CLEAN TECH AVIATION CONSORTIUM

ABSTRACT

Clean affordable Air Transport is possible when using Liquid Natural Gas as bridging solution/01-02-2020

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Clean Tech Aviation CTA BV & Clean Tech Aviation GmbH

CLEAN TECH AVIATION

Identified Current Challenges in the World of Aviation

The world of Aviation is under permanent change and becoming an even more interesting market for the business world of Banking and Investment.

The number of activities in the world of aviation is rapidly increasing. Due to a rising interest of air activities: both: passengers and cargo, there is an increasing demand for: airports, airplanes pilots and: fuel.

But: due to the pressure on us, the need for innovation: the development of new strategies tactics and instruments to make and keep 'our planet' healthy and alive is enormously great and even increasing day after day....

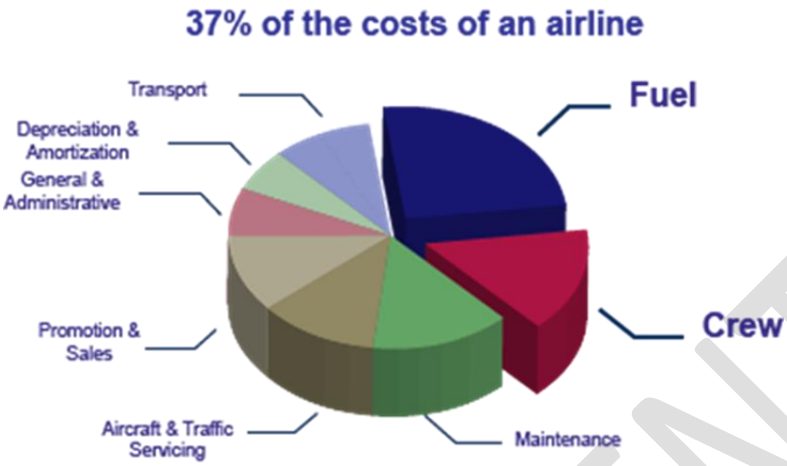
Also: the current ways of availability and the distribution of fuel, as well as the lack of reliability on constant fuel prices bring many unstable market-price related situations

Besides: the Aviation industry suffers already for a longer time with low margins and up to 70% of the operating cost are produced by fuel costs. Reducing carbon dioxide in aviation is the profitable and legal right thing to do and also obligatory by Law.

Impact Globalizations on World Air Transport

Real time image daily occupation of the air by aviation transport:

In the aviation industry, the segment of GA and BA have been overlooked with the green flight requirements and: even today: still fly with upgraded gasoline fuel containing, lead and fossil Diesel and Kerosene does all contribute seriously to our Global Air Pollution and Global Warming. This can be stopped or at least reduced... By providing and applying new sciences, techniques, services and products, thus developing a total new industry, serving the planet.



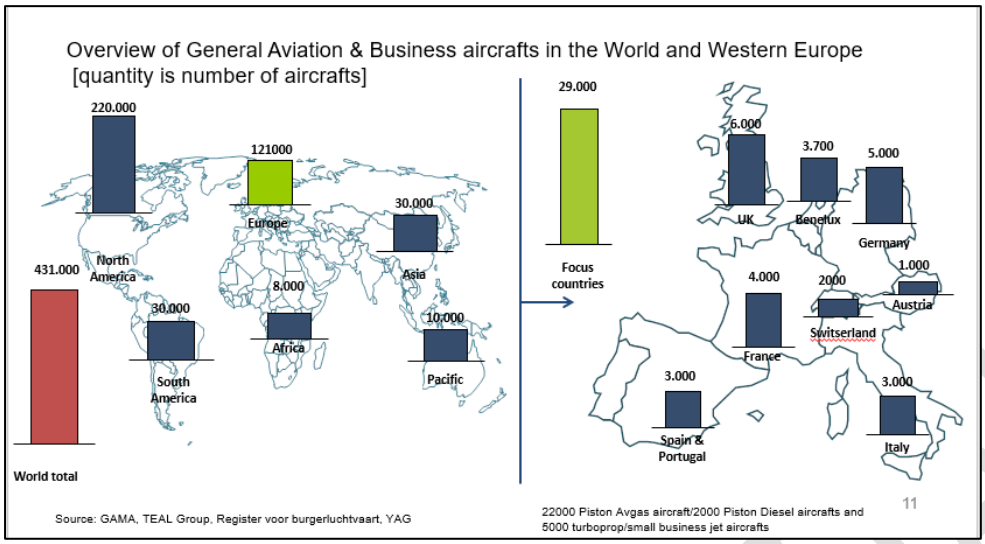
< OPEX cost of an airline

The Clean Tech Aviation Consortium unites the Aviation manufacturing industry, International Space development organizations like the NLR and DLR together with the Scientific Educational institutes like TU Braunschweig and Hanze University Applied Sciences to research and develop a Natural Gas solution as alternative energy for transportation.

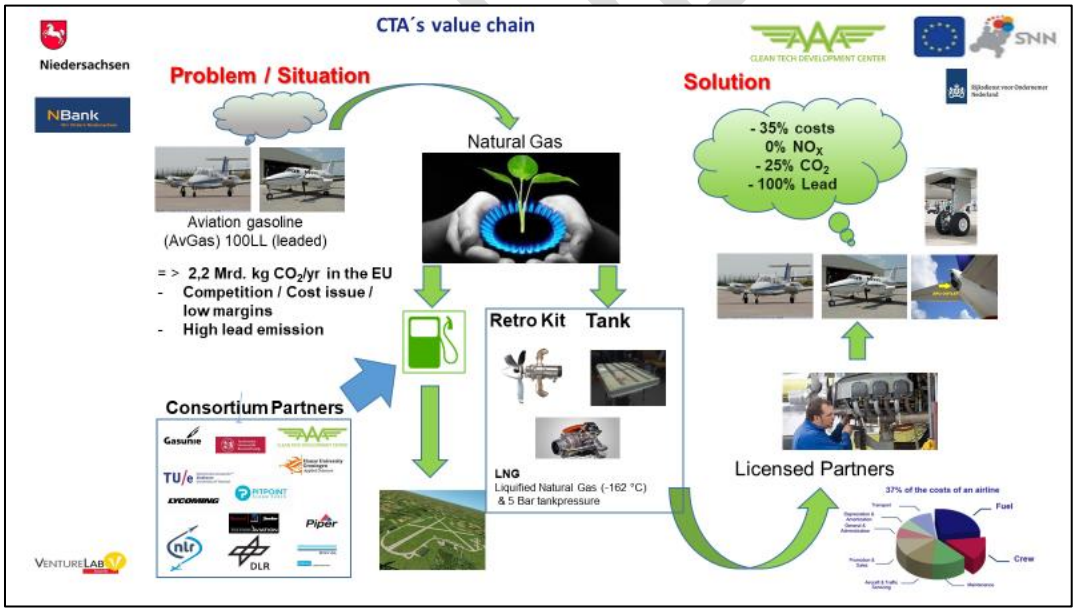
Our focus is on General and Business Aviation – retrofitting the existing fossil engines and aircrafts on use and storage of LNG with direct cryogenic energy injection. using LNG direct injection. Efficiency results of 35% are in focus and reduction of CO2 by 25% and zero NOx/ Sox exhaust pollutions.

CTA has found the solution for tackling these problems and also provide you with the people planet profit advantages: for all parties involved.

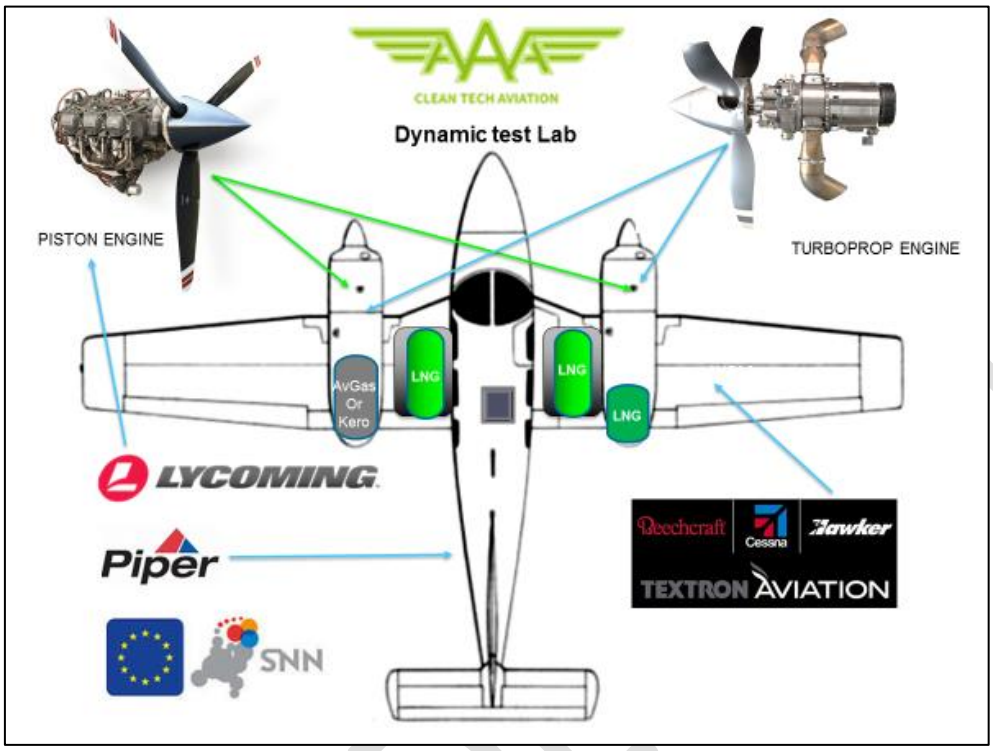
Market General and Business Aviation Aircrafts:



Strategic Approach: To have the aviation industry to adopt to a possible green and profitable solution we envisioned to deliver a proof of concept on an experimental aircraft model and scientifically design, build and test the solutions in the engine lab and on the test aircrafts



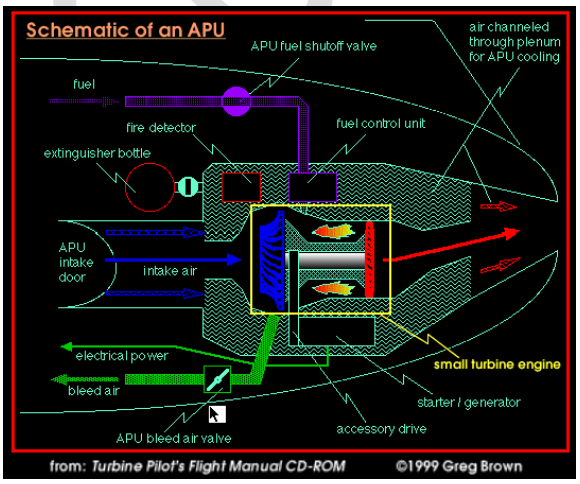
Tactical and Technical Approach: The Clean Tech Aviation Consortium redesigns and retrofits the existing piston, turbine engines and fuel tanks, APU´s on the use and storage of natural gas inside the aircraft structure to make the aviation industry cleaner and safer....



CTA BV and GmbH international Consortium partners

The Clean Tech Aviation Consortium brings together an international Consortium with the certified skills and abilities to reach those goals, developing an international chain of network partners, each one sharing and profiting from the latest developments, building an expertise, business model and eco manufacturers, leading to a cleaner and better world.

The schematic APU as hybrid kerosene and (Bio) LNG engine on Transport Aircrafts:



Extracts from the APU Master study within CTA on a hybrid APU innovation business case

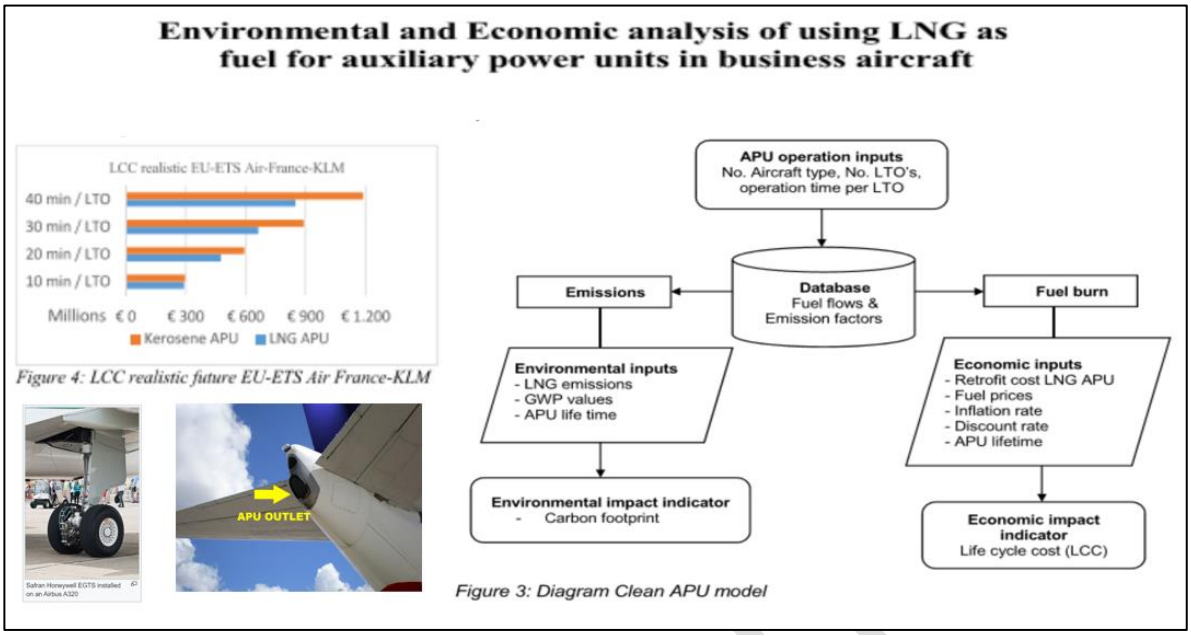
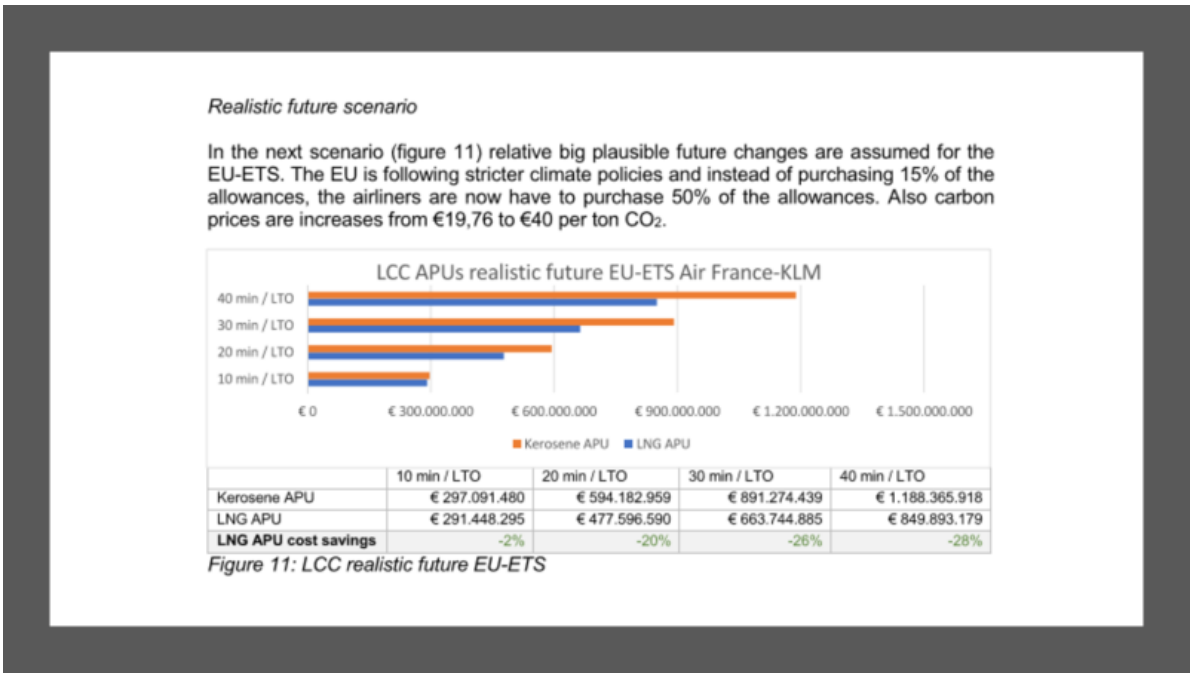


Figure 4: LCC realistic future EU-ETS Air France-KLM

Figure 3: Diagram Clean APU model

Abstract analysis info from the Master study



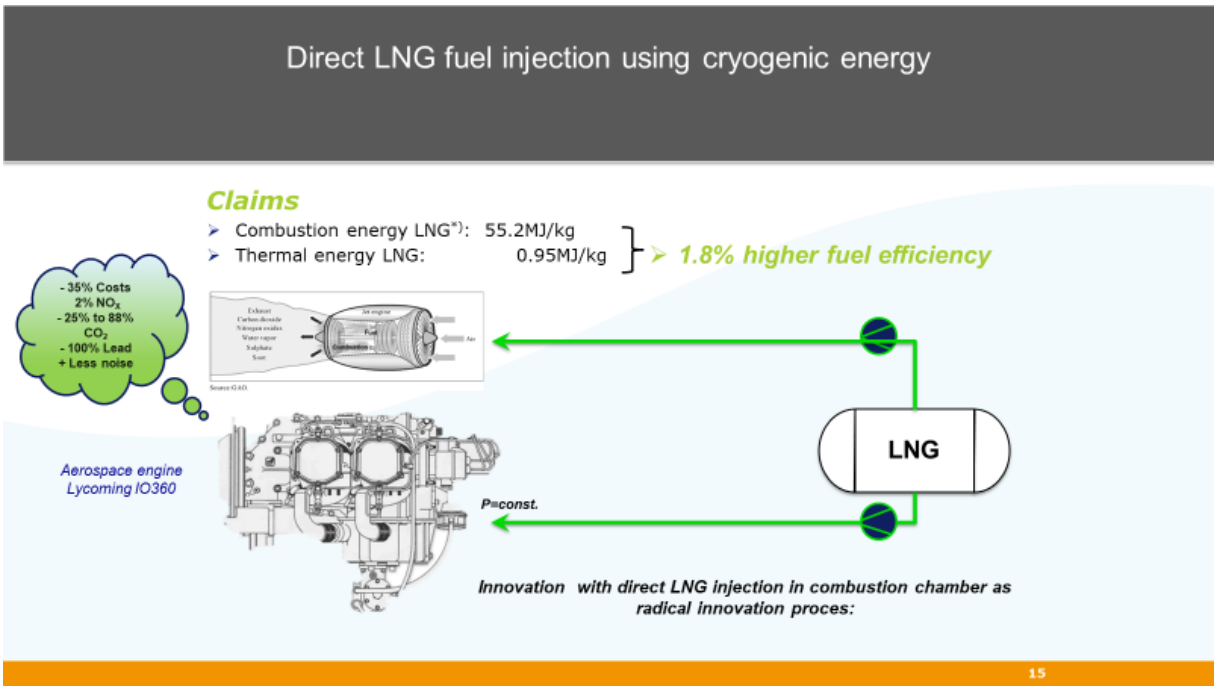
Realistic future scenario

In the next scenario (figure 11) relative big plausible future changes are assumed for the EU-ETS. The EU is following stricter climate policies and instead of purchasing 15% of the allowances, the airliners are now have to purchase 50% of the allowances. Also carbon prices are increases from €19,76 to €40 per ton CO_2.

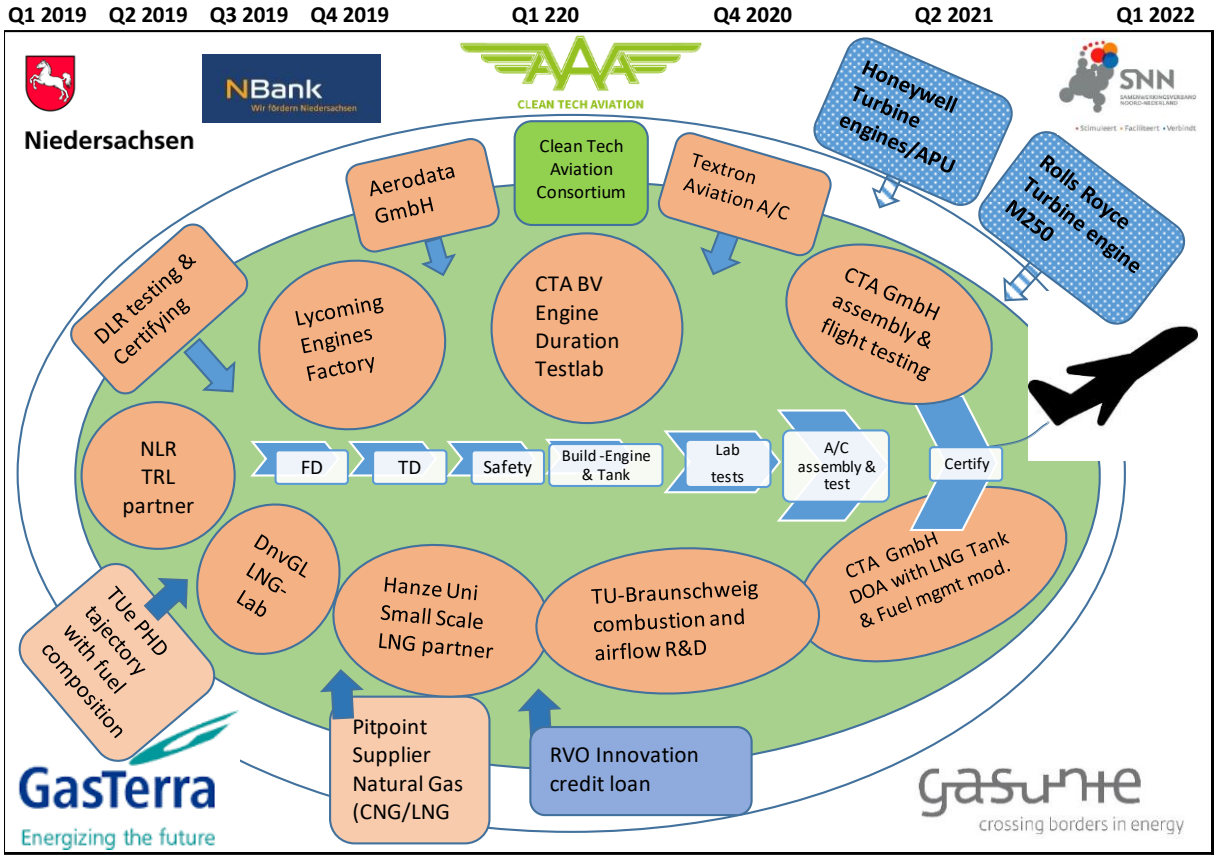
	10 min / LTO	20 min / LTO	30 min / LTO	40 min / LTO
Kerosene APU	€ 297.091.480	€ 594.182.959	€ 891.274.439	€ 1.188.365.918
LNG APU	€ 291.448.295	€ 477.596.590	€ 663.744.885	€ 849.893.179
LNG APU cost savings	-2%	-20%	-26%	-28%

Figure 11: LCC realistic future EU-ETS

Abstract graph out of the under CTA executed scientific research on the APU



The Clean Tech Aviation Consortium process



Orange coloured circles and within green circle are contracted partners, the companies that have a blue arrow are in the process becoming a contracted partner (NDA´s signed) and Blue companies outside the green circle are being approached

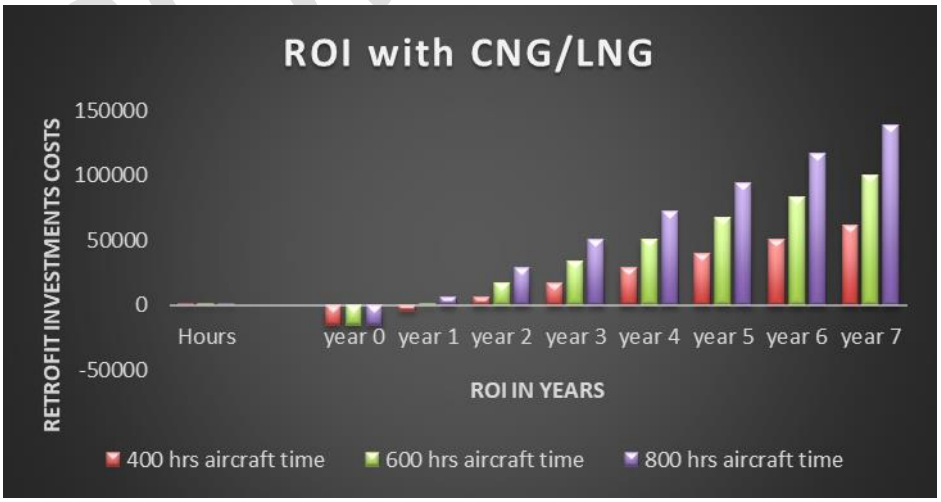
- **The Clean Tech Aviation Consortium** will execute the scientific research with the following consortium partners and contracted third parties
- **Technical University of Braunschweig and the DLR in cooperation with full daughter company CTA GmbH under financial subsidy support of the State of Niedersachsen and NBank** as " Kooperation Verbund" Partners.
- **Gasunie and Gasterra** have financially supported CTA with an financial injection of 180.000 Euro to establish her engine lab at the Energy Transition Centre Lab.
- **Hanze University** partners together with CTA BV and the Economic affairs department of the Dutch Government in the realization of the Small Scale LNG program at EnTranCe Groningen.
- **The Tue** is contracted by CTA to execute the 4 year PHD program with the by CTA BV designated PHD student starting Q1 2020.
- The **NLR** is contracted as the TRL guidance body and supports CTA with its Design Organization Approval in the realization of the Functional and Technical design, Safety and Dynamic test support.
- **Lycoming** partners fully with CTA as the engine manufacturer and backs CTA with its engine Type Certificate background IP, engine engineers and a reservation of 3.1 Mio Dollar investment for the certification of the supplemental type certificated engine working on LNG in the FAA regulated market.
- **Honeywell engines** partnership involving the hybrid APU and electric Taxiing connection developments expect to start Q1 2020
- **DLR** will build in partner-cooperation contract with CTA BV & CTA GmbH the composite Natural Gas Tank to be used within GA and BA and in connection with the TA APU's. The tank production factory will then be established in Groningen.
- **Aerodata GmbH** dealer for Cessna and Beechcraft aircrafts at Braunschweig airport works with CTA GmbH in the assembly of all components of the testaircraft and deliver the on board testing and signalling equipment.
- **Textron Aviation** works with CTA on the part of the aircraft structural elements focussed on the natural Gas Tank retrofit in existing aircrafts.
- **CTA BV** facilitates and tests the natural gas usage innovation on the test engines in the CTA BV engine duration testing lab at the Hanze University Energy Transition Centre (EnTranCe) in Groningen.
- **CTA GmbH** develops the natural gas tank with composite materials together with DLR and construct the first prototypes in the DLR location in Braunschweig. CTA GmbH assembles all components in the natural gas prototype aircraft at the CTA GmbH location, with hired technical support from Aerodata and partner support from Textron and Lycoming USA. CTA GmbH development and technical and piloting staff executes the dynamic airborne tests on the LNG engines, LNG fuel systems and storage and aircraft instruments and handling characteristics from the experimental testing airport of Braunschweig.
- **DNVGL** executes in partnership with CTA the natural gas laboratories tests for the CTA aviation and maritime innovation projects and assists with the engine lab motor tests and regulatory processes. DnvGL and CTA plan to join their logistic test labs on the EnTranCe location by Q4 2020.
- **Pittpoint** is in the partner development with CTA BV how and when to join the consortium with the supply of Natural Gas (CNG and LNG) and insert their expertise as such.

- **LNC Hannover** invited CTA GmbH to join the Zim Binnenschiff 4.0 program and CTA signed the mandate with LNC Hannover in 2019
- **EURA AG** is contracted CTA GmbH with its Niedersachsen aviation Innovation subsidy program and the SME Marketing subsidy after the delivery of the first certified prototype
- **Ruber Acia** is contracted by CTA BV in support of all Dutch MIT VIA and Valorisation project submittals.
- **The SNN has accepted per June 2019, CTA BV on the Valorisation subsidy program of 30% on the 1.4 Mio Euro CTA BV investment part of the AEI Program total of 2.7 Mio Euro program. The Groningen province has agreed to accept the CTA BV project and take it in an additional evaluation Province subsidy evaluation worth 10% of the total Dutch R&D investment. On the 2th of December 2019 SNN signed the 30% subsidy contract with CTA worth 502.000 Euro!**

The EASA and FAA authorities have signalled in person during the EASA annual seminar in Friedrichshafen Germany, they would support the CTA Consortium innovation program as a pilot project and as such will be real time informed to allow a undisturbed certification process and first prototype certified for commercial sale after 18-30 months in the program. We have received positive information from **Lufthansa** they consider to introduce CTA with its flight school to become a launching partner and we have found **International Aviation Services (IAS)** at the International airport Teuge to become the MRO launching partner with CTA

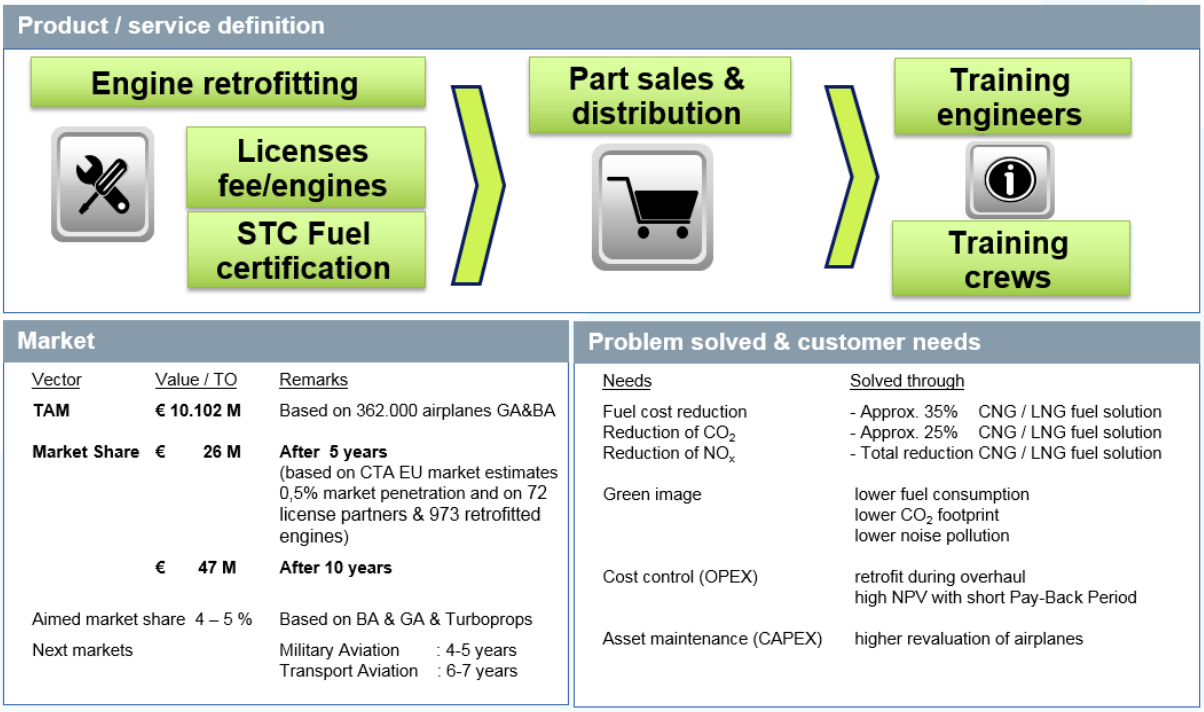
Calculated Commercial ROI Benefits:

The GA or BA aircraft user has to invest for his retrofit depending on the size of his engine 25k or 35k euro´s. A flight school training aircraft flies an average of 600 hrs per aircraft per year, and burns 50 litres per hour against an average of 3 euro per litre costs. The per aircraft fuel costs are therefore 90.000 euro annually. We will deliver the natural gas on the airfields through our partner LNG against a commercial price of 1, 45 euro. By this giving the a/c owners a 45 % OPEX cost saving on their fuel costs. The environmental bonus supporting the one year ROI with a 25% carbon dioxide reduction and zero Nox / Sox emissions reached!



Retrofit ROI on the General aviation and Business aircraft owners

The CTA Products and Market



The Clean Tech Aviation Consortium Products & Services:

The Clean Tech Aviation Consortium will earn her revenues through delivering 6 products to the maintenance stations and A/C owners:

- **the retrofitting of the engine & aircrafts,**
- **the licensing fees to the maintenance stations for the retrofitting of their client's engines aircrafts producing a business model change from push to pull**
- **Spare parts purchase and delivery**
- **License fee of the engine Supplemental type certificates**
- **Training the maintenance engineers on natural gas retrofits**
- **Training the flight crews and instructor pilots on use of flying with natural gas**
- **Receive 40% of the margin of the natural gas price delivery**

Commercialisation schedule:

The Clean Tech Aviation Consortium launches its first certified aircraft on the market within 18 – 30 months starting to make revenue and scale up to a respectable return of investments. CTA´s start is aimed on full penetration in Europe via her German daughter **The Clean Tech Aviation Consortium CTA GmbH.**

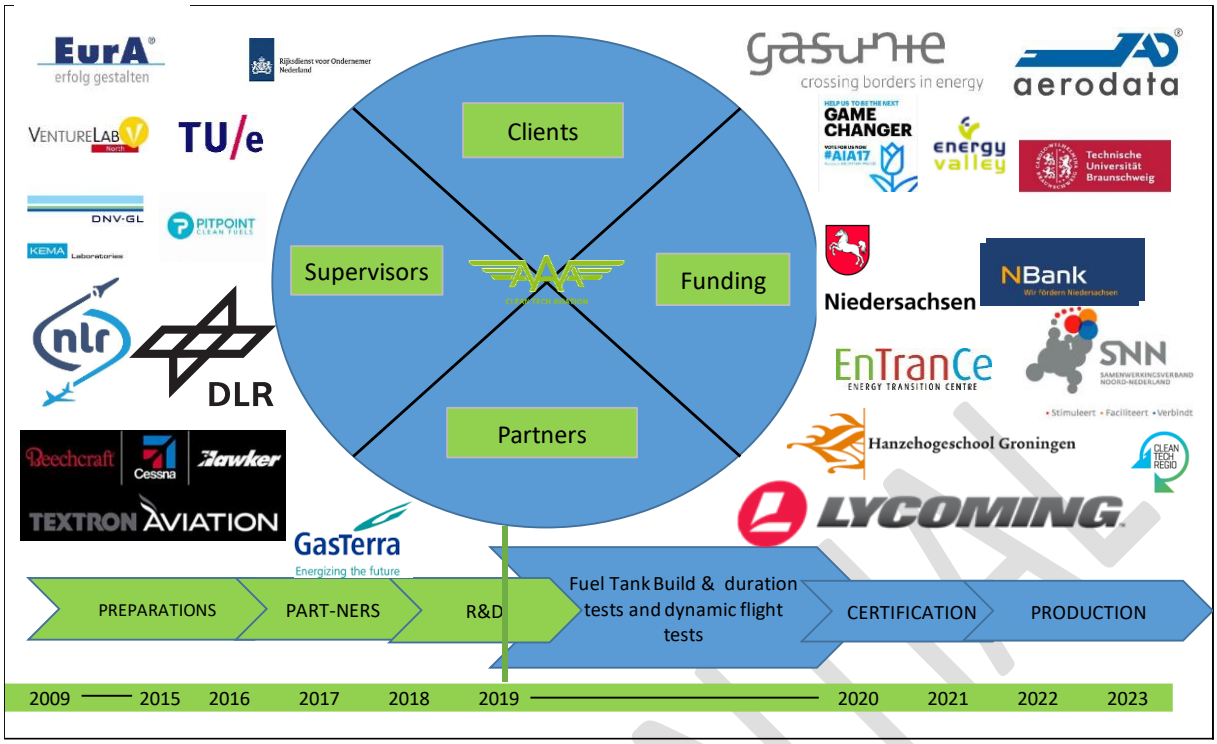
Via the since 2008 registered US based CTA LTD daughter Ruber Acia Inspirations Ltd, and in close cooperation with her partner companies Textron Aviation Ltd and Lycoming Engines Division, the penetration of the US market will be executed followed by the Asian markets.

Potential commercial spin off´s:

Transport aircraft Auxiliary Power Units (APU). The APU´s on aircraft are used for on board electricity and air-conditioning and main engine starting using its APU bleed air. A transport aircraft´s APU burns in general 150 litres per hour. An average aircraft has a 2-hour turn-around time on an airport. Schiphol services in average 1400 aircraft per day parking on the airport. Doing the math means 153 Billion litres per year being burned. 1 litre of fossil fuel produced 2,5 kg carbon dioxide meaning as such an annual carbon dioxide pollution at Schiphol airport of 383 Billion Kg!

The CTA Consortium aim is to use the CTA disruptive innovation with LNG on the then hybrid APU as a transition fuel to 100% emission free transport. It is only logical and safe to use the hybrid (LNG_- Kerosine fuel operated) APU, as the cleaner power source for not only the onboard systems, but also to be utilized for powering an electric driving system (EDS) on the main landing wheels as the propulsion system during taxiing after landing and before take-off. When integrated into an object-oriented, mid-sized transport aircraft, such a system can save substantial in fuel costs as well as in emission pollutions. The results of tests executed by Honeywell and Saffran on an Airbus 320 in 2013 show a potential overall fuel savings of up to 2.6%, depending on the fight mission and the duration of the taxi phases. The associated CO_2 emissions may decrease by the same amount. Furthermore, NOx, CO, and HC emissions might be reduced by 64 to 80% compared to conventional ground operations.

Using **The Clean Tech Aviation Consortium** innovation expertise in the **maritime transport industry** while in a relatively safe condition in a sealed container on the ship deck, however burning 25 % less carbon and saving 35% costs would be a great footprint branding for the airports and transport companies! CTA executes currently a feasibility study if the LNG powered APU can also be used as electricity power unit on inland shipping vessels and drive an electric propulsion engine instead of the fossil fuel operated diesel engine. The feasibility study is sponsored by the SNN with a 25K MIT Subsidy. There are 352 potential inland pushing vessels in view of the total fleet of 7200 inland vessels operating currently on the main transport water routes in Europe.



Current status of the CTA Consortium disruptive innovation program

Maritime Transport

Industry with LNG turbine engine power packs:

Delivering power with the LNG 35% efficient engine to an electromotor bringing its vessels fuel costs back with 35% and a huge carbon reduction potential with the current heave oil used in the maritime sectors,

Competition:

There are some three party's knowingly active in Bio Fuel solutions in aviation, but they mainly focus on fine tuning current processes. One party focusses on getting the lead out of the avgas fuel. Another competitor is focusing on bio fuels like use of Camelina nuts and another on algae use but that will take another 5 years before being more readily available. In the maritime industry and trucking industry LNG is in use, but with the use of heaters brought to atmospheric temperatures and as such save as an average 10% costs.

Natural Gas in CNG and LNG CTA has in focus is readily globally available and will act as the bridging ERA until CTA has developed a solution that supports use of Hydrogen and electricity on new designed and developed aircrafts. The current fleets of aircrafts in the world have a lifetime of 45 years in average so this is an opening for a retrofit solution like CTA and her partners as a bridging process.

Finances:

- **The Clean Tech Aviation Consortium** has up to now invested 1, 5 Mio Euro in R&D and has another additional 675k allocated for the coming two years prototyping.
- **The Clean Tech Aviation BV** has taken part with an investment of 400K Euro in the

1, 2 Mio Euro Green Deal Project together with the University of Hanze Applied Sciences and the Economic Affairs Department of the Netherlands each investing an 400k Euro to establish the Small Scale LNG Educational Program and the SME operated natural gas bio engine lab at EnTranCe site.

- **The Clean Tech Aviation BV** has been granted from the Dutch Government a WBSO innovation income tax reduction on the CTA engineering staffing salaries for the ful R&D program that covers a 600K Euro support freeing the complete technical staff income tax budgets for CTA
- **The Clean Tech Aviation GmbH (full daughter company of CTA BV)** has been given the green light on the 19th of September 2019 from the NBank and Niedersachsen Bundesland for the submittal of a 1 Mio Euro Subsidy on the German CTA GmbH " Kooperation Verbund Kontrakt" with the DLR and Technical University Braunschweig as partners, to be contracted to CTA's project per Q1 2020 from Niedersachsen Bundesland and the NBank. The final administration and partner contracts between CTA and its R&D partners incorporating the connected project partners IFAS University and DLR are currently being drafted. Both R&D institutes are based at Braunschweig Airport. The completion of all contractual paperwork and final signatures are scheduled to be completed before 30 January 2020.
- **The Clean Tech Aviation Consortium:** US based partner Lycoming Engines has signed a teaming contract per 20 Dec 2017 with a 100k in kind investments contracted and for 3.1 Mio Dollars reservation after having achieved the supplemental certification of this CTA Consortium LNG in Aviation disruptive innovation with the FAA aviation authorities.
- **CTA BV** has achieved 2016 the first price award winning in the VentureLab North entrepreneur program and received a 10.000 price award.
- **The Clean Tech Aviation Consortium** has been selected in 2017 as Clean Energy finalist out of 795 companies in the Accenture Innovation Awards
- The **NLR** and **The Clean Tech Aviation Consortium** have joined efforts to bring also the disruptive technology innovation project under the wings of the TKI program
- **DNvGL** based in the Netherlands, has joined the CTA Consortium as well and partners with CTA BV with an in-kind investment contract per June 2019.
- **Pitpoint** and CTA are in negotiating meetings for their participation with the Consortium supplying the CNG and LNG in the R&D project and on the distribution locations (Airport/Maritime)
- **LNC Hannover** has signed a Mandate contract with CTA GmbH to take part in the "Binnenschif 4.0 Program "with CTA's innovation and their LNG Powerpack solution. LNC is in the process of connecting the 5 other companies to the project like a ship owner, electro engine innovator etc. Project is expected to start per beginning 2019
- **CTA BV** has received a 25K Euro subsidy per October 2018 Research on the Feasability of CTA's Maritime Power Pack for use on Inland Shipping Vessels supplying electricity from the LNG operating engine to the onboard electrical propulsion engine.
- CTA has received a 25k Euro subsidy per October 2017 to research the possibility to retrofit the Auxillary Power Unit (APU) as hybrid motor running on LNG to power 2 electrical motor units on the aircraft main landing wheels allowing it to taxi electrical after and before landing. CTA installed and incorporated since 9 July 2019 a Master Student on this subject delivering the results per 30th of November 2018. CTA and Schiphol Innovation Board started talks on 19 December 2019 how to combine forces

in battling earth global warming and make an accelerated positive contribution using CTA's disruptive innovation on major airfields like Schiphol with the hybrid APU working on LNG

- CTA has received approval from the SNN Board to receive a 30% Valorisation subsidy on the Dutch 1.4 Mio R&D investment part. The technical completion started in June 2019 and received completion by the 2nd of December with a formal subsidy contract value 502.000 Euro.
- The Groningen province have visited the CTA engine laboratory in mid-2019 and they are prepared to accept the CTA SNN Valorisation contract and then will evaluate to contribute another 10% from our total R&D sum and use their annual province business development budget for that contribution.

Reasons enough to consider **The Clean Tech Aviation Consortium** as your future partner in new Aviation Fuel technology systems

The Total Addressable Market (TAM) is only covering the General and Business Aviation and has a value over 10 Billion Euro

Description	Values		Remarks	
Total Addressable Market (TAM)	362.000		Total world market airplanes GA (USA&EU)	
USA based	259.000		Total USA market airplanes GA	
EU based	103.000		Total EU market airplanes GA	
Technology Adoption rate	16,0%		Innovators & Early Adopters	
Segmented Addressable Market (SAM)	16.480		Total EU market airplanes GA SAM	
Share of Market (SoM)	993		As per our estimates, the market (2018-2022)	
Average value	13.360		Turnover value	
STC Training aircraft owner and pilot(s)	2.500		Turnover value	
Tank	7.500		Turnover value	
License fee	995		Turnover value	
STC Fuel Certification	750		Turnover value	
Retrofit parts	2.800		Turnover value	
Total turnover	27.905			
Total aircrafts world	362.000			
TAM retrofit	**10.101.610.000**			100,0%
Total turnover	27.905			
Total aircrafts SAM EU	16.480			
SAM retrofit	**459.874.400**			4,6%
Total turnover	27.905			
Total aircrafts our market	993			
SoM retrofit	**27.709.665**			0,3%

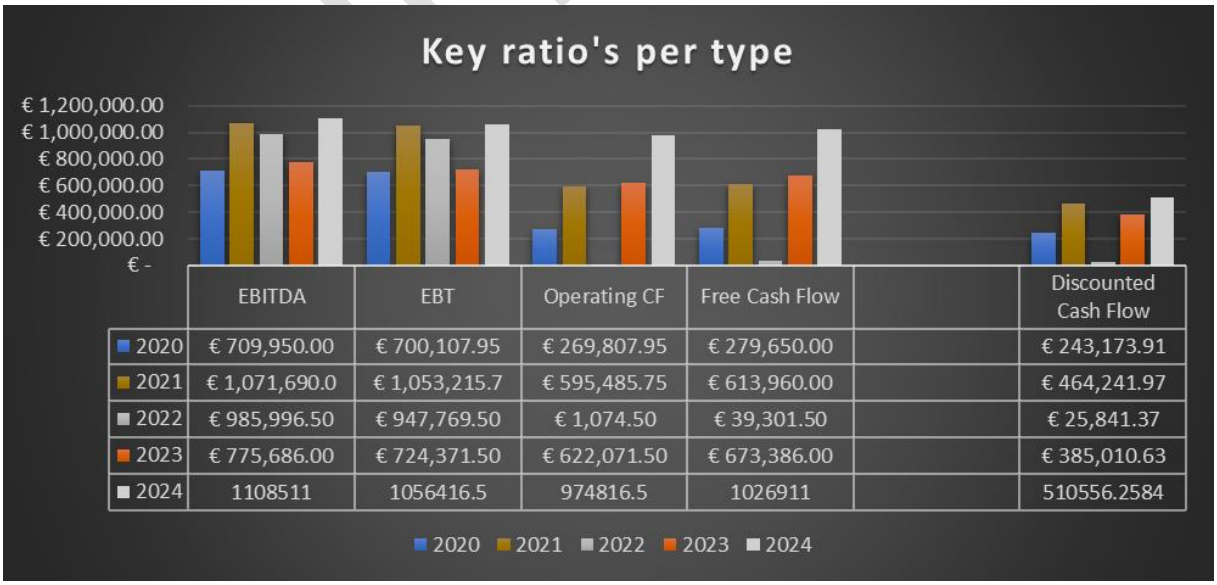
Description	Values	Remarks	Totals
TAM retrofit			10.101.610.000
Training partner engineers FBO	6.250		
Total	146	License partners 2022	
			912.500
Total TAM retrofit + training		100,0%	10.102.522.500
SAM retrofit			459.874.400
Training partner engineers FBO	6.250		
Total	146	License partners 2022	
			912.500
Total SAM retrofit + training		4,6%	460.786.900
SoM retrofit			27.709.665
Training partner engineers FBO	6.250		
Total	146	License partners 2022	
			912.500
Total SoM retrofit + training		0,3%	28.622.165

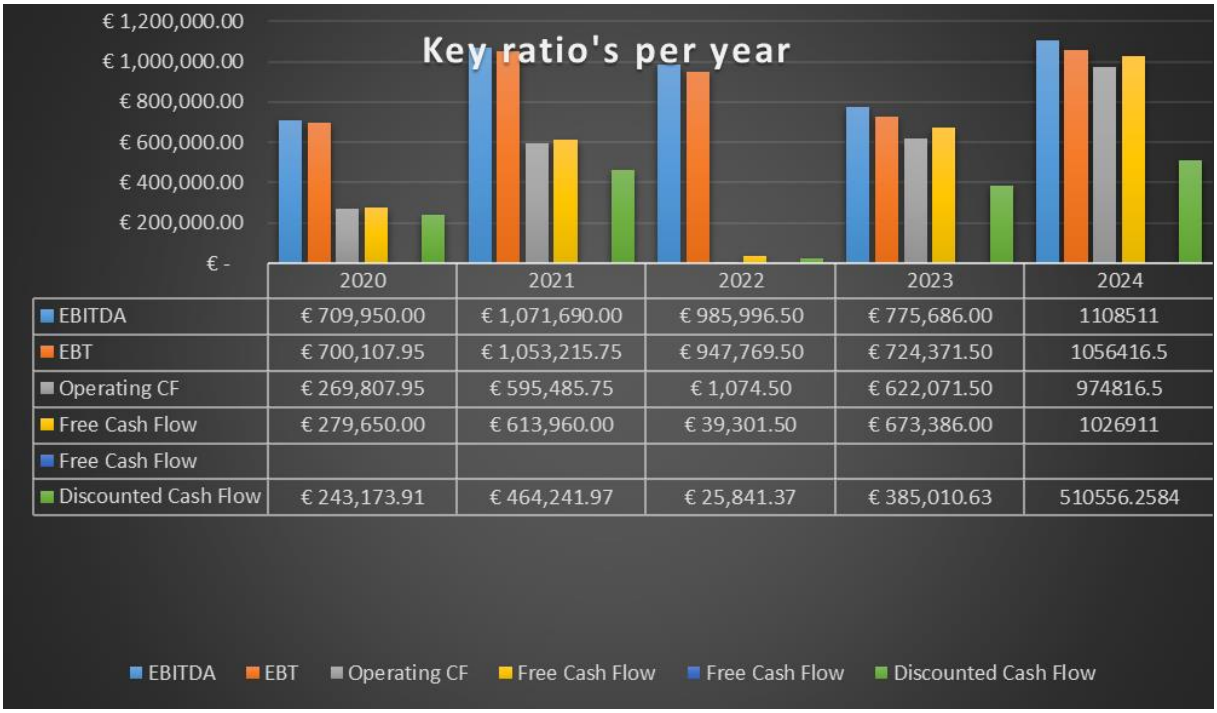
Market Research and Strategy:

Line No.	Country	Total Aircrafts							Retrofitted	
				2020	2021	2022	2023	2024	Quantity	Market %
0			Engines / partner	4	8	8	8	8		
1	The Netherlands	2,200	Total inhouse engines	0	0	5	10	15		
2			Total license partners	0	0	4	6	8		
3			Total engines	0	0	26	55	81	162	7.4%
4	Germany	5,000	Total inhouse engines	0	0	8	12	17		
4			Total license partners	0	0	6	11	12		
5			Total engines	0	0	34	77	105	216	4.3%
6	Belgium	1,500	Total license partners	0	0	3	4	5		
7			Total engines	0	0	24	44	49	117	7.8%
8	United Kingdom	6,000	Total license partners	0	0	7	12	13		
9			Total engines	0	0	36	84	117	237	4.0%
10	Denmark	1,000	Total license partners	0	0	3	4	5		
11			Total engines	0	0	15	32	45	92	9.2%
12	France	4,000	Total license partners	0	0	0	6	10		
13			Total engines	0	0	0	18	34	52	1.3%
14	Spain	3,000	Total license partners	0	0	0	5	8		
15			Total engines	0	0	0	17	38	55	1.8%
16	Italy	3,000	Total license partners	0	0	0	0	6		
17			Total engines	0	0	0	0	12	12	0.4%
18	Austria	1,000	Total license partners	0	0	0	0	4		
19			Total engines	0	0	0	0	10	10	1.0%
20	Sweden	1,000	Total license partners	0	0	0	0	4		
21			Total engines	0	0	0	0	10	10	1.0%
22	Total Market	27,700	Total license partners	0	0	23	48	75	146	
23			Total engines	0	0	140	337	516	993	3.6%

Financials and justification of investment on CTA BV & GmbH:

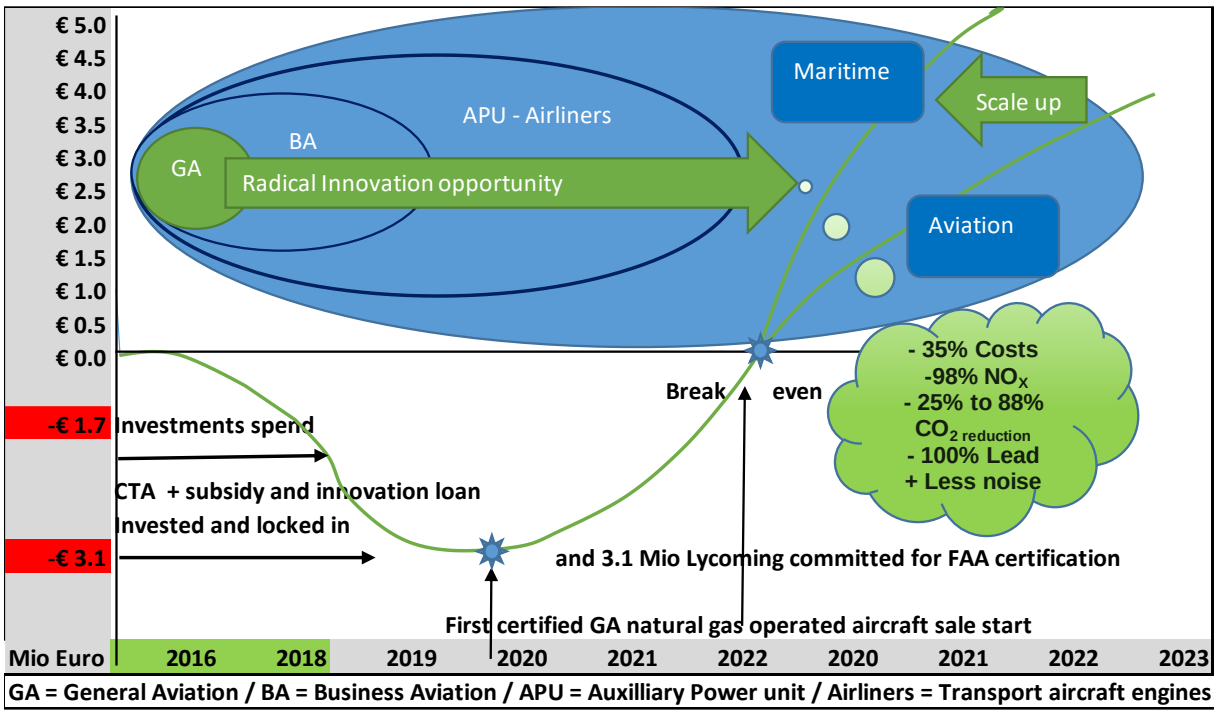
Line No.	Description	Year				
		2020	2021	2022	2023	2024
	License sale / retrofit through partner					
1	Turnover	€ -	€ -	€ 22,885	€ 47,760	€ 74,625
2	Overhead & Administration	€ -	€ -	€ 2,300	€ 4,800	€ 7,500
3	Margin	€ -	€ -	€ 20,585	€ 42,960	€ 67,125
	STC fuel certification / engine & owner					
4	Turnover: mean price per type A/C per user	€ -	€ -	€ 105,000	€ 252,750	€ 387,000
5	Overhead & Administration	€ -	€ -	€ 42,000	€ 101,100	€ 154,800
6	Margin	€ -	€ -	€ 63,000	€ 151,650	€ 232,200
	Retrofit package					
7	Turnover	€ -	€ -	€ 392,000	€ 943,600	€ 1,444,800
8	Overhead & Administration	€ -	€ -	€ 273,000	€ 657,150	€ 1,006,200
9	Margin	€ -	€ -	€ 119,000	€ 286,450	€ 438,600
	Education engineers partner FBO					
10	Turnover	€ -	€ -	€ 143,750	€ 300,000	€ 468,750
11	Overhead & Administration	€ -	€ -	€ 118,450	€ 247,200	€ 386,250
12	Margin	€ -	€ -	€ 25,300	€ 52,800	€ 82,500
	Education pilots and owners based on hybrid usage					
13	Turnover	€ -	€ -	€ 350,000	€ 842,500	€ 1,290,000
14	Overhead & Administration	€ -	€ -	€ 245,000	€ 589,750	€ 903,000
15	Margin	€ -	€ -	€ 105,000	€ 252,750	€ 387,000
	CTA retrofit with direct clients					
16	Turnover	€ -	€ -	€ 173,680	€ 293,920	€ 427,520
17	Overhead & Administration	€ -	€ -	€ 136,591	€ 231,154	€ 336,224
18	Margin	€ -	€ -	€ 37,089	€ 62,766	€ 91,296
	Totals					
19	Turnover	€ -	€ -	€ 1,187,315	€ 2,680,530	€ 4,092,695
20	Overhead & Administration	€ -	€ -	€ 817,341	€ 1,831,154	€ 2,793,974
21	Margin	€ -	€ -	€ 369,974	€ 849,376	€ 1,298,721
22	Turnover per year	€ -	€ -	€ 1,187,315	€ 2,680,530	€ 4,092,695
23	TAM	€ 10,102,522,500	€ 10,102,522,500	€ 10,102,522,500	€ 10,102,522,500	€ 10,102,522,500
24	Percentage of turnover/TAM	0.00%	0.00%	0.01%	0.03%	0.04%
25	Turnover per year	€ -	€ -	€ 1,187,315	€ 2,680,530	€ 4,092,695
26	SAM	€ 460,786,900	€ 460,786,900	€ 460,786,900	€ 460,786,900	€ 460,786,900
27	Percentage of turnover/SAM	0.00%	0.00%	0.26%	0.58%	0.89%
28	Turnover per year	€ -	€ -	€ 1,187,315	€ 2,680,530	€ 4,092,695
29	SoM	€ 28,622,165	€ 28,622,165	€ 28,622,165	€ 28,622,165	€ 28,622,165
30	Percentage of turnover/SoM	0.00%	0.00%	4.15%	9.37%	14.30%





	2020	2021	2022	2023	2024
EBITDA	€ 709,950.00	€ 1,071,690.00	€ 985,996.50	€ 775,686.00	1108511
EBT	€ 700,107.95	€ 1,053,215.75	€ 947,769.50	€ 724,371.50	1056416.5
Operating CF	€ 269,807.95	€ 595,485.75	€ 1,074.50	€ 622,071.50	974816.5
Free Cash Flow	€ 279,650.00	€ 613,960.00	€ 39,301.50	€ 673,386.00	1026911
Free Cash Flow					
Discounted Cash Flow	€ 243,173.91	€ 464,241.97	€ 25,841.37	€ 385,010.63	510556.2584

Scale Up Opportunities and current status CTA Program AFI Consortium invested and available budget until Break-Even moment

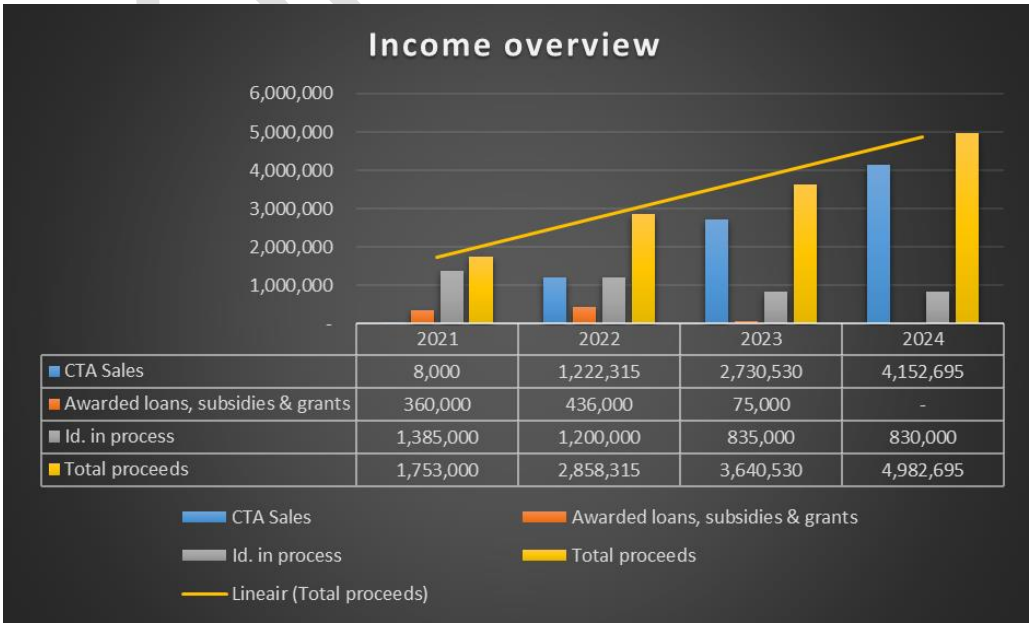


For the acceleration into Europe and scale up of the LNG usage we are open for Private Equity investors to participate up to 5 Mio Euro in the consortium and participate with our Global disruptive technology innovation.

We expect to have the first commercial Natural Gas Aircraft certified and ready for commercialisation for the GA and BA market by reaching Q4 2022. And the first Hybrid APU prototype for transport aviation ready in Q3 2023!

We forecast a projected payback time of 5 years with a NPV of 21%

L.No.	Description	2024					Cumulative 5 years
		Q1	Q2	Q3	Q4	Total	
1	CTA Sales	1,038,174	1,038,174	1,038,174	1,038,174	4,152,695	8,113,540
2	Awarded loans, subsidies, grants	-	-	-	-	-	1,425,000
3	Loans, subsidies, grants in processing	830,000	-	-	-	830,000	4,700,000
5	Total Income & capital mutations	1,868,174	1,038,174	1,038,174	1,038,174	4,982,695	14,238,540
6	Cost of Sales + Purchases	698,494	698,494	704,094	698,494	2,799,574	5,514,569
7	Gross Margin	1,169,680	339,680	334,080	339,680	2,183,121	8,723,971
8	Human Resources (HR)	219,563	219,563	219,563	219,563	878,250	3,285,600
9	Housing expenses	14,850	14,850	14,850	14,850	59,400	277,800
10	Operational expenses	4,250	5,400	5,400	5,400	20,450	58,210
11	Transportation expenses	8,940	8,940	8,940	8,940	35,760	118,140
12	Office expenses	3,950	2,450	2,450	2,450	11,300	47,700
13	Selling expenses	-	8,000	8,000	8,000	24,000	97,000
14	General expenses	11,363	11,363	11,363	11,363	45,450	187,688
15	EBITDA	906,765	69,115	63,515	69,115	1,108,511	4,651,834
17	Depreciation charges	12,979	13,009	13,039	13,069	52,095	169,952
18	EBT	893,787	56,107	50,477	56,047	1,056,417	4,481,881
19	Taxes	-	-	-	-	-	-
20	Net operating result after taxes	893,787	56,107	50,477	56,047	1,056,417	4,481,881
21	Investments (depth & replacement)	9,600	9,600	8,100	8,100	35,400	1,702,200
22	R&D Expenses (variable)	11,450	11,450	11,650	11,650	46,200	316,425
23	Operating CF after investments	872,737	35,057	30,727	36,297	974,817	2,463,256
24	Depreciation charges	12,979	13,009	13,039	13,069	52,095	169,952
25	Free Cash Flow	885,715	48,065	43,765	49,365	1,026,911	2,633,209
26	Discounted Cash Flow					510,556	
27	NPV						



CTA AEI overzicht NPV-IRR	RVO IK Investering	Balans prognose cijfers		Balans prognose cijfers incl aflossing	IRR View after 5 years
Rentepercentage geldmarkt	4%	4%		4%	4%
	RVO Innovation credit loan against free cash flow FP CTA 2020-2024	Total Investments (Privat capital, Subsidies & Loans against free cash flow on Balance sheet 2020-2030	Aflossingdeel IK	Total Investments (Privat Capital, Subsidies & Loans against free cash flow on Balance sheet 2020 2030	Total Investments (Privat Capital, Subsidies & Loans against free cash flow on Balance sheet 2020 2024
Period	Cash Flow	Cash Flow		Cash Flow	
0	-€ 1,215,000.00	-€ 5,221,400.00		-€ 5,221,400.00	-€ 5,221,400.00
1	€ 279,650.00	€ 652,304.00		€ 652,304.00	€ 652,304.00
2	€ 613,960.00	€ 1,287,548.00		€ 1,287,548.00	€ 1,287,548.00
3	€ 39,302.00	€ 1,677,330.00		€ 1,677,330.00	€ 1,677,330.00
4	€ 673,386.00	€ 2,850,345.00		€ 2,850,345.00	€ 2,850,345.00
5	€ 1,026,911.00	€ 4,087,699.00	€ 243,000.00	€ 3,844,699.00	€ 3,844,699.00
6		€ 4,400,473.00	€ 243,000.00	€ 4,157,473.00	**€ 3,683,915.33**
7		€ 4,663,036.00	€ 243,000.00	€ 4,420,036.00	**21%**
8		€ 4,919,854.00	€ 243,000.00	€ 4,676,854.00	
9		€ 5,170,335.00	€ 243,000.00	€ 4,927,335.00	
10		€ 5,400,290.00		€ 5,400,290.00	
Net Present Value	**€ 1,076,133.26**	**€ 21,780,665.81**		**€ 20,855,944.77**	
IRR	**26%**	**39%**		**38%**	
Financiele markt per 30-12 2019					
12 maand euribor rente is 0,248 %					
10 jaar ned staatlening is 0,114%					
Obligatie aanbiedingen tussen 5% en 8,4% gezien en 4 jaar vast					
T.b.v. conservatieve en realistische vergelijking een rentepercentage gehanteerd van 4% wettelijke rente					

CTA Balance sheet as of 2020 and NPV-IRR outlook

Team CTA

For more information:
Please contact **The Clean Tech Aviation Consortium** via our mail address:
info@clean-tech-aviation.eu
for you to further investigate our business opportunity and observe the media and video interviews on CTA and its disruptive innovation check with our web address: **www.ctainnovation.com**