İstanbul :
Sayı
Our Reference : 2199
Konu
Subject : **ICS: "Denizcilik, karbon hedeflerini yalnızca sıfır karbonlu yakıtlarla gerçekleştirebilir."**

01.06.2018

Sirküler No: 321 / 2018

Sayın Üyemiz,

İlgi: ICS'den alınan 25 Mayıs 2018 tarih ve PRESS(18)10 sayılı yazı ve Eki.

İlgi yazı ile ICS Üyeleri, ICS'in sıfır karbonlu yakıtlar hakkındaki basın bildirisini; ulusal yayın kuruluşlarına, denizcilik idarelerine ve üye şirketlere iletmeye davet edilmektedirler. İlgi yazıda ayrıca, muhtemel sıfır karbonlu deniz yakıtları hakkında ICS tarafından bir bilgilendirme notu hazırlandığı ve söz konusu dokümana ICS web sayfası üzerinden (http://www.ics-shipping.org/docs/default-source/key-issues-2018/developing-zero-co2-fuels.pdf?sfvrsn=0) erişilebilmekte olduğu bildirilmektedir.

İlgi yazı Eki Basın Bildirisi'nin Odamızda yapılan Türkçe çevirisi (Ek-1) ve ICS'in sıfır karbonlu deniz yakıtları hakkında hazırladığı bilgi notu (Ek-2) ilişikte sunulmaktadır .

Bilgilerinizi arz ve rica ederiz.

Saygılarımızla,

Murat TUNCER
Genel Sekreter

EKLER:
Ek-1: İlgi yazı Eki Basın Bildirisinin Türkçe çevirisi
Ek-2: İlgi yazı ve Eki

DAĞITIM:

Gereği:
-Tüm Üyelerimiz (Web Sayfasında)
- Türk Armatörler Birliği
-S/S Gemi Armatörleri Motorlu Taş. Koop.
-Vapur Donatanları ve Acenteleri Derneği
-İMEAK DTO Meslek Komitesi Bşk.
-İMEAK DTO Şubeleri
-Türk Loydu Uygunluk Değerlendirme Hiz. A.Ş.
-GİSBİR
-GESAD
-Yalova Altınova Tersane Girişimcileri San.ve Tic.A.Ş.
-TÜRKLİM
-Gemi Makineleri İşletme Mühendisleri Odası
-Gemi Mühendisleri Odası
-Gemi Sahibi Firmalar

Bilgi:
-Ulaştırma, Denizcilik ve Haberleşme Bakanlığı
Deniz ve İçsular Düzenleme Genel Müdürlüğü
-Ulaştırma, Denizcilik ve Haberleşme Bakanlığı
Deniz Ticareti Genel Müdürlüğü
-Çevre ve Şehircilik Bakanlığı
Çevre Yönetimi Genel Müdürlüğü
-Meclis Başkanlık Divanı
-Yönetim Kurulu Başkanı ve Üyeleri
-İMEAK DTO Şube Y.K. Bşk.
-WISTA Türkiye Derneği
-TAIS

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(Serbest Çeviridir)

EK-1

ICS Basın Bildirisi 21 Mayıs 2018

Denizcilik, karbon hedeflerini yalnızca sıfır karbonlu (zero CO2) yakıtlarla gerçekleştirebilir

Uluslararası Deniz Ticaret Odası (ICS), BM Uluslararası Denizcilik Örgütü (IMO) tarafından 2050 yılı için belirlenen iddialı CO2 azaltım hedeflerinin ancak sıfır karbonlu yakıt ve sevk sistemlerinin küresel olarak kullanıma sunulmasıyla başarılabileceğini ileri sürüyor.

ICS Genel Sekreter Yardımcısı Simon Bennett, OECD Uluslararası Taşımacılık Forumu tarafından Leipzig'de düzenlenen yıllık Ulaştırma Bakanları Zirvesi'nde yaptığı konuşmada şunları söyledi:

"IMO hedefleri, 1.5 derece iklim değişikliği hedefiyle tutarlı olmanın yanı sıra, şu ana kadar havacılık için kabul edilen hedeflerden ya da hükümetlerin Paris Anlaşması gereğince küresel ekonominin geri kalanıyla ilgili olarak verdiği taahhütlerden çok daha iddialıdır. Yine de denizcilik endüstrisi, IMO anlaşmasını geniş ölçüde memnuniyetle karşılamaktadır çünkü Anlaşma denizcilik sektörünün en kısa sürede tamamen karbondan arındırılması meselesiyle başa çıkmamız gerektiği sinyalini vermektedir."

Bennett, 2050 yılı için belirlenen IMO hedefleri (filo genelinde ortalama % 70'lik bir verimlilik artışı ve deniz ticaretinde beklenen büyümeden bağımsız olarak 2050 yılına kadar sektör tarafından en az toplam % 50'lik bir CO2 azaltımı sağlanması) ile ilgili olarak, "*bu hedefler yalnızca gerçek sıfır karbonlu yakıtlarının geliştirilmesi ve küresel olarak kullanılmasıyla elde edilebilir*" dedi.

"Açık olmak gerekirse, sıfır karbonlu yakıtlar; amonyak veya metanol kullanan hidrojen yakıt hücreleri gibi radikal ve henüz ispatlanmamış teknolojiler veya yenilenebilir enerji kullanan aküler anlamına gelmektedir. LNG ya da biyo-yakıtlar söz konusu geçişte önemli bir rol oynayacak olsa da, bunları IMO'nun 2050 yılı için belirlediği iddialı hedefleri gerçekleştiremeyecek olan geçici çözümler olarak görüyoruz. Yeni sıfır karbonlu teknolojilerin er ya da geç [hedefleri] gerçekleştireceğinden emin olsak bile, söz konusu teknolojiler denizcilik uygulamaları için henüz tam olarak hazır değildir, açık deniz taşımacılığı için ise kesinlikle hazır değillerdir."

Bennett sözlerine şunları ekledi:

"*Bahse konu yeni teknolojilerin geliştirilmesi, endüstrinin teknik bilgi havuzunu oluşturan başta gemi inşacılar, makine üreticileri ve klas kuruluşları olmak üzere ilgili tüm paydaşlar arasında işbirliğini gerektirecektir. Ancak, yeni sevk sistemlerine ilişkin teorik araştırma söz konusu olduğunda, bu araştırma IMO'nun geliştireceği bir çerçeve içerisinde hükümetler tarafından desteklenmelidir."*

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"*Yeni teknolojileri başlatmak için de bazı tavizler vermemiz gerekebilir. Örneğin, hidrojen sevk sistemlerini geliştirmek ve ciddi teknik zorluklar hakkında deneyim kazanmak için, başlangıçta yenilenebilir teknolojiden ziyade hala fosil hammaddeden elde edilen hidrojenin kullanımına izin vermemiz gerekebilir.*"

"*Özellikle, 2025 yılında inşa edilen gemiler için 2013 yılına kıyasla % 30 verimlilik artışı gerektiren yeni gemiler için Enerji Verimliliği Dizayn Endeksine (EEDI) yapılacak daha fazla iyileştirmelere odaklandık. ICS, armatörlerin, gemilerin bir Gemi Verimliliği Yönetim Planı'nı kullanmalarını zorunlu kılan mevcut gerekliliği güçlendirerek ve bunu bir tür zorunlu dış denetimle ilişkilendirerek, hız yönetimini optimize etmelerine ve gemi performansının iyileştirilmesi için verimlilik göstergelerini kullanmalarına karşı değildir. Bununla birlikte, uygulamada karışıklık yaratacak ve örneğin her bir gemi için gerçek CO2 emisyonları ile ilgisi olmayan sözde operasyonel verimlilik göstergelerinin yayınlanması gibi denizcilik piyasalarında ciddi bozulmalara yol açabilecek tedbirler konusunda çok endişeliyiz.*"

Bennett şunları ekledi "*Şu anda IMO stratejisinin sadece teknik önlemlerle en iyi şekilde gerçekleştirilebileceğine inanıyoruz. IMO tarafından kabul edilen hedefler doğrultusunda denizcilik sektörünün azaltabileceği emisyonları telafi etmek için piyasaya dayalı tedbirlerin aldatmacasına veya karbon dengelemesine ihtiyacımız olduğunu düşünmüyoruz.*"

Bir sonraki IMO toplantısı, CO2 azaltımı için muhtemel tedbirlerin bir listesini değerlendirmek amacıyla Ekim 2018'de gerçekleştirilecektir ve denizcilik endüstrisi söz konusu toplantıya bazı ayrıntılı tebliğler sunmayı planlamaktadır.

İngilizceden çeviren: Selin YELESER
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25 May 2018 **PRESS(18)10**

TO: ALL FULL AND ASSOCIATE MEMBERS

Copy: BOARD
SHIPPING POLICY COMMITTEE
MARINE COMMITTEE
ENVIRONMENT SUB-COMMITTEE

CARBON TARGETS FOR SHIPPING CAN ONLY BE MET WITH 'ZERO CO2' FUELS

Action Required: ***To forward the press release attached at Annex A to your national trade press, as well as your maritime administrations and member companies as soon as possible. ICS has also produced a briefing note on possible zero CO_2 marine fuels, which is available on the ICS website (https://bit.ly/2J7rfqW) and attached at Annex B.***

Helio Vicente
Policy Officer

International Chamber of Shipping

Shaping the Future of Shipping

25 May 2018

CARBON TARGETS FOR SHIPPING CAN ONLY BE MET WITH 'ZERO CO2' FUELS

The ambitious CO_2 reduction targets set by the UN International Maritime Organization (IMO) for the year 2050 can only be delivered with the global rollout of zero CO_2 fuels and propulsion systems, says the International Chamber of Shipping (ICS).

Speaking at the annual Summit of Transport Ministers hosted by the OECD International Transport Forum in Leipzig, ICS Deputy Secretary General, Simon Bennett said:

"As well as being consistent with the 1.5 degree climate change goal, the IMO targets are far more ambitious than what has so far been agreed for aviation, or indeed the commitments made by governments with respect to the rest of the global economy under the Paris Agreement. But the shipping industry greatly welcomes the IMO agreement because it gives us the signal we need to get on with the job of decarbonizing the sector completely as soon as possible."

With respect to the IMO goals set for 2050 – a 70% efficiency improvement as an average across the fleet, and a total CO_2 cut by the sector of at least 50% by 2050 (regardless of expected growth in maritime trade), Mr Bennett said "these targets can realistically only be achieved with the development and global roll out of genuine zero CO_2 fuels."

"To be clear, zero CO_2 fuels means radical and as yet unproven technologies such as hydrogen fuel cells using ammonia or methanol, or batteries powered using renewable energy. While LNG or biofuels will play an important part in the transition we only really see these as interim solutions that won't deliver the ambitious targets which IMO has now set for 2050.

"While we are confident new zero CO_2 technologies will eventually deliver they are not yet fully ready for maritime application, and certainly not yet for deep sea trades."

Mr Bennett added:

"The development of these new technologies will require co-operation between all relevant stakeholders particularly shipbuilders, engine manufacturers and classification societies, which are the repositories of the industry's technical knowledge. But when it comes to pure research into new propulsion systems this

has to be facilitated by governments within a framework that needs to be developed by the UN IMO."

He added "To kick start new technologies we also may need to make some compromises. For example, in order to develop hydrogen propulsion systems, and gain experience of the serious technical challenges, we may need to initially permit use of hydrogen that is still derived from fossil feedstock rather than renewables, a technology which is not quite there yet, though probably not insurmountable in the longer term."

With regard to short term measures, Mr Bennett says the industry recognizes that there is a political need among many governments for new IMO regulations that will start achieving further CO_2 reductions from the sector before 2023, so that the industry stays on track to improve efficiency, as an average across the sector, by at least 40% by 2030, as also agreed by IMO.

The next round of IMO discussions will take place in October 2018 in order to consider a list of possible candidate measures for CO_2 reduction, and the industry is planning to make some detailed submissions to that meeting.

"We are particularly focused on further improvements to the Energy Efficiency Design Index (EEDI) for new ships which already requires a 30% efficiency improvement for ships built in 2025 compared to 2013, perhaps moving forward the implementation dates that currently apply for certain ship types such as containerships."

"ICS is open to how shipowners can best optimize speed management and also use efficiency indicators to improve ship performance, possibly through strengthening the existing mandatory requirement for ships to use a Ship Efficiency Management Plan, perhaps linking this to some kind of mandatory external audit. However, we are very nervous about measures which will be far too complicated to administer and which may cause serious distortion to shipping markets, such as publishing supposed operational efficiency indicators for individual ships that have no relation to actual CO_2 emissions in real life."

Mr Bennett added "At the moment we believe the IMO strategy can best be delivered with technical measures alone. We don't think we need the smoke and mirrors of market based measures or the purchase of carbon offsets to compensate for emissions which the sector is quite capable of reducing itself in line with the targets now agreed by IMO."

end

Notes

In April 2018, the IMO Marine Environment Protection Committee, which comprises governments from over 150 Member States, adopted a comprehensive strategy to reduce greenhouse emissions from international shipping, which is currently

responsible for producing about 2% of the world's anthropogenic CO_2 emissions while moving about 90% of global trade.

ICS has produced a briefing note on possible zero CO2 marine fuels which can be seen at http://www.ics-shipping.org/docs/default-source/key-issues-2018/developing-zero-co2-fuels.pdf?sfvrsn=0

International Chamber of Shipping

Shaping the Future of Shipping

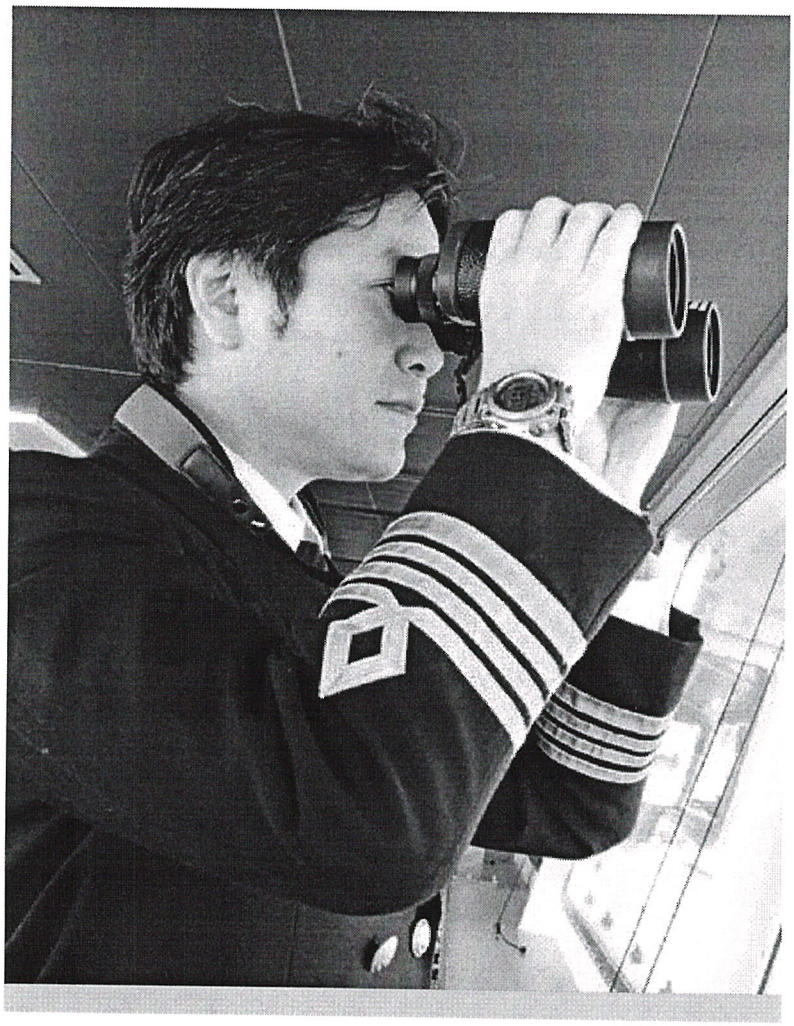
Key Issues

Developing Zero CO_2 Fuels

The vision of the shipping industry, also articulated by the IMO Green House Gas strategy adopted in April 2018, is to achieve zero CO_2 emissions as soon as the development of new fuels and propulsion systems will allow.

The huge technical challenges and research required should not be underestimated and, taking account of the new bunkering infrastructure that would also be required, the worldwide availability of zero CO_2 fuels could take at least another 30 years to deliver. However, ICS is now engaged in a number of initiatives with various industry stakeholders, including engine manufacturers and academics, to explore what the path to a zero CO_2 future might be.

The greater use of LNG and biofuels may well form part of the interim solution, supplemented by renewable sources such as wind and solar. But the ultimate goal of zero emissions can only be delivered with genuine zero CO_2 fuels that are both environmentally sustainable and economically viable.



Batteries

Advances in chemistry and technology could eventually mean that even large ocean going ships powered by batteries, using renewable sources of energy, could potentially become a viable zero CO_2 alternative.

Although currently only suitable for ships engaged on short voyages, there is potential to apply battery hybrid technologies widely used in the automotive sector. There are already ferry conversions and offshore support vessels using hybrid propulsion to optimise efficiency and reduce fuel consumption. Engines can run at a constant stable load, with batteries either boosting output or being recharged by the engines according to operating conditions.

In the longer term, there seems to be a genuine potential to utilise batteries as the primary source of power even for larger ships. Such batteries would probably be extremely large, but with appropriate adjustments to the ship the loss of cargo capacity could be offset by eliminating fuel tanks and conventional engine machinery.

Large batteries are currently expensive, and their high energy density imposes additional risk management requirements. The availability of sufficient rare metals to manufacture batteries with necessary power might also limit viability.

Adopting pure battery power operations – including more frequent port calls to permit recharging – will require radical adjustments to how ships are operated and careful route management. A global recharging infrastructure would be needed with access to electricity from renewable energy, capable of recharging extremely large and high capacity batteries quickly. But the challenges involved might not be insurmountable.

Hydrogen

Significant research is underway to develop energy efficient processes for producing hydrogen from water using thermochemical processes (unlike most commercially available hydrogen which is currently derived from fossil fuel feed stocks). The main challenges for hydrogen as a marine fuel are the cost of production, transport and storage. An appropriate bunkering infrastructure will also be needed.

Hydrogen can be utilised by direct combustion in a conventional engine. But fuel cells are more efficient and avoid NOx emissions. However, fuel cell stacks (the component where energy conversion takes place) have a finite life, which can be quite short in terms of the service life of a ship.

Hydrogen has a lower energy density than conventional fossil fuels and would need careful risk management. It has a very wide flammable range and very low minimum ignition energy, while embrittlement of metals might lead to leakages. However, hydrogen could be reformed on board ship from almost any feed stock in order to ease fuel storage and handling, and to minimise the safety risks

At atmospheric pressure, liquid hydrogen would need to be cooled below -252°C, significantly below the temperature required to liquefy LNG. Compressed gaseous hydrogen would probably be impractical on longer voyages.

Ammonia

As an alternative to liquefied or compressed hydrogen, ammonia could be used as a hydrogen carrier, avoiding the necessity for a cryogenic plant on board. (Methanol is also being explored as another possible hydrogen carrier.) Liquefaction of ammonia, at far higher temperatures than for hydrogen, is possible under pressure (similar to propane gas). Ammonia can also be stored as an aqueous solution which is safer.

Although 'green' ammonia production (like hydrogen) from renewable sources is more energy intensive than traditional processes, the increased availability of carbon free electricity generation could make this viable.

Ammonia could be used as a fuel itself, but technical difficulties mean it is more likely to be used with hydrogen fuelled systems after dehydrogenation, avoiding the cryogenic systems necessary for the carriage of liquid hydrogen or the limited voyage length required if using compressed hydrogen gas.

The principal concern about using ammonia as a marine fuel is safety. Exposure to gaseous anhydrous ammonia can cause caustic burns, lung damage and death. Some types of fuel cell stack are incompatible with ammonia, so that even very small quantities of ammonia remaining after reforming into hydrogen could seriously affect performance. Nevertheless, as with battery technologies, the challenges involved might not be insurmountable.

Nuclear

Nuclear fuels are a proven technology that could be readily applied to many merchant ships in order to eliminate CO_2 emissions completely. Only a small nuclear reactor would be required, with a life of many years, removing the need for ships to refuel or carry bunkers. Russia successfully operates a number of nuclear ice breaking vessels in the Arctic. However, it is currently assumed that widespread use of nuclear fuels is unlikely to be viewed as politically acceptable by the majority of governments, due to concerns about safety and security.