

## BÖLÜM 4

# FİLYOS LİMANININ SIVILAŞTIRILMIŞ DOĞAL GAZ (LNG) YAKIT İKMAL NOKTASI OLARAK POTANSİYELİ

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### 4.1. GİRİŞ

Uluslararası Denizcilik Örgütü (IMO), hava kirliliğini önlemek amacıyla emisyon kontrol bölgeleri içinde IMO küresel kükürt sınırı 2020 düzenlemesi ile yakıt sülfür limitini %0.1'e geriletmiştir. Kullanımı son 10 sene içinde yoğunlaşan arktik deniz rotalarında ise sülfür oranı ve siyah karbon oranı yüksek ağır yakıt ya da Heavy Fuel Oil (HFO) yasaklanmıştır (2024 yılında devreye girecek) (IMO, 2021a). HFO yakıtı dünya denizciliğinde %70 ile en çok kullanılan yakıt konumundadır. IMO bu kontrolleri liman ve bayrak devletlerine bırakmış ve çözüm unsuru olarak 3 imkân vermiştir; sülfür oranı daha düşük olan sülfür oranı azaltılmış ağır yakıt (Very Low Sulfur Fuel Oil [VLSFO]) veya damıtılmış dizel yakıtların (Marine Gas, Diesel Oil ve Intermediate Fuel Oil [MGO, MDO ve IFO]) kullanımı (1), sıvılaştırılmış doğal gaz (LNG), sıkıştırılmış doğal gaz (CNG) sıvılaştırılmış petrol gazı (LPG), metanol, etanol, biyodizel, biyoyakıt, hidrojen yakıtı ve ya birden fazla enerji kaynağı kullanımı gibi alternatif yakıtların kullanımları (2), ve ya kapalı ve açık sistem olmak üzere yıkayıcı filtre (scrubber) gibi gemiler üzerinde bir filtrasyon eklentisinin kullanımı (3) (Birleşmiş Milletler Ticaret ve Kalkınma Konferansı [UNCTAD], 2021a). Bu opsiyonlar arasında LNG, IMO tarafından yakıt olarak kullanımına izin verilen tek kargodur (Dobrota ve diğerleri, 2013). Çift yakıtlı bir gemiyi dizel yakıttan doğal gaza geçirmek nitrojen oksitler (NOx), parçacık maddeler (PM2.5), karbon dioksit (CO2) ve siyah karbon (BC) emisyonlarını sırasıyla %92, %93, %18 ve %97 oranında azaltır (Peng ve diğerleri, 2020). Bu durum yakıtın azot oksit emisyonları kontrol alanlarından olan Birleşik Devletler kıyılarında da kullanımına uygunluk sağladığı anlamına gelmektedir (IMO, 2021a).

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prestiji, deniz ticareti rotalarına bağlılık değerlerinde hızlı bir sıçrama ve teknik yapabilme bilgisi çok düşük bir maliyet gözetilerek kaybedilmiş olunacaktır.

Yatırımın yeni liman rollerinden olan yasal anlamda bölgesel itici güç etkisi limana yenilikçi teknolojileri getirmekle en iyi şekilde uygulanabilir. Deniz taşımacılığının yasal çerçevesinin yeşil olarak isimlendirilmeyen yakıtlar için sürekli daralmasıyla bölgesel taşımacılıkta limanların desteği olmadan operatörler adına sürdürülemez olacağı açıktır. Bu bakış açısında Filyos Limanı'nın atacağı en küçük adım bile bölgesel denizcilik için bir hizmet ve limanın itibarını yüksek bir noktada konumlandırması anlamına gelmektedir.

LNG ikmal zinciri üzerinde yapılmış araştırmalarda yatırımın limana olası etkilerinin hesaplanacağı yeni bir LBSCI hesaplaması literatürde kurgulanmamıştır. Buna ek olarak yatırımların LNG özelinde sınırlı kaldığı bir hesaplama yerine bütün alternatif yakıtlar adına liman sentralizasyonuna katkısı da gelecek çalışmalarda literatüre önemli hizmetler verebilecek bir konsepttir.

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