



The EMIR 3 proposal reflects important lessons learned from the recent developments in energy markets

29 June 2023

We support the EU Commission's proposals in relation to the clearing threshold calculations for non-financial firms, as these safeguard the European competitiveness. Its scope should be limited to transactions by European entities only, as proposed by the EU Commission. Extending the clearing threshold calculation to include global turnover will have opposite adverse effects.

By improving the transparency and predictability of margin calls and extending eligible collaterals to commercial bank guarantees we are quickly learning the lessons of the energy crisis. These proposals will improve the market and help deliver secure, sustainable, affordable, and competitive energy supply to end consumers.

Hedging is vital to protecting the real economy and energy consumers from market price volatility. At a time when we are trying to redesign the electricity market to promote greater liquidity, we should not be reducing incentives to hedge. Narrowing the utility of the hedging exemption would be inconsistent and damaging.

This paper summarises our views on the European Commission's EMIR 3 proposal and the changes thereto suggested by the rapporteur MEP Danuta Maria Hübner.

Summary

We, the national and EU associations (Joint Energy Associations' Group – “JEAG”), **support the EU Commission's (“EC”) [proposal](#)** to amend the Regulation (EU) No 648/2012 (“EMIR 3”), as part of the larger [EU's Capital Markets Union \(CMU\) package](#) adopted on 7 December 2022, and in particular:

- The **amendments to the clearing thresholds calculation** under Article 10 (3). However, European non-financial counterparties should be able to continue to centrally hedge the risks relating to the commercial and treasury financing activities on behalf of their entire group;
- the **improvement of transparency and predictability of margin calls** under the new Art. 38 (7); and
- the **extension of eligible collateral to (uncollateralised) commercial bank guarantees** under the new Art. 46 (1).

However, we **oppose the proposal to delete the exemption from intra-group reporting** (amended Art. 9 (1)) and believe that it will have unintended adverse consequences, such as burdensome and costly reporting requirements for firms.

Therefore, we **support the direction of prof. Hübner's amendments that further improve the EC proposal**:

1. Amendment 50 maintains the exemption from intra-group transaction reporting and transactions reporting scope.
2. Amendment 56 enables a centralised risk management of an entity on behalf of its corporate group.
3. Amendment 58 and 59 facilitate the implementation of an NFC+ status with regard to the clearing and margining obligations.
4. Amendments 22, 165 and 166 improve further the transparency and predictability of margin calls.
5. Amendments 163 and 164 help that non-financial firms can continue to act as direct clearing member at CCPs.
6. Amendments 170 and 172 further clarify the extension of eligible collateral to (uncollateralised) commercial bank guarantees (note: we propose a change below).

For a detailed explanation see section A. below.

However, we **urge changes to the following amendments in prof. Hübner's draft report**:

1. **We firmly warn against amendment 55 and the change in amendment 56 aiming at reintroducing a word-wide clearing threshold calculation methodology.**

We support the EC proposal to count exclusively the OTC derivative transactions entered into by counterparties established in the EU against the clearing thresholds, as this safeguards the European competitiveness. Extending the clearing threshold calculation to include global turnover will do the opposite.

Therefore, we propose to:

- **delete amendment 55;** and
- insert the following **changes (red italic letters) to the wording of amendment 56** in relation to Article 10(3) EMIR to maintain the calculation methodology proposed by the EC (see strikethrough) and to reinstate the possibility of a centralised risk management (added wording at the end).

Please see below an appropriate wording proposal:

3. In calculating the positions referred to in paragraph 1, the non-financial counterparty shall include all the OTC derivative contracts that are not cleared in a CCP authorised under Article 14 or recognised under Article 25 entered into by the non-financial counterparty ~~or by other non-financial entities within the group to which the non-financial counterparty belongs~~ which are not objectively measurable as reducing risks directly relating to the commercial activity or treasury financing activity of the non-financial counterparty **or of ~~that~~ the group to which the non-financial counterparty belongs.**

For detailed explanations see section A.1 and B. below.

2. Uncollateralized commercial bank guarantees should be eligible collateral for all clearing clients (change to amendment 170).

The recognition of uncollateralised commercial bank guarantees will facilitate and encourage central clearing of derivatives by energy market participants, independently of their EMIR status. Energy market participants furthermore access CCPs either directly as clearing members or through a general clearing member. To avoid an unjustified differentiation between these two models, the acceptance by CCPs of public guarantees, public bank guarantees, and uncollateralised commercial bank guarantees shall be permitted for both models (direct and indirect clearing). We propose the following changes to amendment 170:

*Art. 46(1): A CCP shall accept highly liquid collateral with minimal credit and market risk to cover its initial and ongoing exposure to its clearing members. A CCP may accept public guarantees or public bank or commercial bank guarantees, **including on an uncollateralised basis both for clients of clearing members and directly for non-financial clearing members** ~~counterparties~~ [...].*

For detailed explanations, see section A.3 below.

3. A world-wide reporting requirement imposes unnecessary and disproportionate reporting requirements on EU groups (delete amendment 49).

We urge the deletion of amendment 49 which extends the transaction reporting obligation to non-EU entities of EU based groups on a general basis, even if no EU-product, EU-venue or EU-entity is involved. This would impose unnecessary and disproportionate reporting requirements by subjecting non-EU entities to the EMIR reporting obligation in addition to

third country reporting obligations such as UK EMIR (for UK entities) and Dodd-Frank (for US entities).

For detailed explanations, see section A.6 below.

4. We should be wary of approaches which reduce the benefit of the hedging exemption for corporates and, hence, urge the deletion of amendment 57.

We express our full support for the so-called “hedging exemption” in Article 10 (3) EMIR (as supplemented by Art. 10 RTS 149/2013), which has proven to be a well understood and functioning tool. We welcome that the EC in its EMIR 3 proposal did not introduce any changes on this central issue. We strongly recommend preserving this hedging exemption in the forthcoming legislative procedure as it allows EU energy firms to effectively reduce their commercial risks. Therefore, **we urge the deletion of amendment 57**, in particular if this change might be extended to non-financial firms. This amendment foresees that ESMA shall assess whether an aggregate activity threshold is necessary, taking into account the overall aggregate position in OTC derivatives of a financial counterparty.

For detailed explanations, see section C. below.

A. We support the direction of Prof. Hübner’s amendments.

Prof. Hübner’s draft report proposes a series of amendments which we support. In particular:

1. *AM 55 and 56: Amendments to the clearing threshold calculation - Art. 10 (3)*
 - ✓ Support amendment 56 with regard to reinstatement of centralised risk management **and** confirmation of improved OTC derivatives definition –
 - ✗ Reject Amendment 55 and 56 with regard to worldwide scope of EMIR clearing threshold calculations.

We strongly **support amendment 56 for two reasons:**

- **Support of the amendment as far as it enables a centralised risk management** by an entity on behalf of its corporate group for the following reasons:
 - Energy market participants are predominately active on (physical and derivatives) exchanges and bilateral / OTC energy markets to cover their needs for physical commodity supply and demand and to execute transactions in commodity derivatives to mitigate the commodity market risk of their own commercial activities or those of their group entities (hedging). From an organisational perspective, energy market participants are usually the market facing entities of wider groups whose core activity is related to energy production and distribution. Due to their activity these groups are naturally not in scope of banking regulation and are hence “non-financial”. The market facing entity of a non-financial energy group for example, will buy and sell commodity derivatives to secure (or hedge) its commercial risk (such as market risk consisting of the constant change in value of the gas procurement and of the produced power) linked to the group’s operation of a gas fired power plant .

- To ensure that energy firms can pursue such hedging activity, a so-called “hedging exemption” is set out in Article 10 (3) EMIR. This exemption guarantees that non-financial firms, i.e., energy firms, can freely manage the risks created by their energy production and distribution activity and, consequently, contribute to the robustness of EU’s energy markets, without falling under a mandatory clearing and margining obligation under EMIR. Hence, that obligation is only triggered if energy market participants take positions in non-hedging OTC derivatives which exceeds the clearing threshold(s) (which is defined for commodities at a gross notional value of €4bn).
 - The current EMIR legislation explicitly allows for a centralised trading / market facing entity to hedge not only its own commercial risks, but also those of its wider energy group. This centralised hedging approach is aligned with the organisation of energy groups and is supported by the applicable regulatory framework, i.e., by the wording of the level 1 text of EMIR Art 10(3) as well as of the level 2 text of Art. 10 Commission Delegated Act (EU) 149/2013 and of the ESMA Q&As on the implementation of EMIR (OTC Answers 3 and 10). Such centralised hedging ensures efficiency as otherwise, forcing every single entity of an energy group to provide for its own hedges, would lead to a very inefficient and costly multiplication of risk management functions and activities across the corporate group. This would not be aligned with the purpose of EMIR to centralise and efficiently mitigate risk. It is therefore capital to guarantee that a European non-financial counterparty should be able to continue to centrally hedge the risks relating to the commercial and treasury financing activities (in particular commodity, foreign exchange (FX) and interest rate (IR)) of its entire corporate group.
 - For further explanation on the points above we refer to our JEAG paper on the EC’s EMIR 3 proposal ([link](#)).
- **Support of the amendment 56** as it rightly confirms the EC’s proposal to amend the definition of OTC derivatives by moving away from the current approach (consisting in assessing whether a derivative is traded on a regulated market or not) to **considering whether a derivative is cleared or not**. This change in approach correctly addresses the credit risks associated with derivative contracts as it appears logical to exclude those instruments which do not pose such a risk due to the central clearing by a CCP.
- However, **we shall firmly warn against amendment 55 and the other change in amendment 56 aiming at reintroducing a word-wide scope of EMIR and threshold calculation methodology. We urge to delete the relevant parts of amendment 55 and 56 and propose an amended wording** for the latter (see below B. for further explanations and proposed wording changes)
2. *AM 22.165 and 166: Improvement of Transparency and Predictability of Margin Calls – new Art. 38 (7)*
- ✓ – Support amendments 22, 165 and 166:

We welcome amendments 22, 165 and 166 as they further improve the transparency and predictability of margin calls. They maintain the original EC proposal to introduce an

obligation of clearing members to provide transparency and predictability of margin calls to their clients. This is necessary as energy market participants predominately access clearing through their clearing members (clearing banks) as an intermediary. In addition, amendment 166 rightfully supplements this obligation by a further obligation of CCPs to provide the same clearing members with any information required for the clearing members to comply with their information obligation towards their clients. This guarantees that clearing members possess all required information they need to provide to their clearing clients (energy market participants). This ensures that energy market participants, who are at the end of the information chain, are put in a better position to predict and prepare themselves for collateral requests.

3. *AM 170 and 172: Extension of eligible collateral to (uncollateralised) commercial bank guarantees – new Art. 46 (1):*

✓ – Support amendments 170 and 172:

We support amendments 170 and 172 as they maintain the EC's proposal and clarify explicitly that uncollateralized commercial bank guarantees can be used as eligible collateral. The recognition of uncollateralised commercial bank guarantees will facilitate and encourage central clearing of derivatives by energy market participants. These entities usually have constrained access to sufficient amounts of highly liquid assets (cash), which can lead to substantial liquidity stress of those firms in times of very volatile energy markets, due to the considerable positions these firms take in commodity derivatives to hedge their production. Enabling energy market participants to post non-cash collateral to cover at least an appropriate portion of the margin requirements will provide relief from that liquidity stress, without jeopardising financial stability.

We are of the opinion that all energy market participants, i.e., non-financial and financial counterparties, shall be able to post uncollateralised commercial bank guarantees as they have the same needs to access eligible collateral. They furthermore access CCPs either directly as clearing members or through a general clearing member. To avoid an unjustified differentiation between these two models, the acceptance by CCPs of public guarantees, public bank guarantees, and uncollateralised commercial bank guarantees shall be permitted for both clearing models (direct and indirect clearing).

We propose the following changes to amendment 170 (red bold and strikethrough):

*Art. 46(1): A CCP shall accept highly liquid collateral with minimal credit and market risk to cover its initial and ongoing exposure to its clearing members. A CCP may accept public guarantees or public bank or commercial bank guarantees, **including on an uncollateralised basis both for clients of clearing members and directly for non-financial clearing members** ~~counterparties~~ [...].*

4. *AM 163 and 164 Non-financial firms can continue to act as direct clearing member at CCPs, access must remain non-discriminatory – new Art. 37 (1a)*

✓ – Support amendments 163 and 164:

We welcome that under amendments 163 and 164 non-financial firms, in particular energy market participants, can continue to act as direct clearing members, which is

relevant especially in the Nordic and Iberian energy markets. The robustness and resilience of the central clearing structure is guaranteed by the current rules under EMIR which impose margining and funding requirements equally to all clearing members (indifferently of whether they are a clearing bank or an energy market participant). The events of 2022 confirm this to be the case, as there were no defaults during the period of extreme stress, including on Nasdaq Commodities, which (direct) clearing membership includes (non-financial) energy market participants. NFCs financially capable of becoming clearing members, must not be disadvantaged by disproportionate requirements, in excess of those imposed on financial counterparties. Failure to ensure a level playing field could easily lead to an uncompetitive clearing landscape, hence increasing clearing costs for all users of CCPs. Such increase directly contradicts the principles of EMIR, raises energy costs for end users and would ultimately act as another barrier to entry for investment into the EU energy markets. Furthermore, increasing CCP membership may assist CCPs to diversify the risks across a larger membership pool.

5. *AM 58 and 59 Changes regarding to the implementation of an NFC+ status - Art. 11 (2) and (3)*

✓ Support Amendments 58 and 59:

We welcome that amendments 58 and 59 maintain the EC proposal to grant to non-financial firms exceeding for the first time a clearing threshold (so-called “NFC+”) a 4-months phase-in of their mark-to-market and bilateral margining obligations. This helps NFC+ with the orderly implementation of the complex NFC+ status after they exceeded the clearing threshold(s).

In this context **we support that amendment 59 limits the bilateral margining obligation to the asset class(es) for the which the clearing threshold has been exceeded** as this is aligned with the same “asset class approach” taken with regards to the clearing obligation.

We would also like to express our support to the EC’s proposal to amend the definition of intragroup transactions through a new Article 3 EMIR that substantially facilitates the legitimate exemption for financial firms and non-financial above the EMIR clearing threshold (so-called FCs and NFCs+) from the intragroup clearing (Article 4 (2)) and margining obligation (Article 11(5)) as it replaces the need for an equivalence decision by a black list of jurisdictions for which an exemption cannot be granted.

6. *AM 49 and 50: Exemption from intra-group transaction reporting and transactions reporting scope – Art. 9 (1)*

✓ Support amendment 50

✗ Reject Amendment 49:

- We **support amendment 50** which maintains the exemption from the reporting obligations for intragroup transactions (IGTs). In practice, energy market participants make wide use of the possibilities available in EMIR to simplify their derivatives reporting obligations. Reintroducing IGT reporting would not guarantee increased transparency to regulators (as risks are moved intragroup without OTC derivatives transactions) and would imply for market participants, which are non-financial firms, the need to reinvest in a reporting infrastructure, which is becoming even more complex with the introduction of the changes to the reporting rules as of 29th April 2024 (CDR (EU) 2022/1855). In

addition, this proposal contradicts the purpose of the previous reform of EMIR (Refit) which introduced this reporting exemption to lower operational efforts.

- However, we **question the rationale of amendment 49** which extends the transaction reporting obligation to non-EU entities on a general basis, even if no EU-product, EU-venue or EU-entity is involved. We warn against this extension as this would impose unnecessary and disproportionate reporting requirements by subjecting non-EU entities to the EMIR reporting obligation in addition to third country reporting obligations such as UK EMIR (for UK entities) and Dodd-Frank (for US entities). This proposal negates the principles of substituted equivalence and regulatory cooperation which have been put at the core of financial market regulation following the 2008 financial crisis. Such initiative will put European non-financial groups at a competitive disadvantage as they will face double reporting obligations and associated costs which might only be increased by non-EU regulators taking a similar stance. For these reasons **we urge to delete amendment 49**.

B. We firmly warn against amendment 55 and the change in amendment 56 aiming at reintroducing a word-wide calculation methodology).

We support the EC proposal in relation to the clearing threshold calculations for non-financial firms as it safeguards the European competitiveness. Extending the clearing threshold calculation to include global turnover will have opposite adverse effects.

Therefore, we urge to maintain the EC's proposal **to count exclusively the OTC derivative transactions entered into by EU established counterparties against the clearing thresholds and do not support amendments 55 and 56**.

We propose the following changes (red italic letters) to the wording of amendment 56 in relation to Article 10(3) EMIR to (a) maintain the calculation methodology proposed by the EU Commission (see strikethrough) and to (b) reinstate the possibility of a centralised risk management (added wording at the end):

3. In calculating the positions referred to in paragraph 1, the non-financial counterparty shall include all the OTC derivative contracts that are not cleared in a CCP authorised under Article 14 or recognised under Article 25 entered into by the non-financial counterparty ~~or by other non-financial entities within the group to which the non-financial counterparty belongs~~ which are not objectively measurable as reducing risks directly relating to the commercial activity or treasury financing activity of the non-financial counterparty **or of *that the group to which the non-financial counterparty belongs***.

World-wide calculation puts European firms at a competitive disadvantage and has a negative impact on the energy transition.

These textual changes take into account the lessons drawn from two studies presented by JEAG and mitigate the disproportionate consequences for EU energy firms brought along by a worldwide calculation of the clearing thresholds.

- As a result of an **independent comparative study by Luther Law Firm** ([link](#)) reviewing international approaches to the regulation of OTC energy and commodity derivatives markets in certain G20 jurisdictions, **we conclude that the approach used by the EU under current EMIR is the most restrictive of all approaches.** The headline conclusion of this analysis is that the EU EMIR regime includes the lowest clearing threshold applicable to the largest set of entities, products and activities. **Only the EU applies its regime to all trading activities around the globe without restriction**, i.e., all world-wide energy and commodity derivatives activities count against the EMIR clearing threshold, even if no EU-product, EU-venue or EU-entity is involved.
- An independent **study of Frontier Economics** ([link](#)) **shows that this current strict EU EMIR approach**, including the extension of the clearing threshold calculations to the non-EU activities of international subsidiaries of EU groups, **triggers multiple adverse unintended consequences**, which are explained in more detail below.

We want to highlight that a world-wide calculation puts European non- financial firms at a competitive disadvantage, impedes the energy transition, increase the market, credit and liquidity risks for non-financial firms and ultimately increases the cost of energy supply for end consumers. In detail:

- This **puts European groups at a competitive disadvantage** when compared to firms that are bound by less restrictive national financial regulation in their home jurisdiction, but also when 3rd country firms active in the EU are competing with EU based firms.¹ EU energy firms hence find themselves not only disadvantaged in the market abroad but also in their home markets since their available EMIR Commodity Clearing Threshold (CCT) set at a still relatively low €4bn is eaten up by not EU-relevant transactions (entered into outside of the EU, between non-EU entities of their group).
- **The Frontier Study² explains that inter alia the current EU EMIR approach impedes the energy transition:** It is important that energy market participants are encouraged to further develop the OTC energy and commodity derivatives markets so that the market liquidity and consequently the hedging opportunities for renewable energy producers are increased.³ The reason is that the current EU EMIR framework provides EU non-financial firms with only a very limited headroom to offer required and suitable OTC products to renewable energy producers in the EU, seeking to hedge their commodity risks, in particular in the form of so-called financial Power Purchase Agreements. This is because the transactions with renewable energy producers shall usually reduce their commercial price risk of a long duration and important volume close to the total production capacity of the renewable asset. Only a few such transactions can consume the entire CCT of EUR 4bn, and this even faster when non-EU-relevant transactions count. The availability of such financial risk management solutions provided by 3rd parties to the operators of renewable energy installations is important for the development of such projects in the Union.

¹ See for detailed explanations Frontier Economics study under chapter 5, pages 51 et seq.

² See for detailed explanations Frontier Economics study under chapter 4, pages 36 et seq.

³ See for detailed explanations Frontier Economics study under chapter 3.2, pages 28 et seq.

- **It increases the risk and costs for EU energy firms and hence the cost of energy supply to end consumers:** The Frontier Economics study shows that the current EU EMIR approach, incl. the global reach of the clearing threshold calculation, is reducing the ability of EU energy market participants to efficiently optimise between market, credit and cash liquidity risks and exposes energy market participants to stark choices as follows:⁴

A badly calibrated clearing threshold can force EU energy firms to bear inefficiently high cash liquidity risks and/or increased market price and/or increased credit risks, which all are passed on – through energy prices – to end consumers. Commonly, energy market participants must balance and manage three types of risks: credit risk (the risk of default of a counterparty), market risk (the risk of changing prices in the market) and liquidity risk (the risk of cash constraints for the payment of margins). This leaves these market participants with three different choices to manage these risks:

- Hedging on exchanges: Absent liquidity in the OTC derivatives market, commercial risk needs to be largely hedged by exchange traded and centrally cleared derivatives – if these are even available. This triggers cash liquidity risk caused by high and frequent margin calls for clearing in times of high market stress as experienced in the energy crisis in 2022.
- No hedging at all (to avoid liquidity risk): Another choice for EU energy firms is to increase their market risks, i.e., not to hedge their commercial risks and remain exposed to energy price fluctuations.
- Hedging OTC: The last option is to make more use of (illiquid) bilateral markets to hedge their commercial risks (partially) through OTC derivatives, but this potentially triggers (more) bilateral credit risks vis-à-vis OTC counterparties.

The level of the clearing threshold may negatively impact these choices.

The other alternative for EU energy firms is to breach the EMIR CCT and implement / operate under an NFC+ status. However, becoming an NFC+ is not a trivial undertaking and, hence, not a viable option for many EU non-financial firms.⁵ Not only does it require significant implementation efforts and resources, even for large and sophisticated energy players, it also triggers significant costs and liquidity risk because of mandatory margining and collateralization requirements as the whole non-financial group has to become an NFC+.

- Ultimately, EU energy firms should be able manage their risks appropriately in the most optimal manner possible, to reduce the costs of energy in the EU markets. Implementing barriers to trade OTC or hedging on exchange, will ultimately lead to additional costs which will be passed through to and, hence, will have to be borne by the energy end consumers.

C. We should be wary of approaches which reduces the benefit of the hedging exemption for corporates and urge the deletion of amendment 57.

✗ *Reject Amendment 57*

⁴ See for detailed explanations Frontier Economics study under chapter 4.2, pages 42 et seq.

⁵ See for detailed explanations Frontier Economics study under chapter 4.3 and 4.4, pages 45 et seq.

We express our full support the so-called “hedging exemption” in Article 10 (3) EMIR (as supplemented by Art. 10 RTS 149/2013), which has proven to be a well understood and functioning tool. We welcome that the EC in its EMIR 3 proposal does not introduce any changes to this central principle. We strongly recommend preserving the hedging exemption in the forthcoming legislative procedure as it allows EU energy firms to effectively reduce their commercial risks. The current EMIR approach guarantees that non-financial firms are exempted from mandatory clearing and margining requirements if their position in non-hedging OTC derivatives does not cross the clearing thresholds(s) (which is defined for commodities at a gross notional value of €4bn). This means that the risk reducing / hedging activities will not lead to the breach of the threshold and will not trigger consequential EMIR obligations.

We are concerned about the unclear wording and purpose of amendment 57, which in its current form applies exclusively to financial counterparties. This amendment provides that ESMA shall assess whether an aggregate activity threshold is necessary, taking into account the overall aggregate position in OTC derivatives of a financial counterparty. The undetermined purpose provides an open mandate to ESMA and creates legal uncertainty as to the motives pursued.

We disagree with this proposal if its purpose would be to prohibit financial counterparties (and non-financial counterparties) to fully use the clearing thresholds in the different relevant asset classes. The new calculation methodology of cleared vs non-cleared derivatives does not request a change to this asset class approach as the purpose of these thresholds remains unchanged, i.e., to mitigate the credit risks of non-cleared (OTC) derivatives.

We urge to reconsider amendment 57 as it potentially can lead to a substantially reduced use and benefit of the hedging exemption for non-financial firms, incl. energy firms. In particular, if an overall threshold for all aggregated OTC derivatives positions held by a non-financial firm (or even by its wider group) were to be introduced because this would mean that even OTC derivatives transactions entered into for hedging purpose would count against this additional threshold.

This approach would contradict the EMIR principle and hedging exemption ensuring that OTC derivatives used for the mitigation of risks stemming from the operative commercial businesses (e.g., to hedge against currency, interest rates or commodity price fluctuations) are not counted against the clearing thresholds. Through the introduction of this exemption, the legislator acknowledged the utmost importance of OTC derivatives for the proper risk management of NFCs. Hedging with OTC derivatives reduces the commodity price risks and consequently stabilizes cash flows and thus enhancing the creditworthiness and long-term ratings of energy firms. An overall threshold for all OTC derivatives would ignore these intended benefits of this exemption. For these reasons we urge that the utility of the current hedging exemption remains in place and is not reduced.
