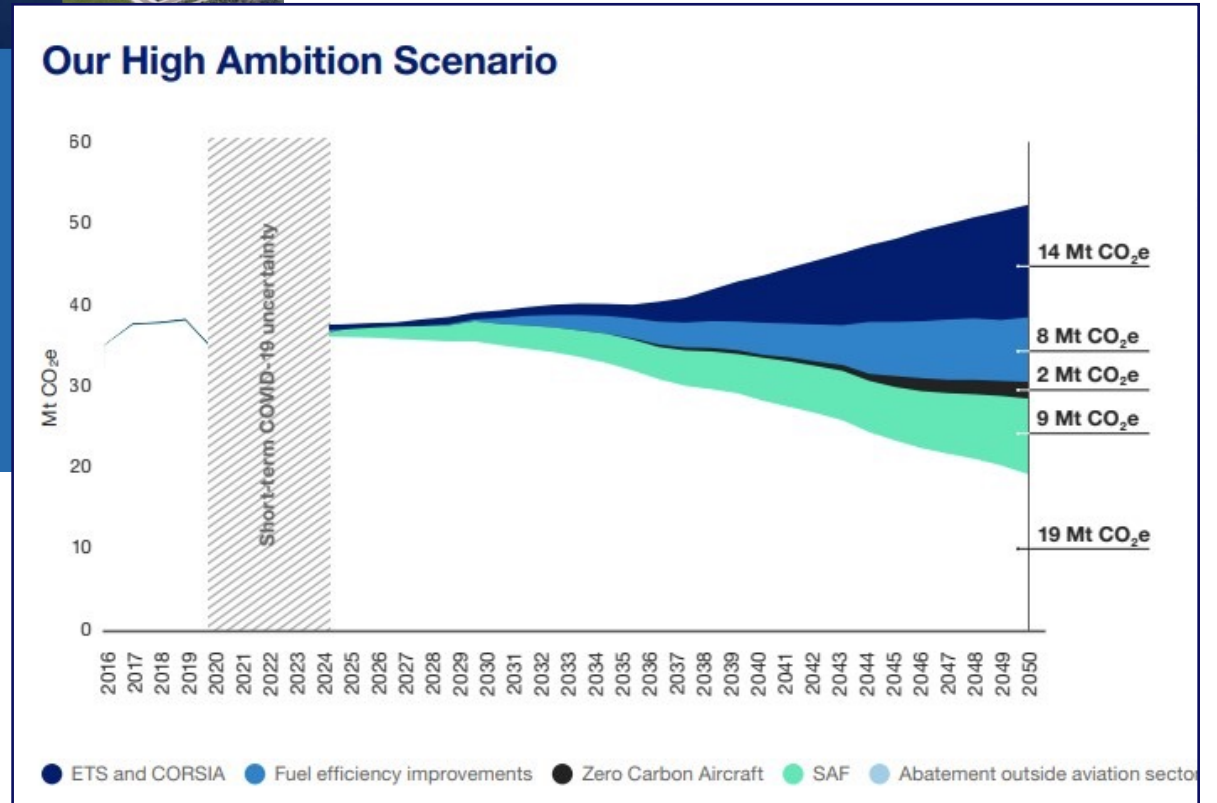
UK Government SAF Strategy

Elliot Spindler
Head of Advanced Fuels Funding
Programmes, DfT

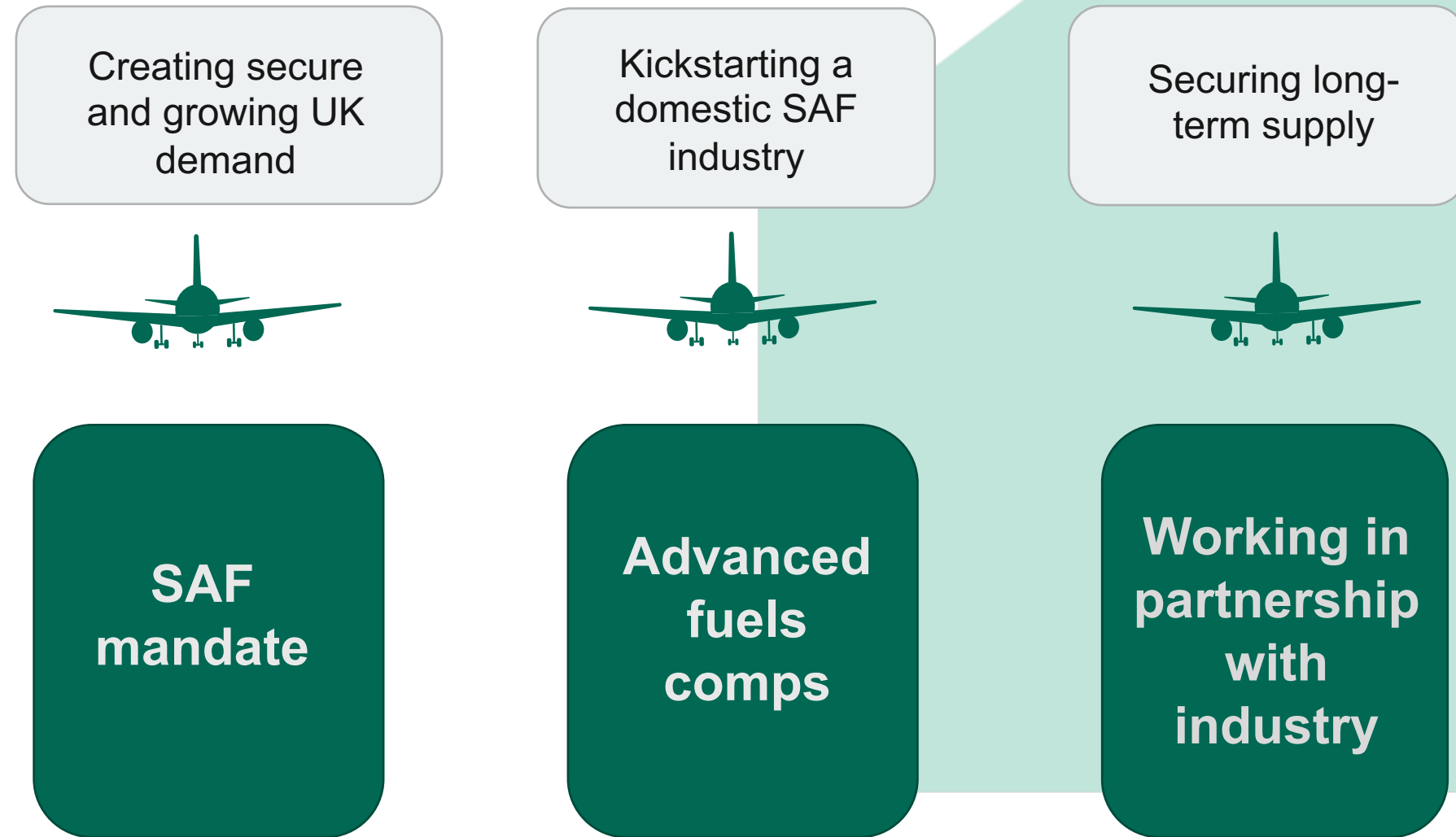
Why SAF?

Sustainable aviation fuel (SAF) is one of the key technologies available to reduce aviation emissions

SAF can achieve lifecycle CO₂ emissions savings of over 70% compared with conventional jet fuel



UK SAF strategy



UK SAF Clearing House

The journey so far

Michelle Carter
Head of Transport
Innovate UK KTN

www.ktn-uk.org



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KTN



Overview

- Background & Context
- Report on UK testing capability
- UK Clearing House Task Force
- Business Case & Proposal for SAF Clearing House
- Research project



InnovateUK
KTN

MAR 2018

Meeting with FAA, UDRI, SWRI, OEM's, MOD to discuss a more international effort to fuel testing

MAY 2019

Final report on aviation fuel testing opportunities in the UK

**UK Aviation Fuel
Testing**

**Analysis of
opportunities**

Final report

for

KTN

31/05/2019

Element Energy Limited
Suite 1, Bishop Bateman Court
Thompson's Lane
Cambridge
CB5 8AQ

Tel: 01223 852499
Fax: 01223 353475

- Need for subsidised fuel testing to stimulate market entry of SAF in the UK
- Need for more clarity for UK producers on accessing fit-for-purpose testing
- UK has most of tests for T1&T2 testing
- GC*GC to complete the suite of tests
- Test houses/labs geographically distributed
- 'Virtual' centre the best option initially

UK Clearing House Task Force

Objective:

Write a business case for Government to create a national, virtual hub to support early-stage aviation fuel testing

Ask:

£21mn for 5 years

MAR 2018

Meeting with FAA, UDRI, SWRI, OEM's, MOD to discuss a more international effort to fuel testing

MAY 2019

Final report on aviation fuel testing opportunities in the UK

OCT 2019

1st UK SAF Clearing House Task Force Meeting
Chair: Dave Smith, Rolls-Royce

JUNE 2020

Business case submitted to DfT



Ministry
of Defence



Rolls-Royce®



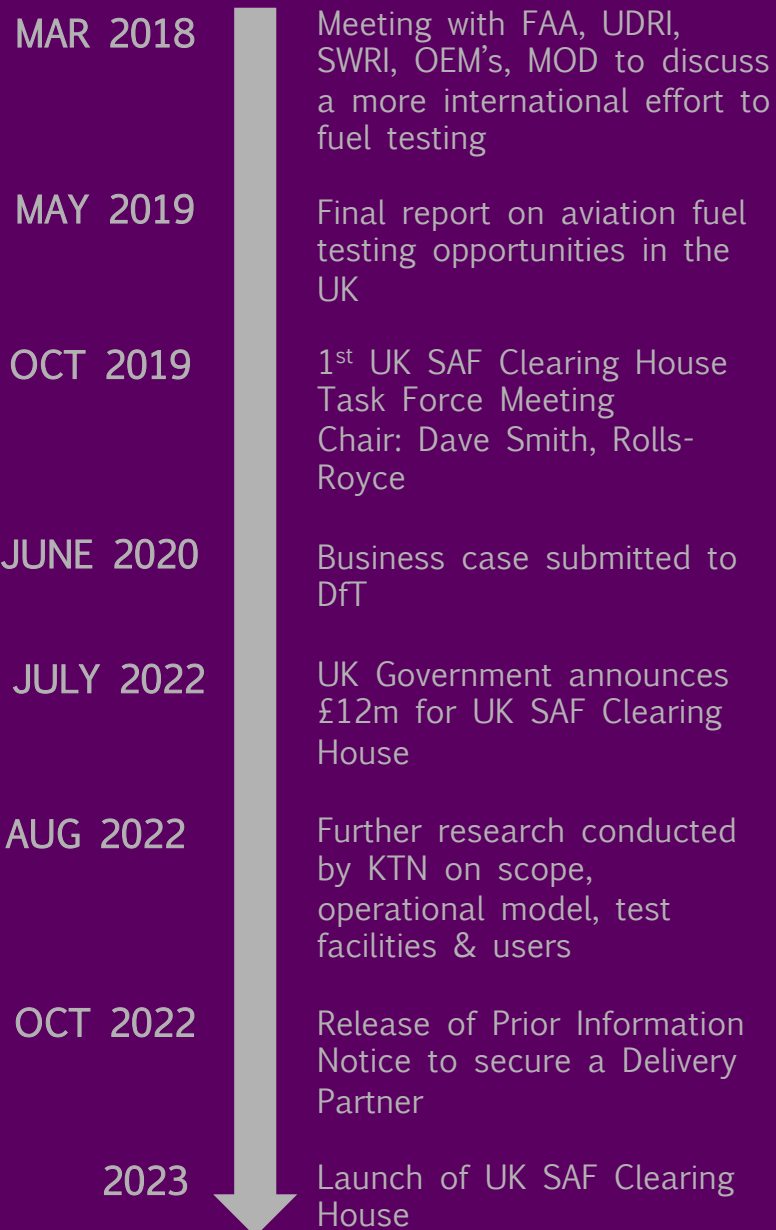
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Fuel Consultants: Chris Lewis & Joanna Bauldreay

MAR 2018	Meeting with FAA, UDRI, SWRI, OEM's, MOD to discuss a more international effort to fuel testing
MAY 2019	Final report on aviation fuel testing opportunities in the UK
OCT 2019	1 st UK SAF Clearing House Task Force Meeting Chair: Dave Smith, Rolls-Royce
JUNE 2020	Business case submitted to DfT
JULY 2022	UK Government announces £12m for UK SAF Clearing House
AUG 2022	Further research conducted by KTN on scope, operational model, test facilities & users

KTN Project Objectives

- 1) Identify UK testing facilities & the ASTM standard tests they offer
- 2) Gather insight from stakeholders on whether a UK SAF Clearing House should be:
 - a) A virtual (hub and spoke model), physical (ran out of one organisation) or an alternative model, pros and cons of each
 - b) Financially supporting all ASTM Tiers (Fast Track, T1, T2, T3 T4) or early stage testing only or later stage testing only
- 3) Identify fuel suppliers who will use the UK SAF Clearing House
- 4) Explore how best a UK Clearing House can interact with the US and EU Clearing House



Project Outcomes

SCOPE	α & β screening Tiers 1 & 2 testing Tiers 3 & 4 testing on a case by case basis
OPERATIONAL MODEL	Virtual Physical (ran through a facility) Be a network of testing facilities (as no one facility can conduct all tests)
US CLEARING HOUSE	UK clearing house must work collaboratively with the US CH (testing, data & OEM review)
POTENTIAL CLIENTS	Of 23 companies, 69% are ready for testing in 2022

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JUNE 2020	Business case submitted to DfT
JULY 2022	UK Government announces £12m for UK SAF Clearing House
AUG 2022	Further research conducted by KTN on scope, operational model, test facilities & users
OCT 2022	Release of Prior Information Notice to secure a Delivery Partner
2023	Launch of UK SAF Clearing House



THANK YOU

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www.ktn-uk.org



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FAA D4054 Clearinghouse

Presented to **UK SAF Clearing House Delivery
Partner Briefing**

Presented by Mark Rumizen, Senior Technical Specialist,
Aviation Fuels

Date November 14, 2022



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Administration

STEP // SENIOR TECHNICAL
EXPERTS PROGRAM
ADVANCING SAFETY THROUGH SCIENCE

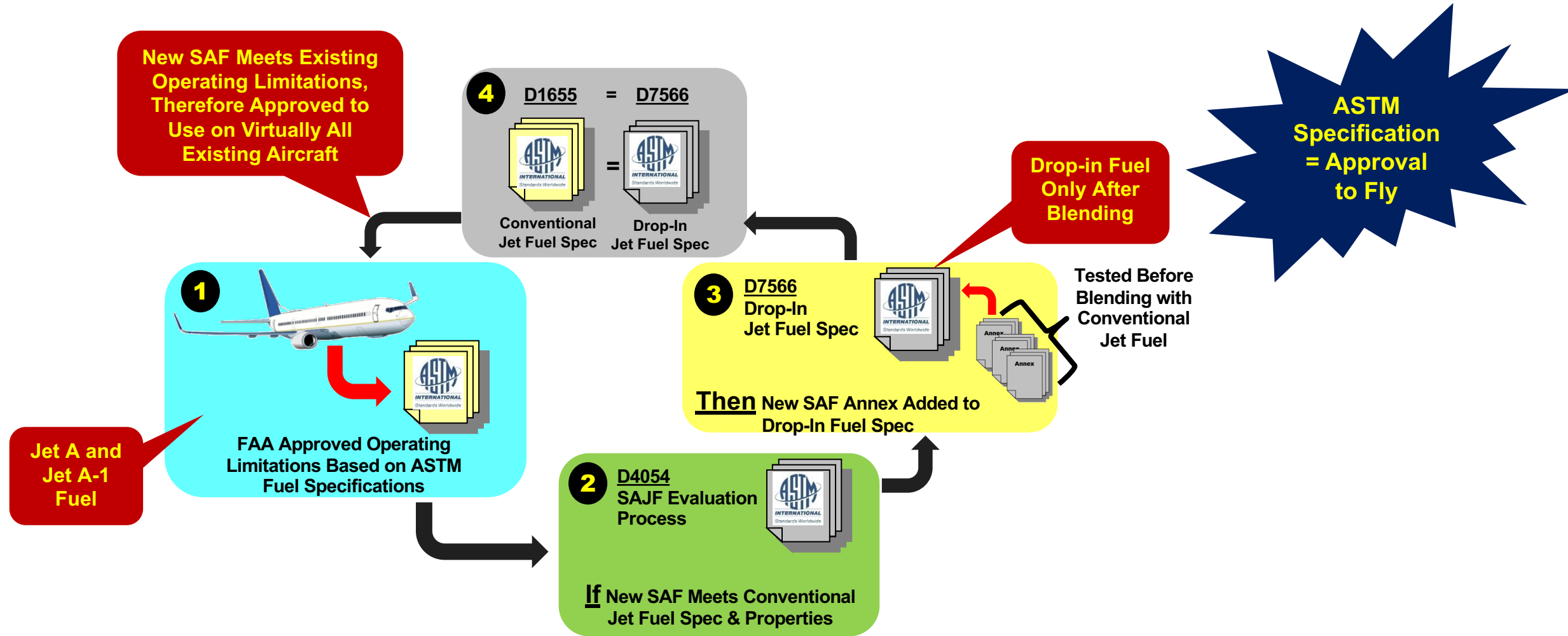
Agenda



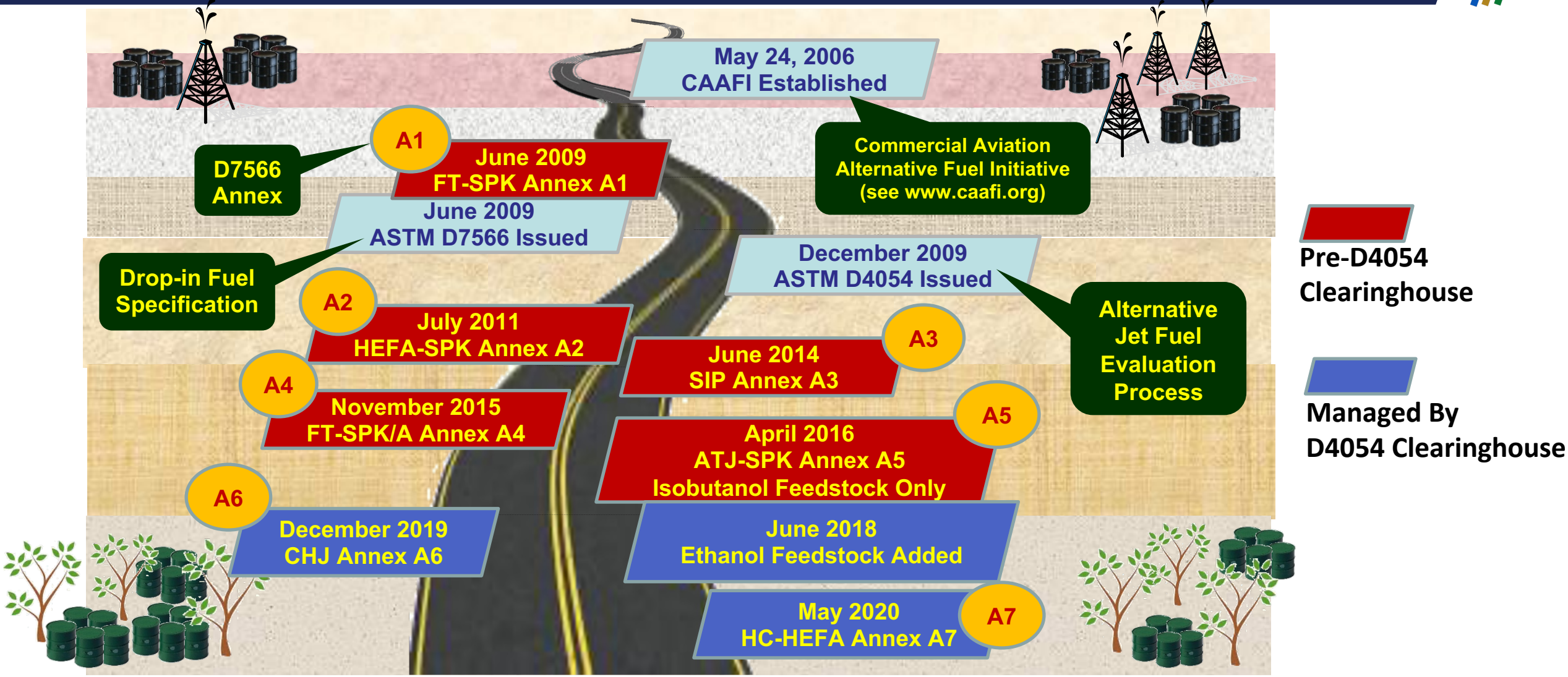
- **How are SAFs Approved?**
- **ASTM D4054 Evaluation Process**
- **FAA D4054 Clearinghouse**



How are SAFs Approved?



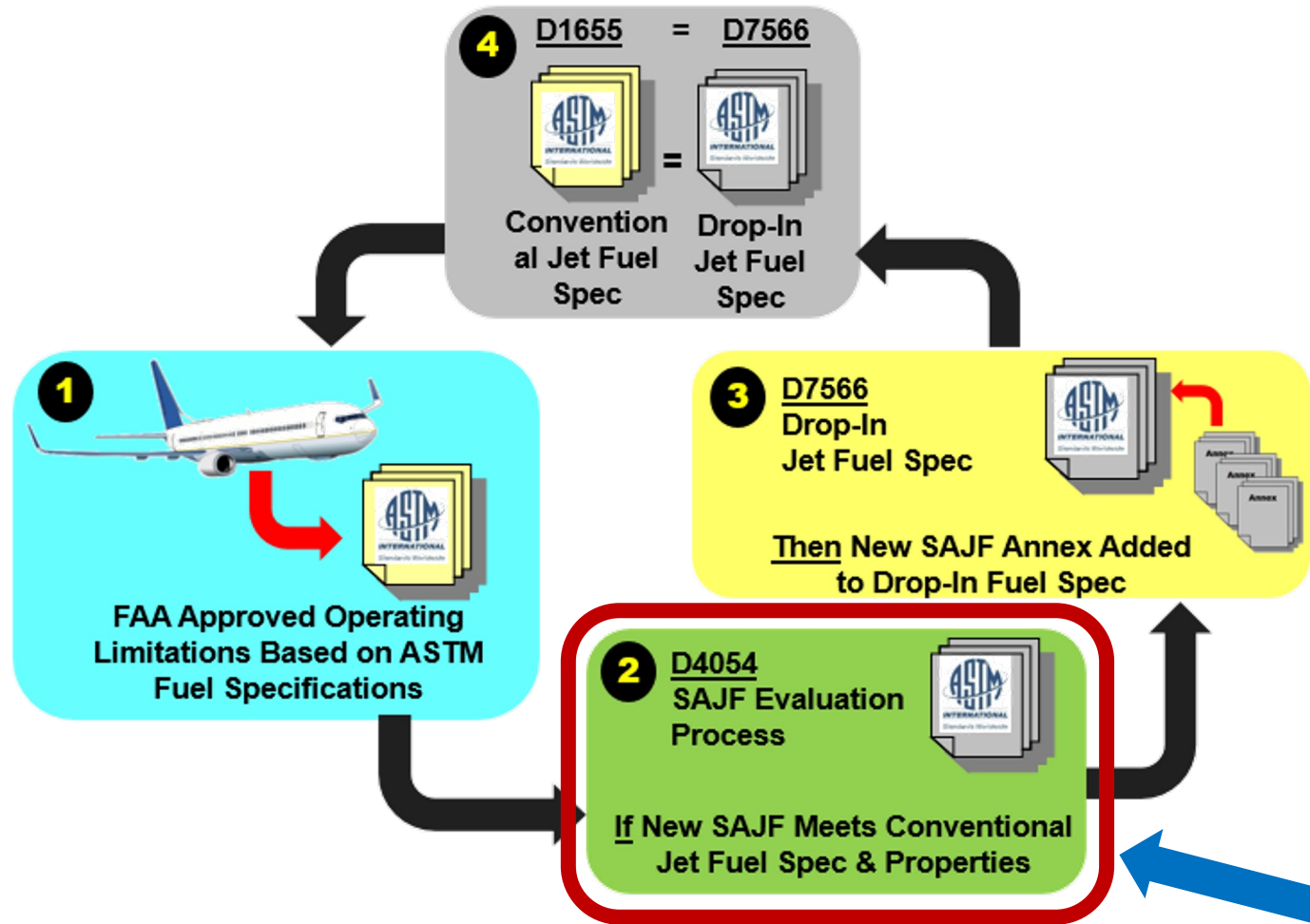
Synthetic Aviation Turbine Fuel (SATF) Progress



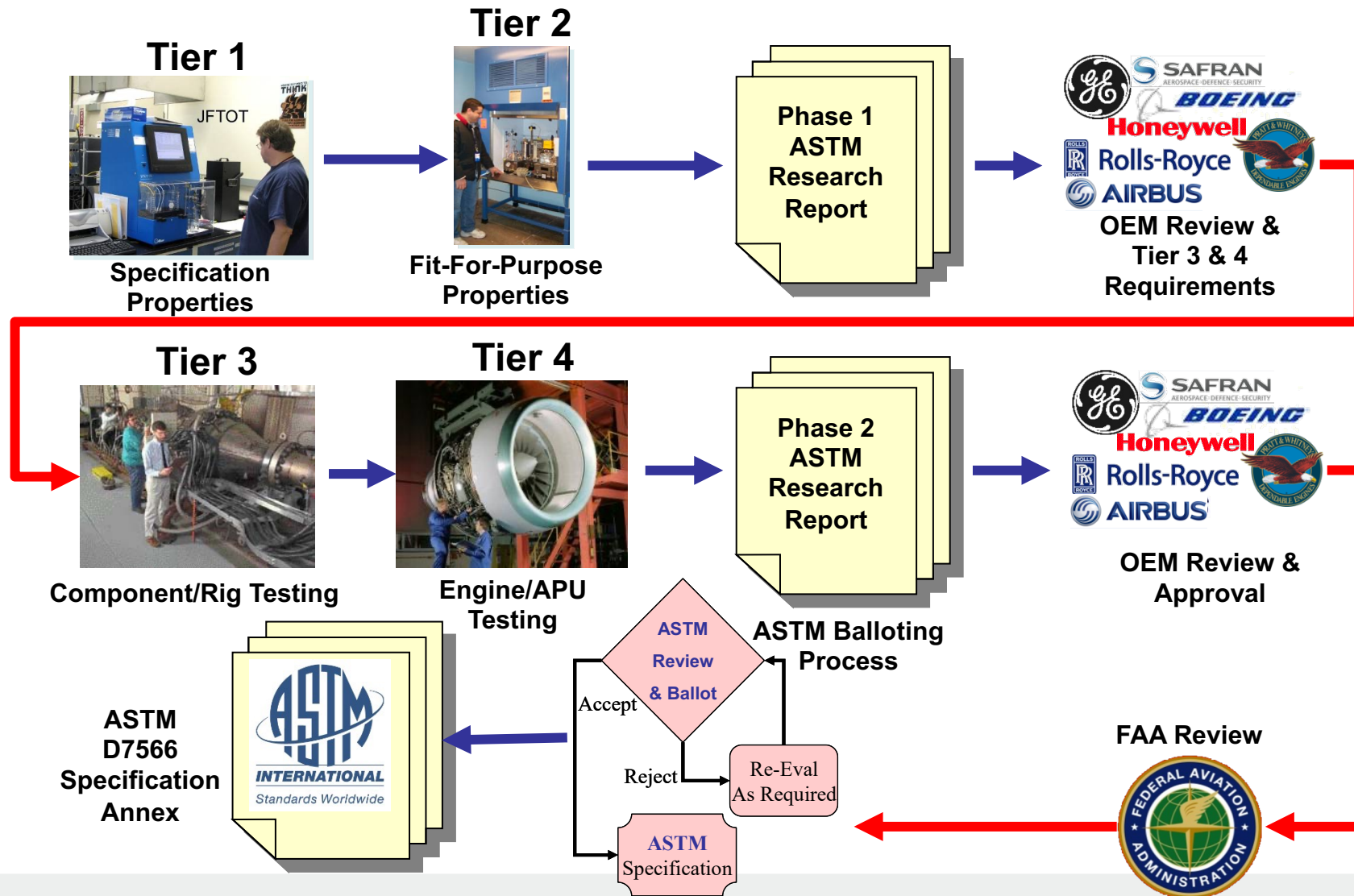
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Let's Look at the ASTM D4054 Evaluation Step



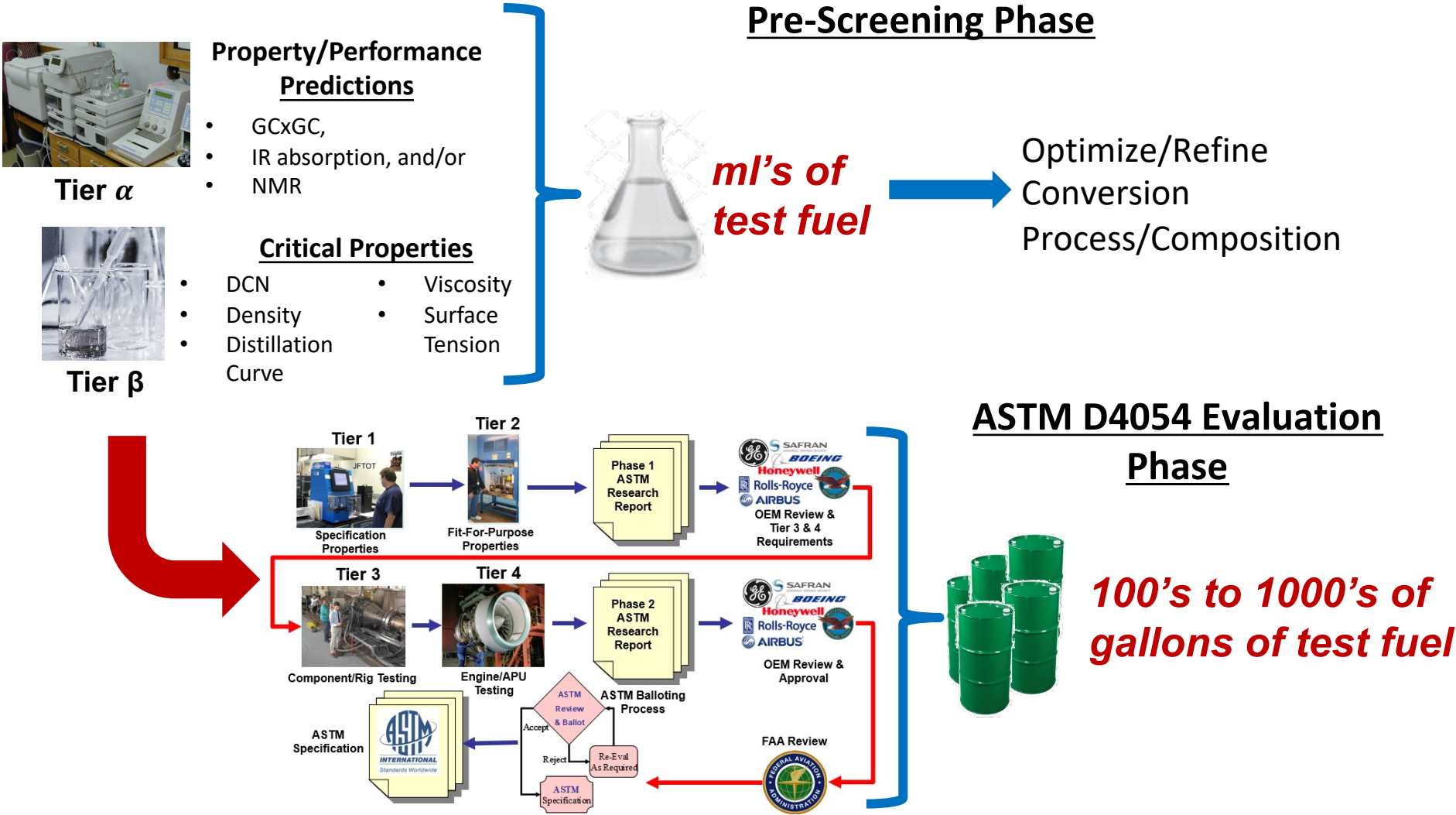
ASTM D4054 Evaluation Process



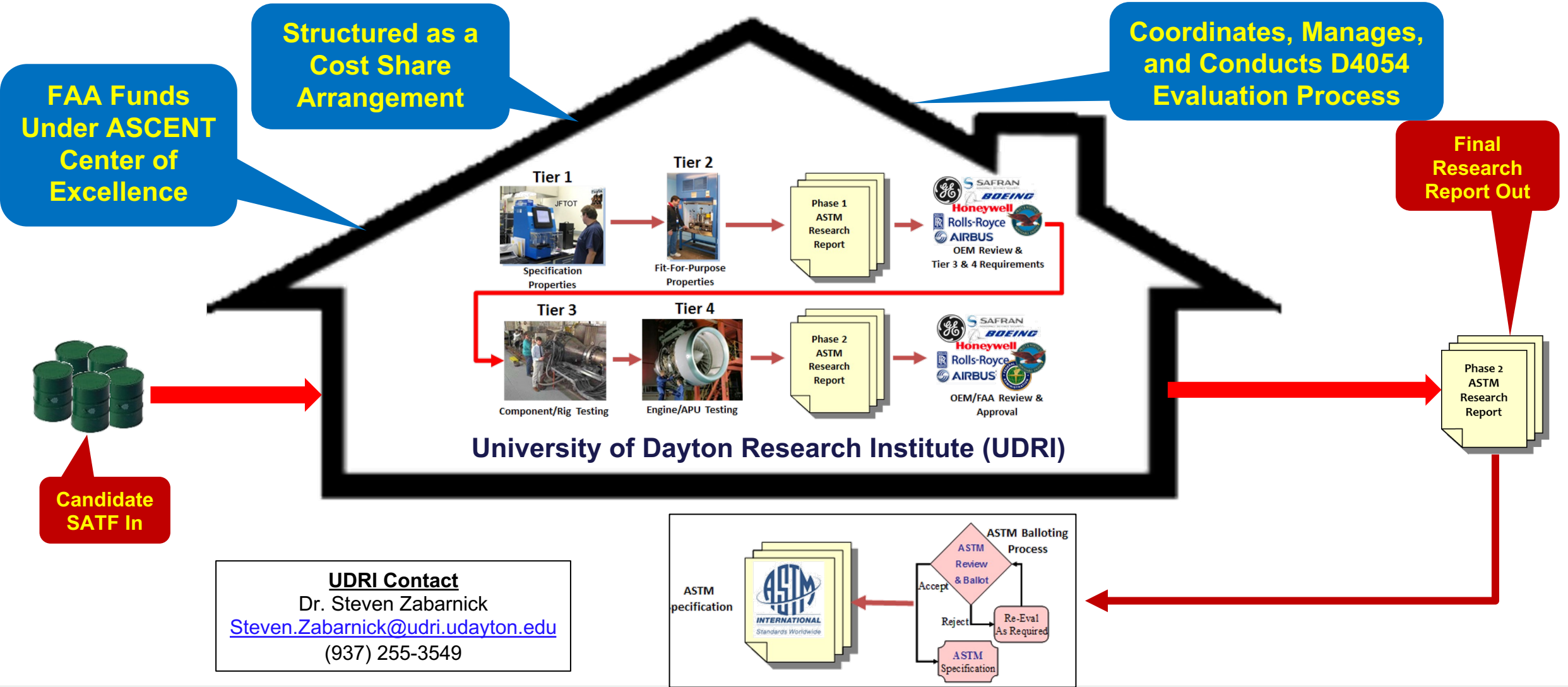
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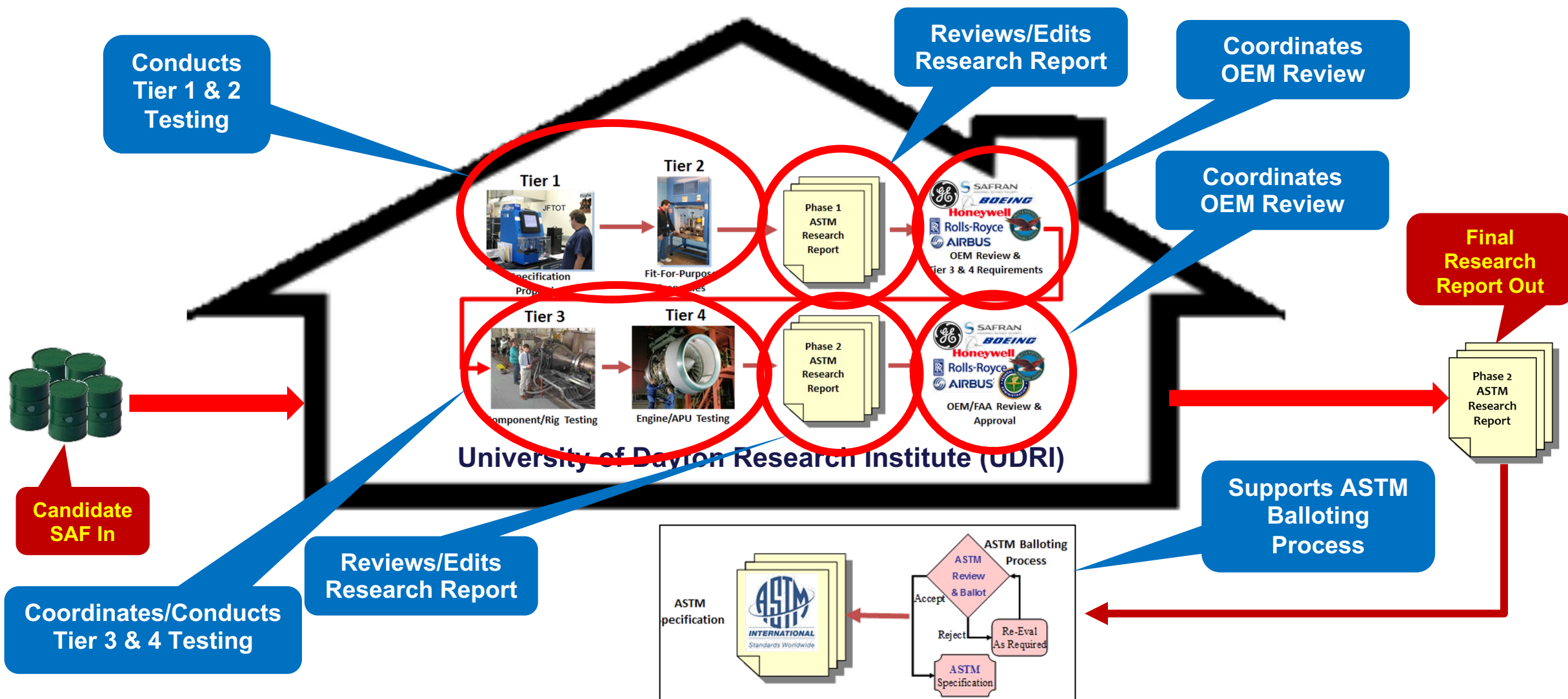
SATF Pre-Screening



FAA D4054 Clearinghouse



What Does the FAA D4054 Clearinghouse Do?



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What Does the FAA D4054 Clearinghouse Do?



Tier α

Property/Performance Predictions

- GCxGC
- IR absorption, and/or
- NMR



Tier β

Critical Properties

- DCN
- Density
- Distillation Curve
- Viscosity
- Surface Tension

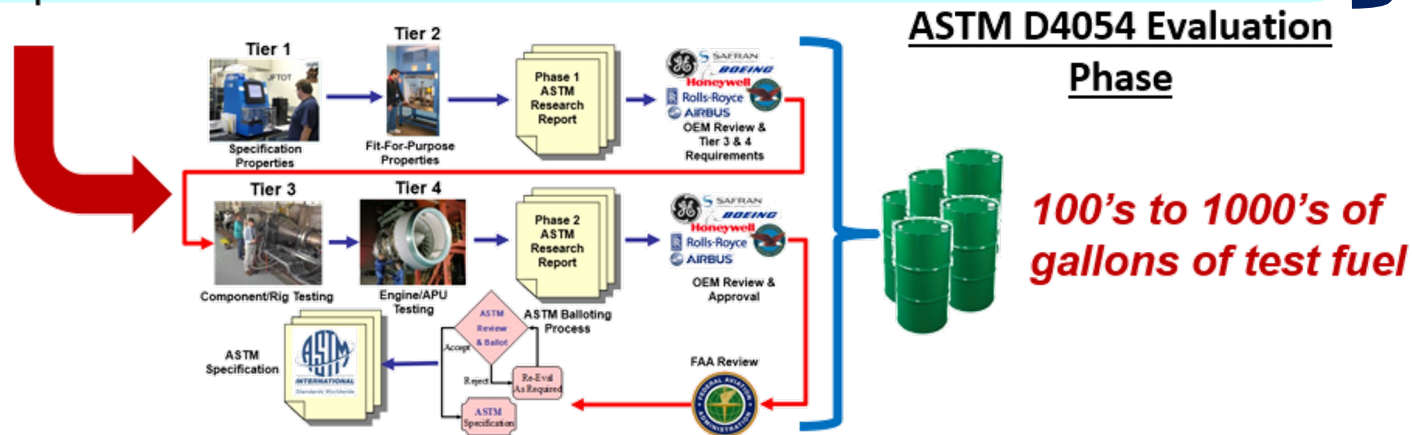
Pre-Screening Phase



ml's of test fuel

Optimize/Refine
Conversion
Process/Composition

**FAA D4054 Clearinghouse
Does NOT Support
Prescreening**



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Thank You

Mark Rumizen

Senior Technical Specialist, Aviation Fuels

Federal Aviation Administration

Aircraft Certification Service

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Questions?



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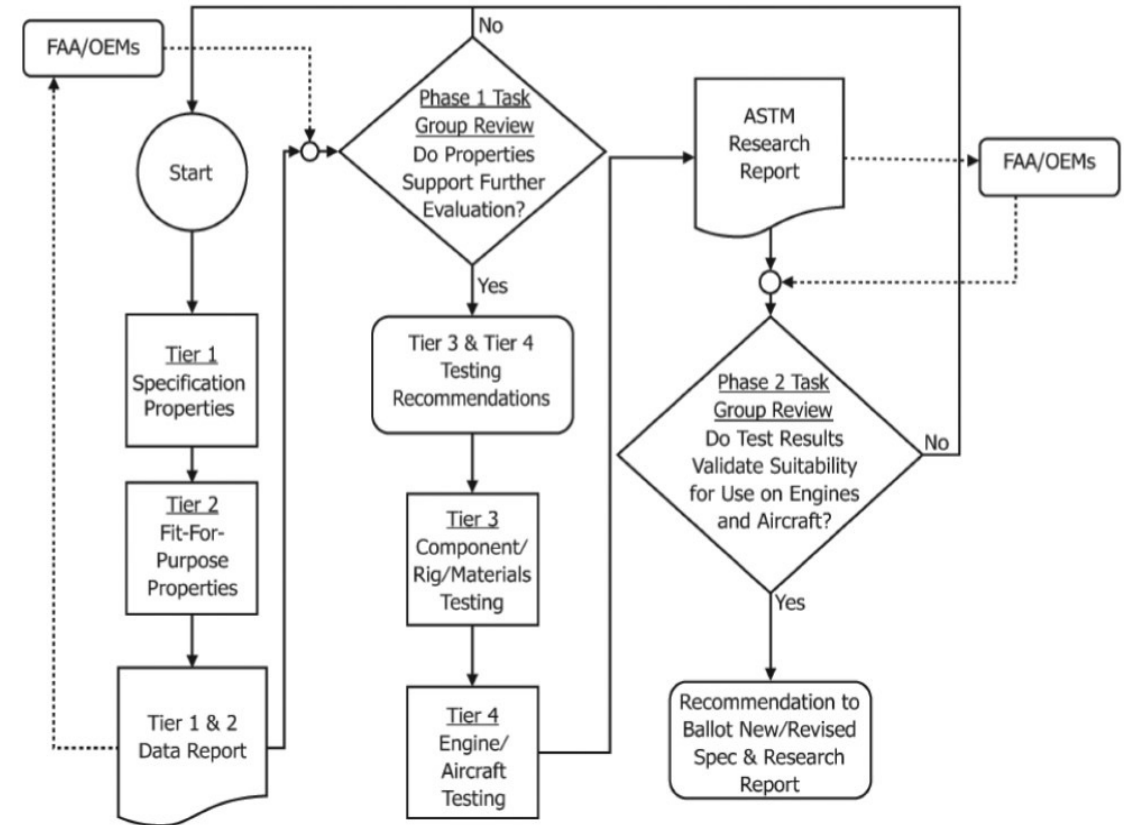
UK Clearing House Delivery Partner

Phoebe Bendall
Advanced Fuels Funding Programmes,
DfT

UK SAF Clearing House

The key objectives of the UK Clearing House are to...

- Enable testing and certification of SAF in the UK to Tiers 1 & 2, and Tiers 3 & 4 on a case-by-case basis
- De-risk the testing process for SAF producers
- Accelerate market entry of new advanced fuels to support 10% SAF by 2030 target
- Signal the UK's commitment to building a thriving domestic SAF industry
- Collaborate with other Clearing Houses to share data and support global SAF development



Overview of ASTM D4054: Standard Practice for Evaluation of New Aviation Turbine Fuels and Fuel Additives

What are we looking for?

The delivery partner will...

Act as a central 'hub' for a network of testing facilities across the UK

Provide advice and guidance to fuel producers on required testing

Signpost fuel producers to testing facilities and co-ordinating testing

Work with OEMs to support development of research reports and define later stage requirements

Support the DfT in assessing eligibility of grant claims for testing and OEM review costs where appropriate

The requirements

DEVELOPMENT PHASE

- Design final operating model of the UK SAF Clearing House
- Prepare to launch the Clearing House
- Develop a website and communication channels
- Build relationships with UK testing facilities and wider stakeholders
- Put in place a part-time Clearing House Director

2 – 3 months

DELIVERY PHASE

- Launch and promote the Clearing House
- Engage with producers to maintain a pipeline of fuels for testing
- Put together a tailored testing plan for each new eligible fuel
- Co-ordinate testing and oversee progress
- Support DfT in providing grant funding to cover eligible testing and OEM costs
- Facilitate data sharing with other Clearing Houses

2 years

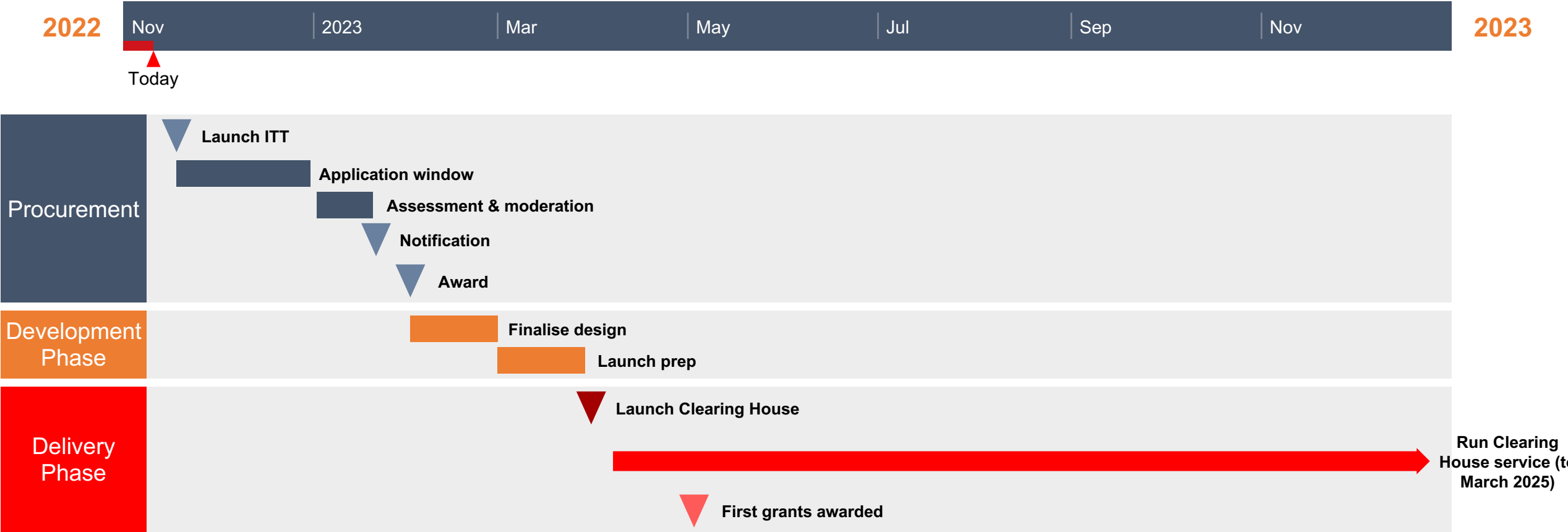
Out of scope

The delivery partner will **not** be required to:

- Manage, hold or distribute Government funds
- Make final decisions on award of funds
- Purchase testing equipment – capability is now in place in facilities around the UK
- Carry out testing in-house (unless based in physical centre with capability)



Indicative project timeline



How to apply

- Please register to the E-Portal (Jaggaer) <https://dft.app.jaggaer.com/>
- Competition will be an open competition launched under Public Procurement Regulations 2015 (<https://www.legislation.gov.uk/uksi/2015/102/contents/made>)
- Registered suppliers will be invited to join the tender process. If suppliers are not registered at time of launch, they will be able to find the live tender via Contracts finder (<https://www.contractsfinder.service.gov.uk/Search>).
- All details surrounding clarification dates and submission deadlines will be highlighted within the competition on Jaggaer.
- Once the tender process is live, all communication must go through the E-Portal via the messaging system.

Adam Griffiths (adam.griffiths1@dft.gov.uk)

Commercial Relationship Advisor

Questions?



Wrap up & closing remarks