



ENERGY



Evaluation of CH₄ Survey

Emissions Monitoring 2017





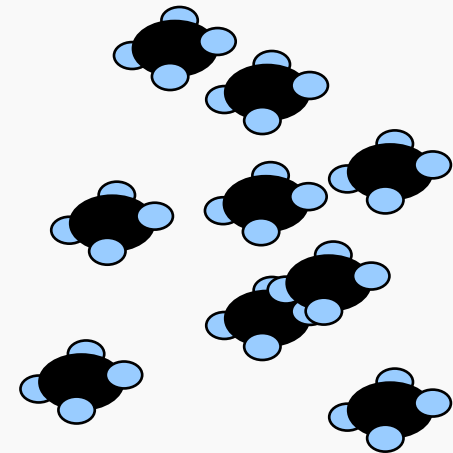
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- Back Ground
 - Survey on **CH₄ (methane) management in extractive industries** was distributed in December 2016 and assembled early in 2017
 - By UNECE in Geneva
 - via web sites of
 - Committee on Sustainable Energy
 - Group of Expert on Gas
 - Group of Experts on Coal Mine Methane
 - Methane Management page
 - also via partners such as
 - International Gas Union
 - World Coal Association
 - World Petroleum Council
 - .. encouraging to share survey to others
 - Therefore, no knowledge of how many have received the survey inquiry





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- Back Ground *continued..*
 - 95 responses
 - from around the World
 - 16 were disregarded due to being:
 - too incomplete (13 pcs with very few boxes ticked)
 - wrong type of respondent (3 pcs not from extractive industries)
 - 79 are included in this analysis
 - Responses from Midstream and downstream oil merged
 - “ “ “ “ “ gas merged
 - Upstream oil/gas kept as is
 - Coal kept as is



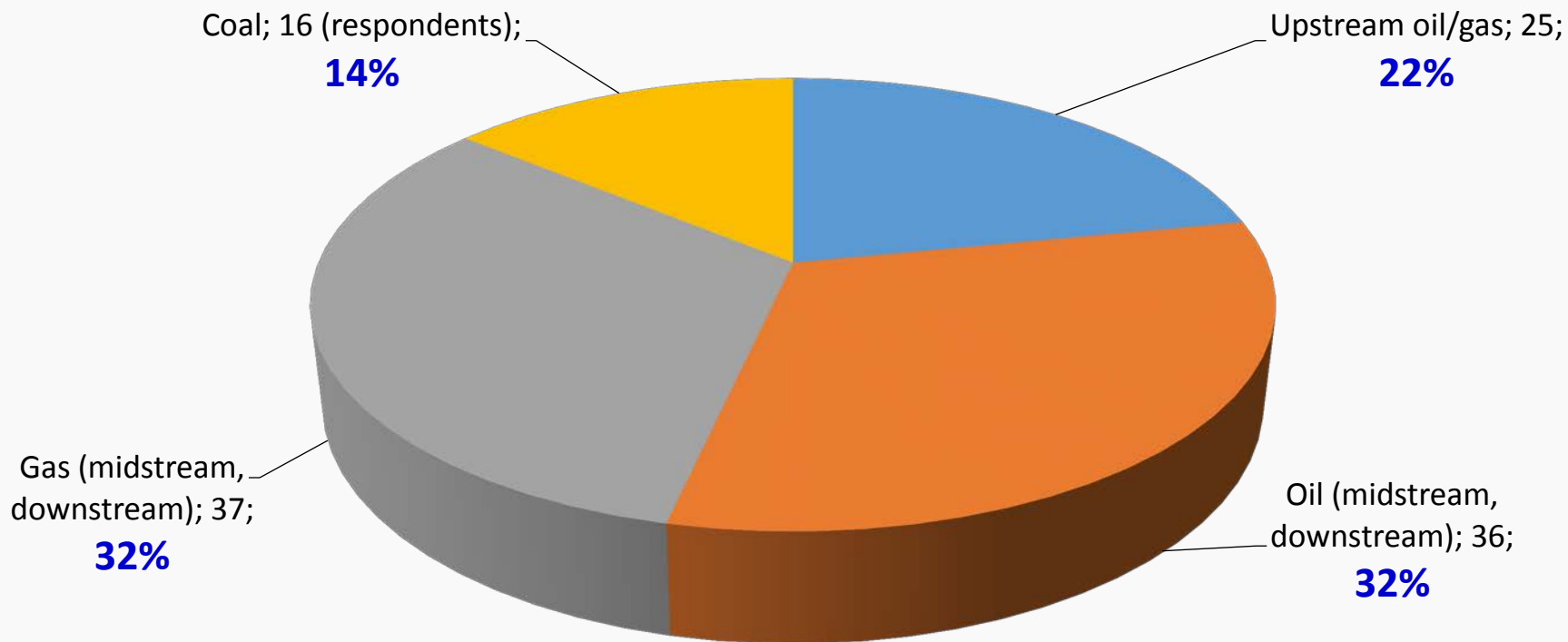
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- # 1 Type of extractive industry? Many respondents noted several categories





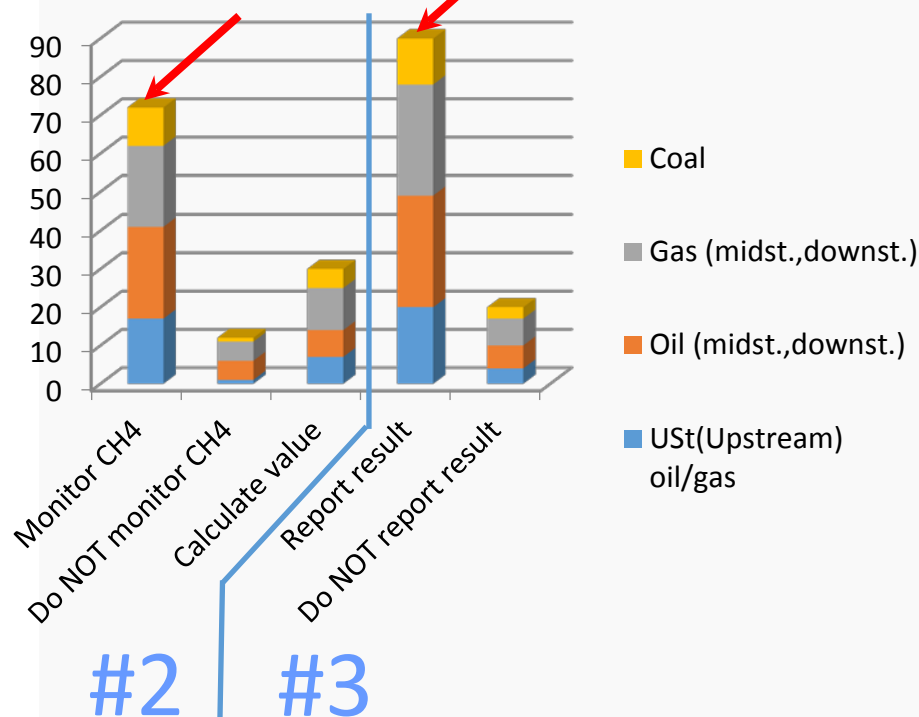
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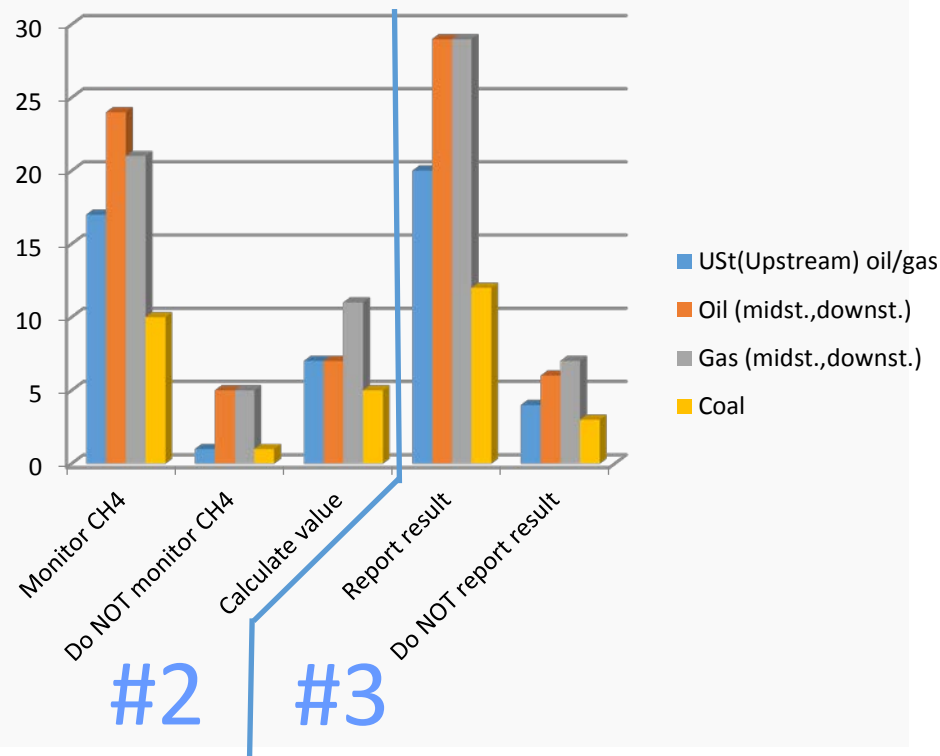
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- # 2 Do you monitor/calculate CH₄ or other CH emissions?
- # 3 Do you report the results?



Same distribution of answers in all sectors





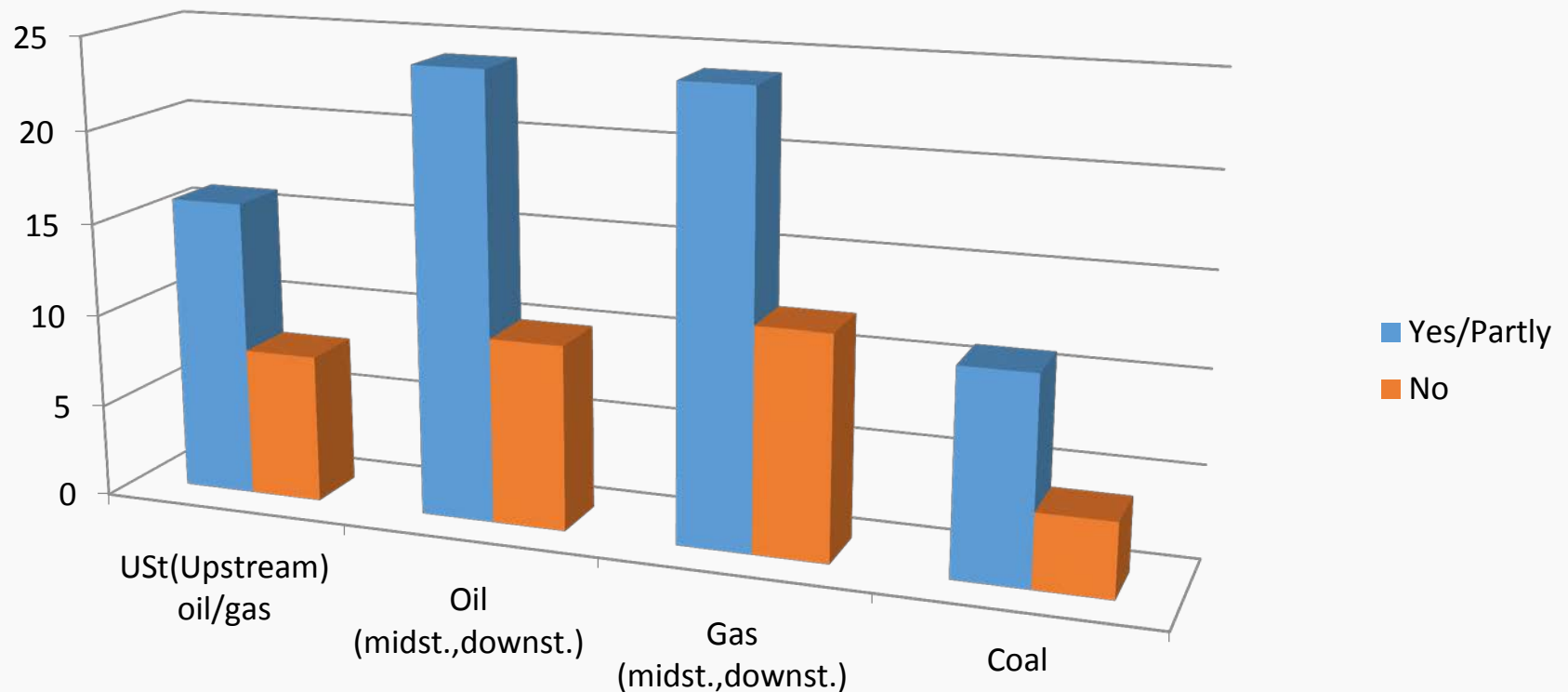
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- # 4 Monitoring of CH₄/CH emissions mandated by law?





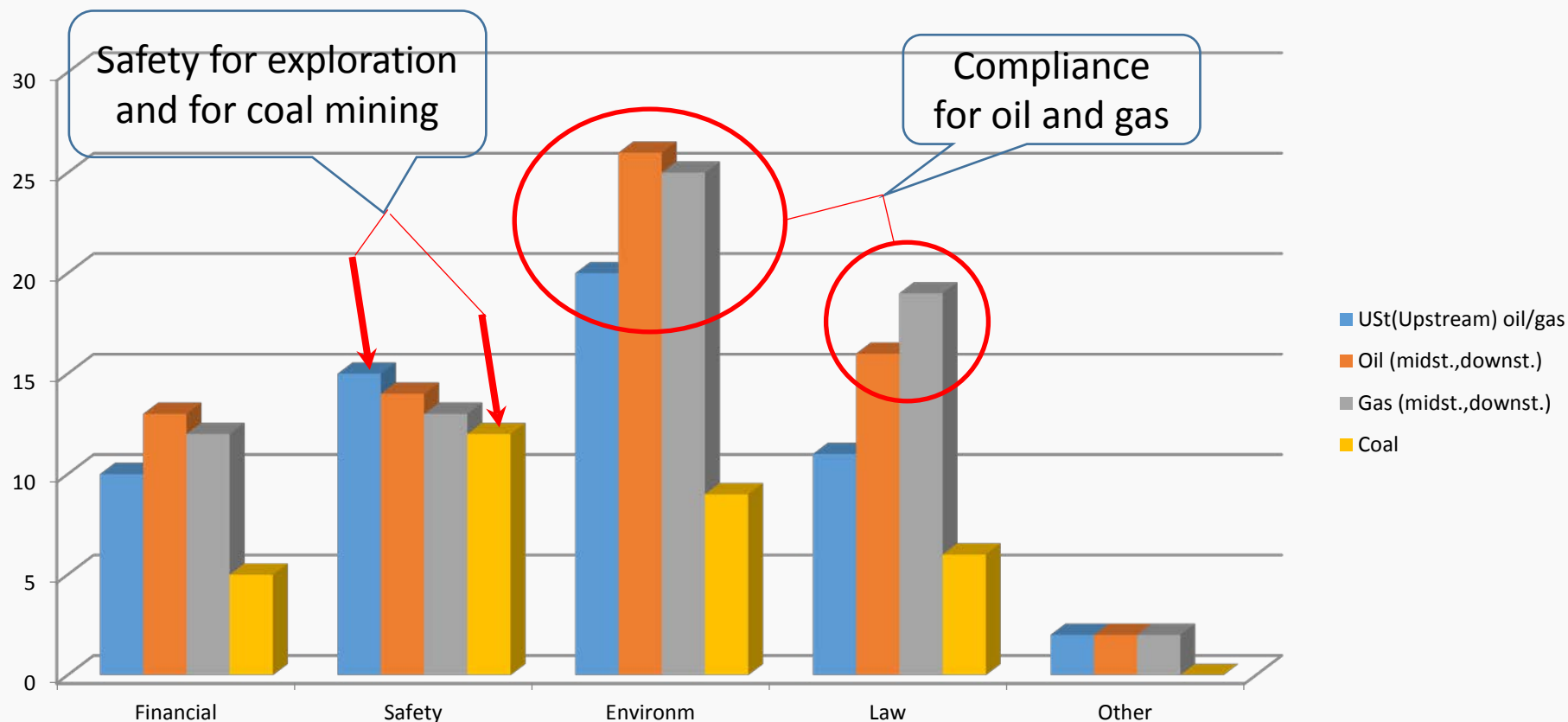
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■ # 5 Primary purpose of monitoring CH₄/CH emissions?

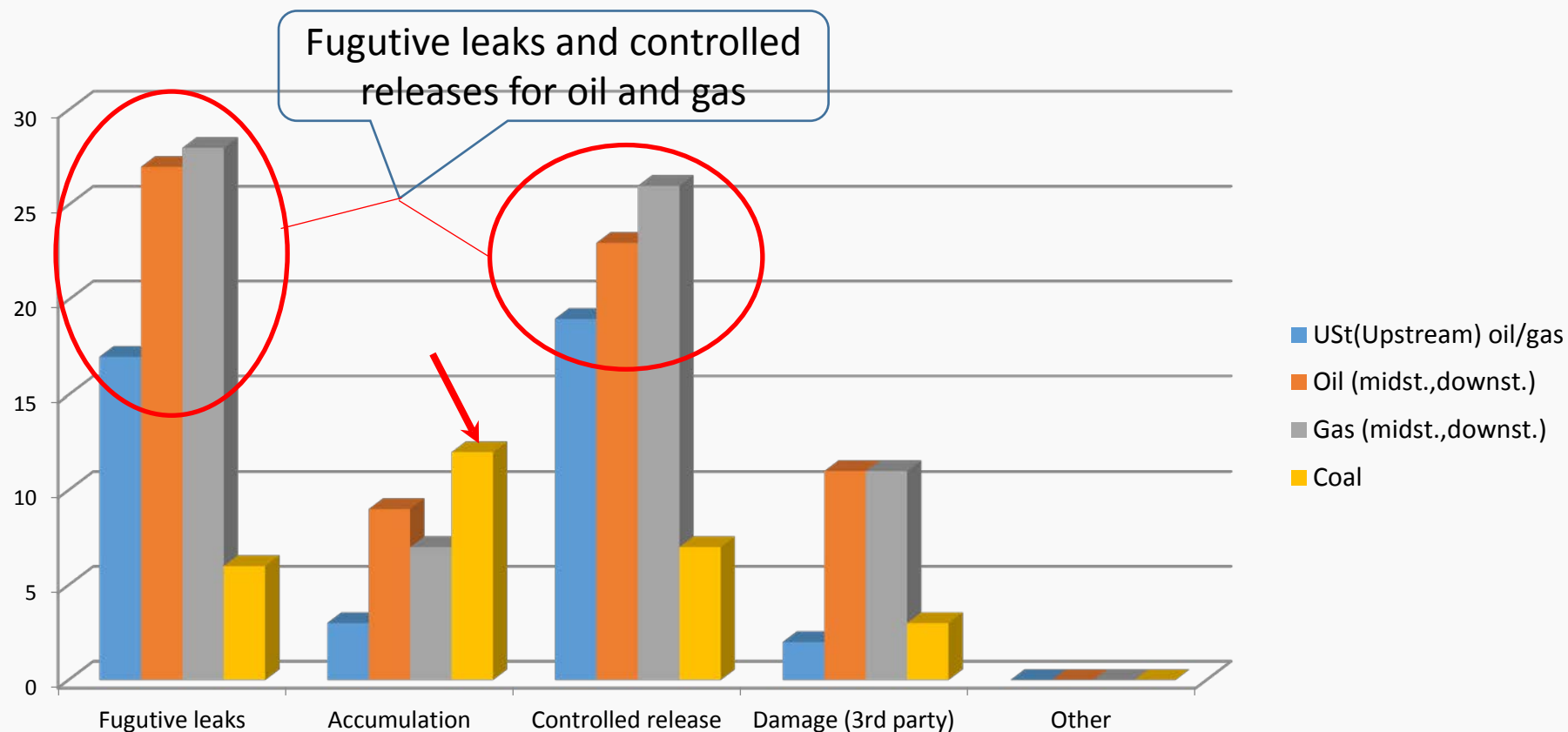




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6 Nature of CH₄/CH emissions?





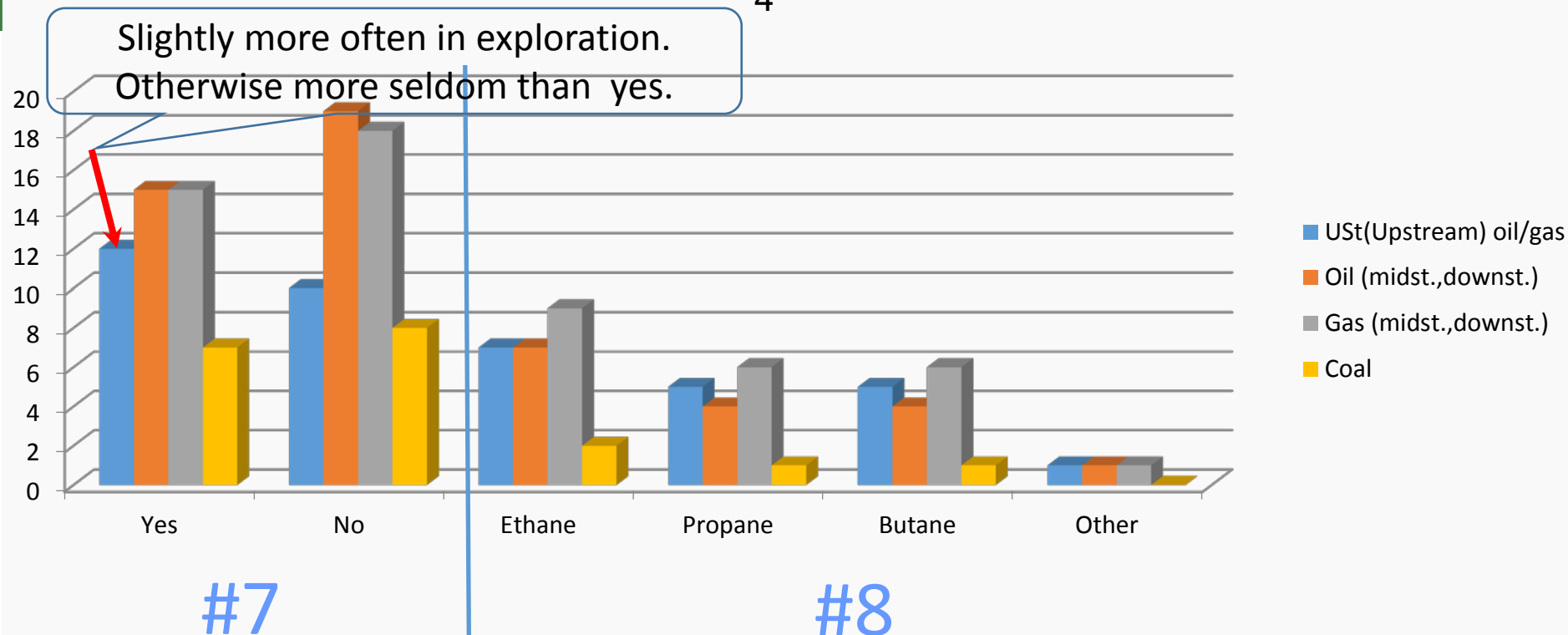
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- # 7 Do you distinguish between CH₄ and other CH?
- # 8 What other CH than CH₄?





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- # 9 What components of your facilities do you monitor?
 - “All”, “Most”, “Where potential leaks”, “All emitting equipment” ..
(Too wide spread to present in graphic form.)
- # 10 Why those particular components?
 - “Potential emitters”, “Legislation”, “Worker safety” ..
- # 11 What processes do you monitor?
 - “All”, “Most”, “Hazardous work area” ..
- # 12 Why those particular processes?
 - “Potential emissions”, “Regulation”, “Health and safety” ..



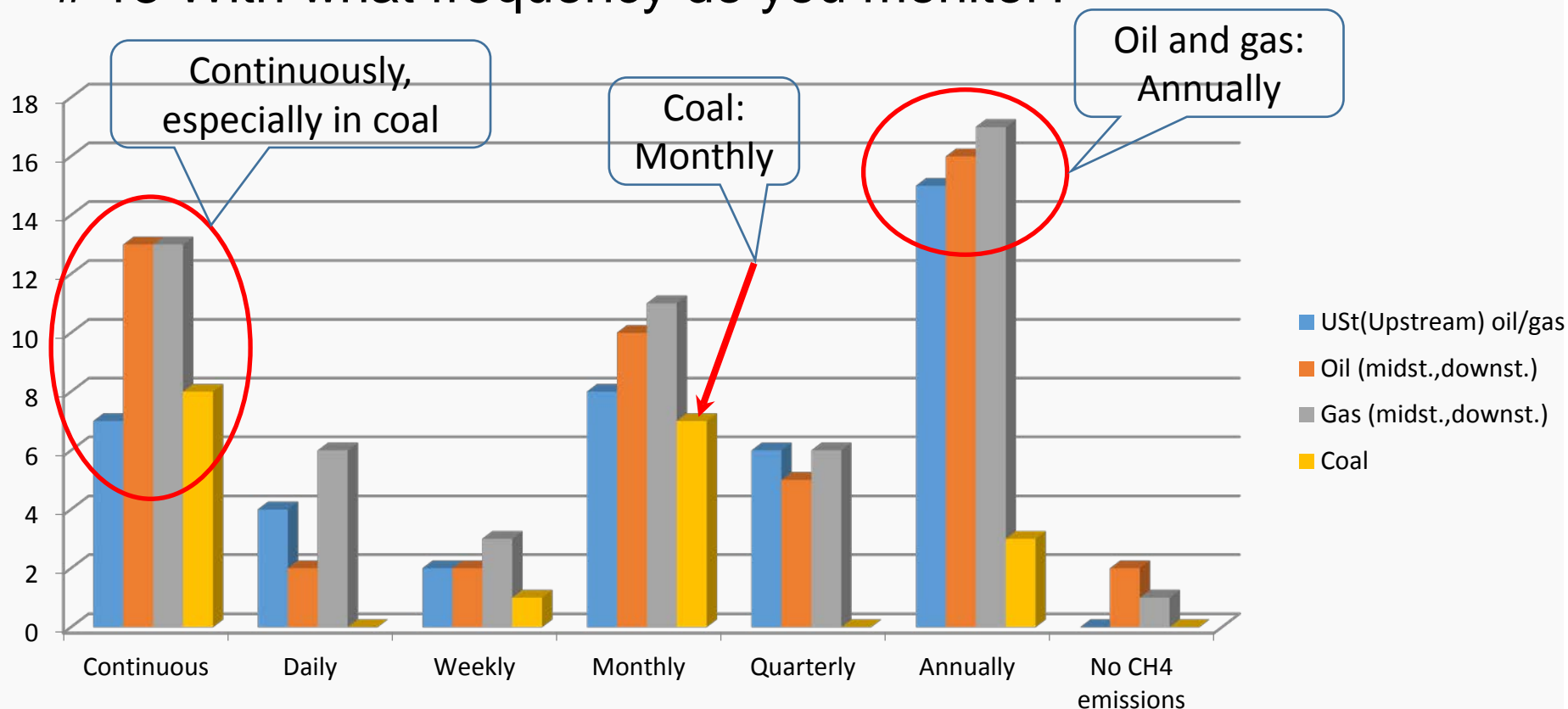
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13 With what frequency do you monitor?





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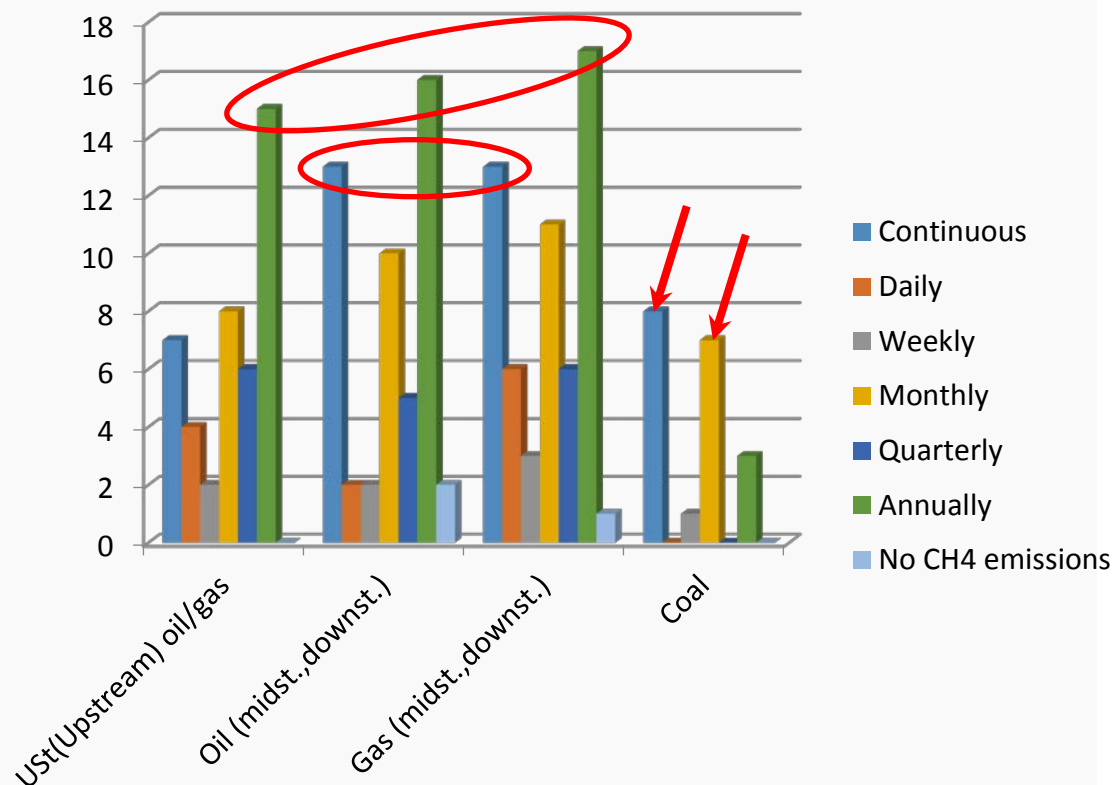
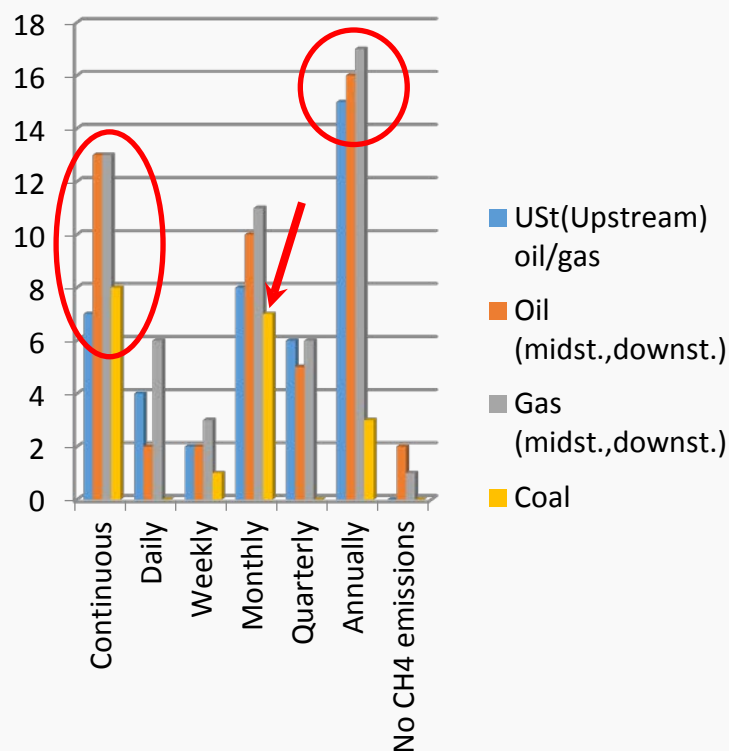


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13 With what frequency do you monitor?

Alternative presentation





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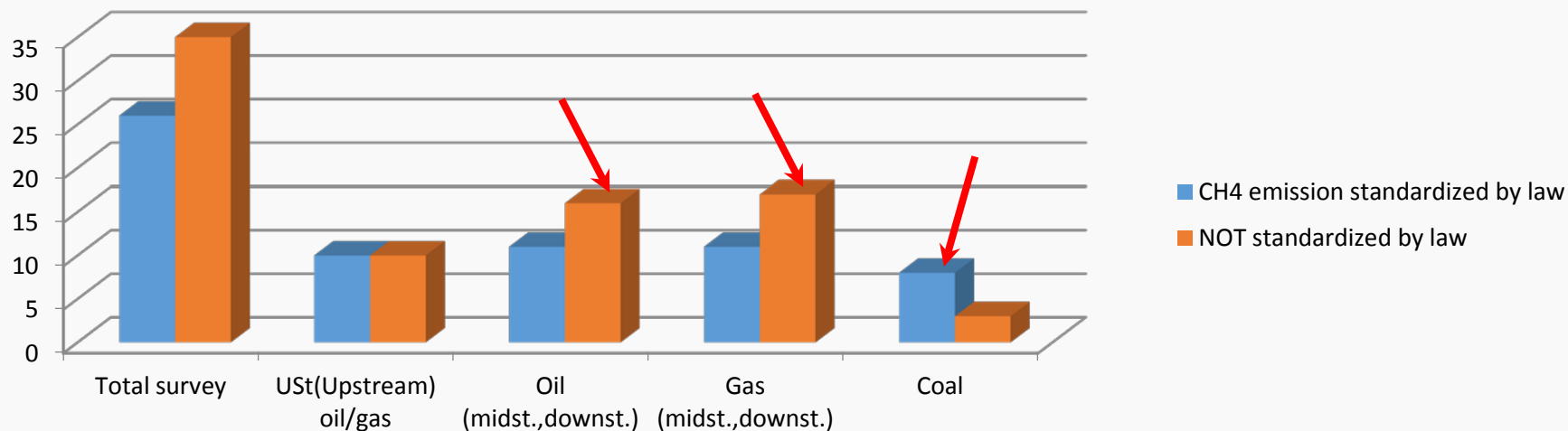
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- # 14 How do you standardize CH₄ emissions in your organization?

- “scf”, “Nm3”, “t/yr”, “EPA 21”, “EN15446”, “CO2e”, “BAT”, “FID” ..

- # 15 Is the CH₄ emissions standardization mandated by law?





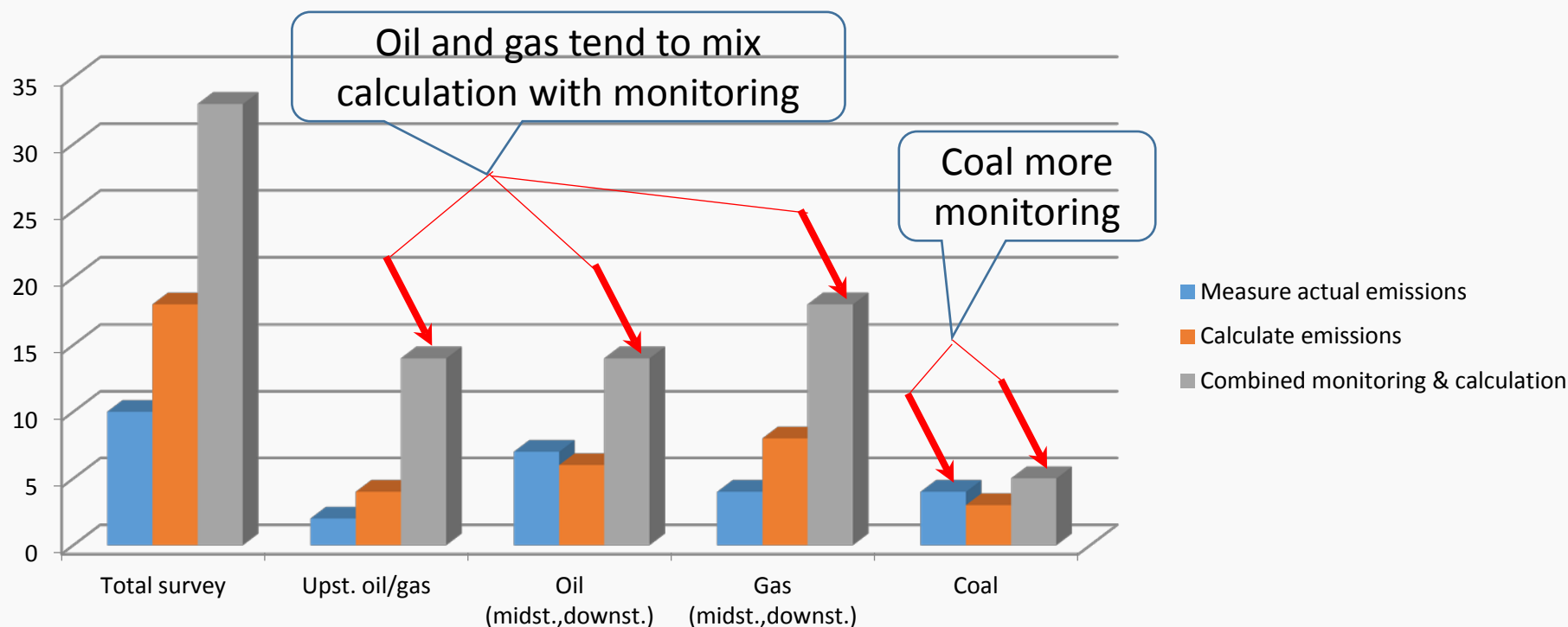
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- # 16 What methods/technologies are used to monitor CH₄ emissions?



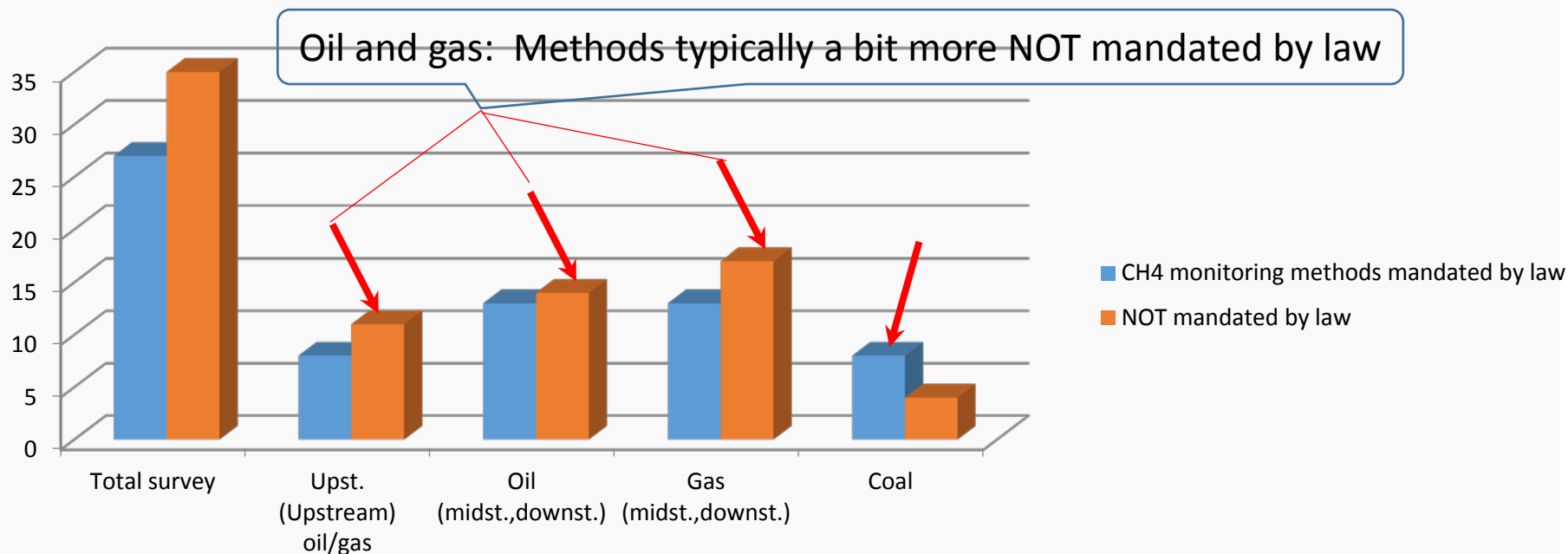


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- # 17 Are the methods/technologies mandated by law/regulations?





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- #18 Why are these methods chosen?
 - “Best suited”, “no other tool”, “EPA 21”, “Low cost technology”, “used by others”, “BAT”, “Best practice” ..
-
- # 19 What % of CH₄ emissions are included in a Maximum Allowable Emission Target?
 - 9 respondents answered in numbers (from 0% to 100%)
 - 2 respondents referred to different per facility (one said ½% to 1½%)
 - 25 responded NA or that they did not understand question
 - Remaining 43 (over half) did not respond at all



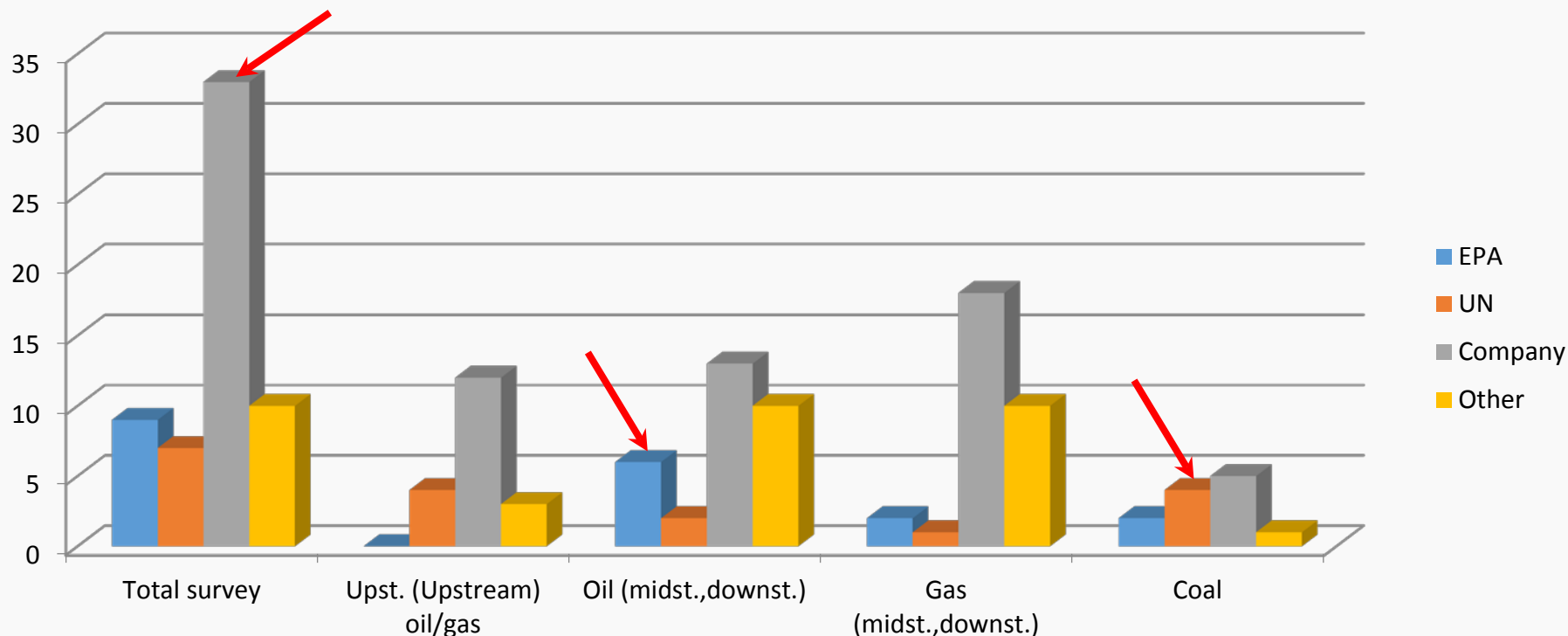
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- # 20 When using emission factors for calculations, what database(s) do you use?





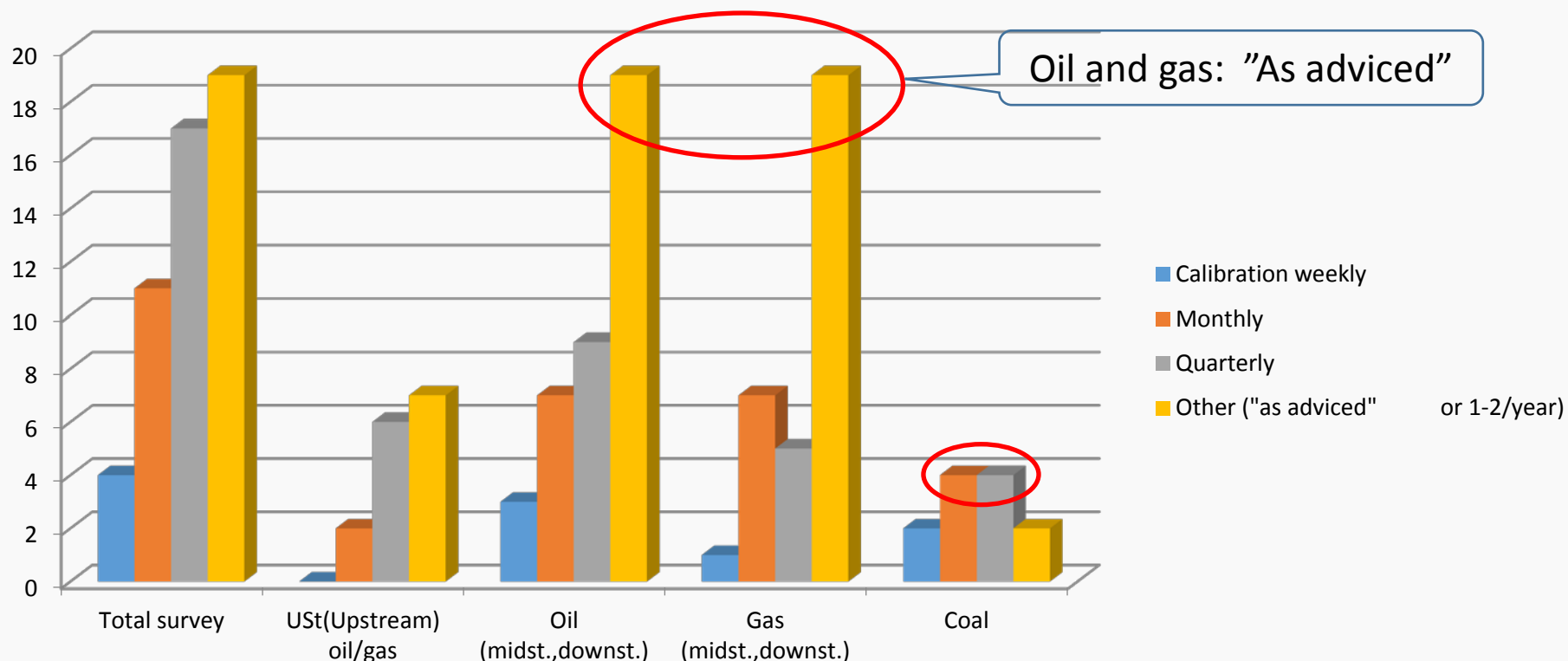
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■ # 21 How often is the monitoring equipment calibrated?





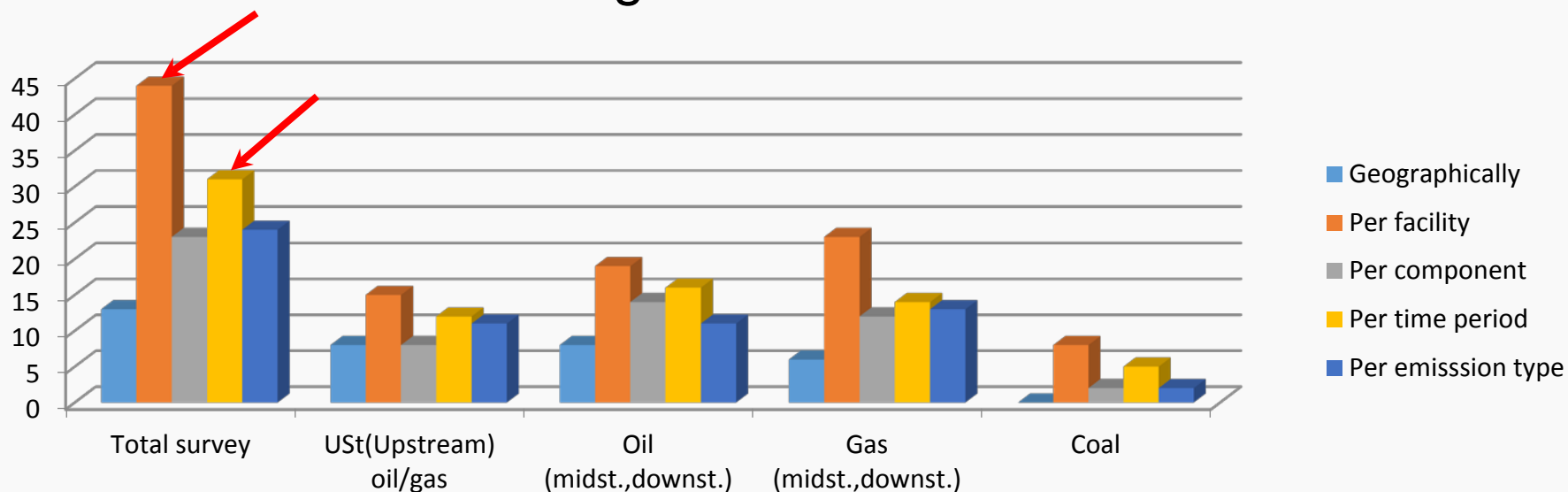
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■ # 22 How are monitoring results recorded?



■ # 23 How are monitoring results recorded?

What units are used to record the results?

- More than half did not answer.
- Rest answered various volume, rate or flow units, mostly SI-units.

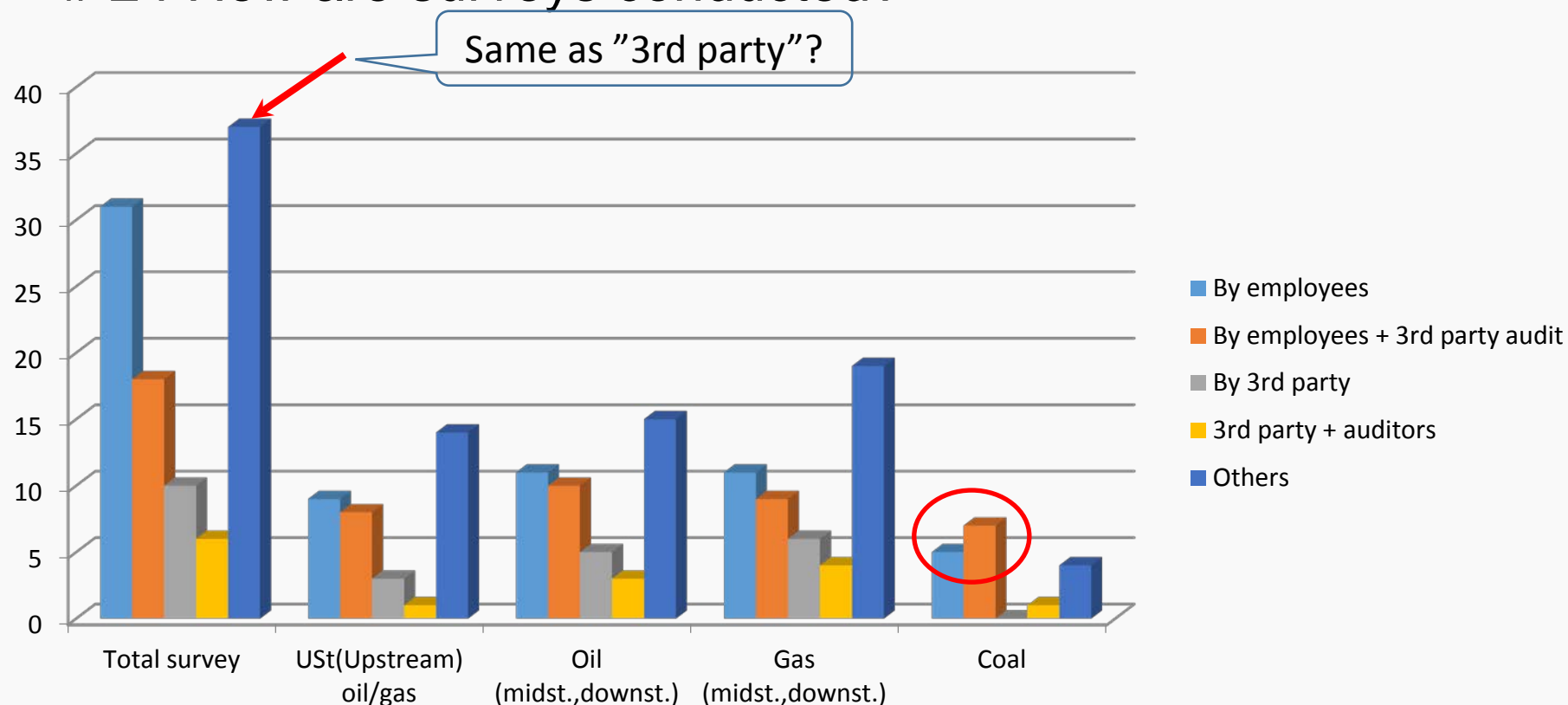


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■ # 24 How are surveys conducted?





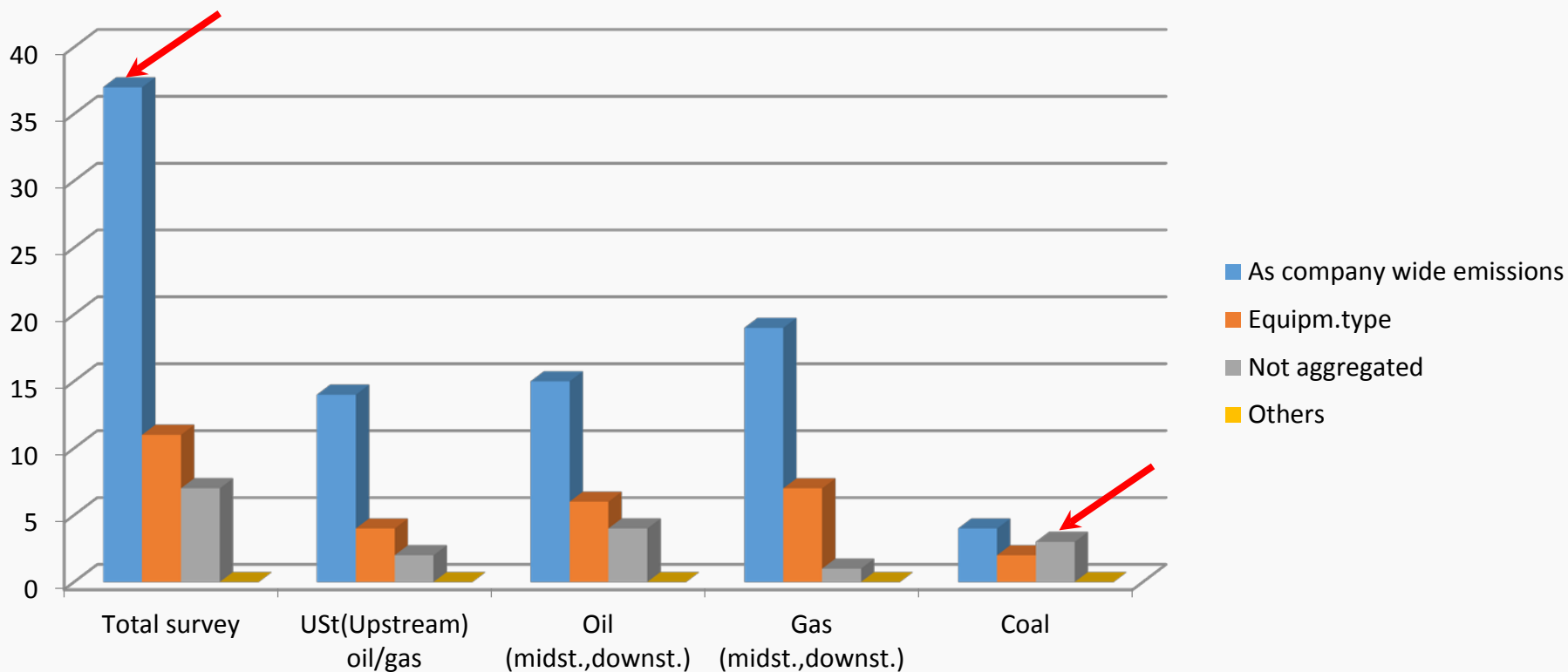
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■ # 25 How are the results aggregated?





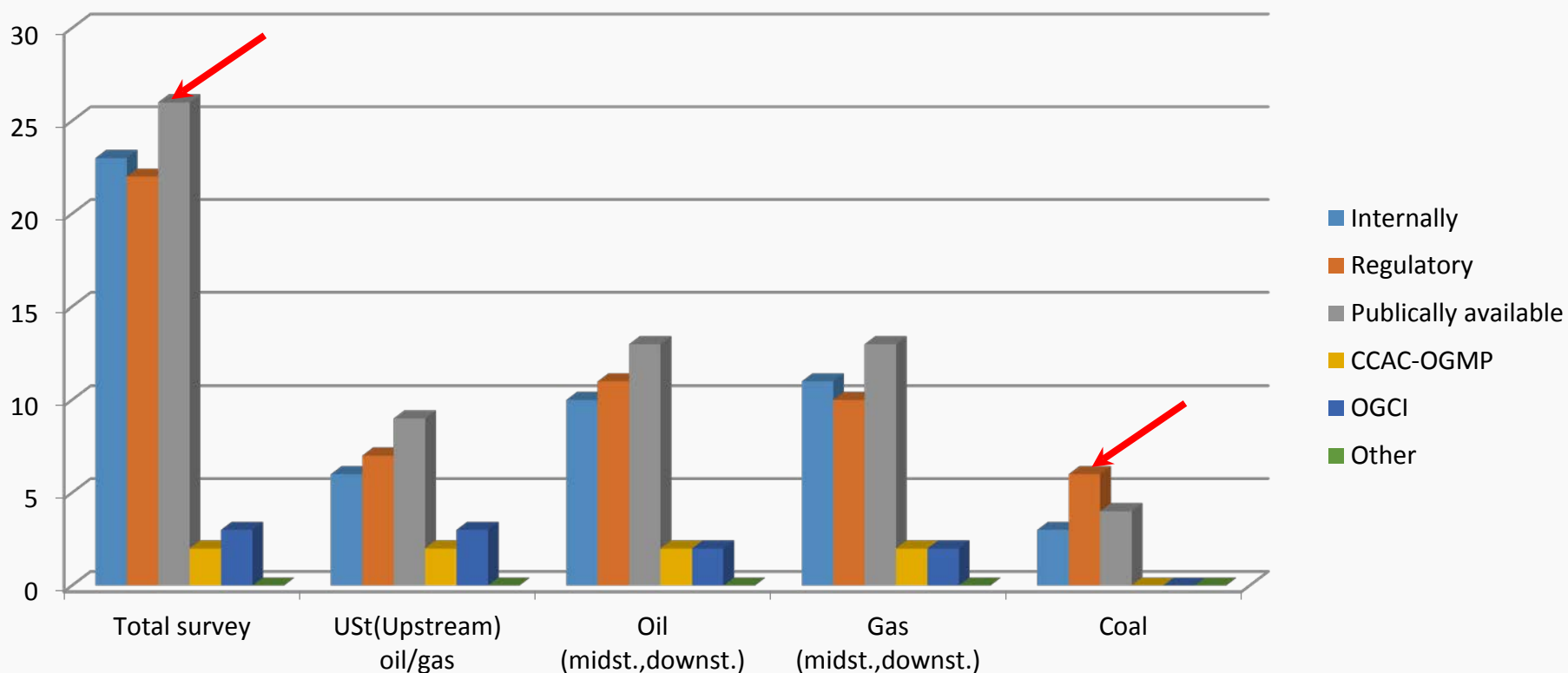
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■ # 26 How are your results reported?





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- # 27 What organisations do you cooperate with on this topic?

Around half of respondents indicated a wide range of names, including;

- Governmental ministries and agencies
- Intergovernmental organisations (e.g. UN and GMI, Global Methane Initiative)
- Universities and research institutions
- 3rd party auditing companies and
- Other private companies



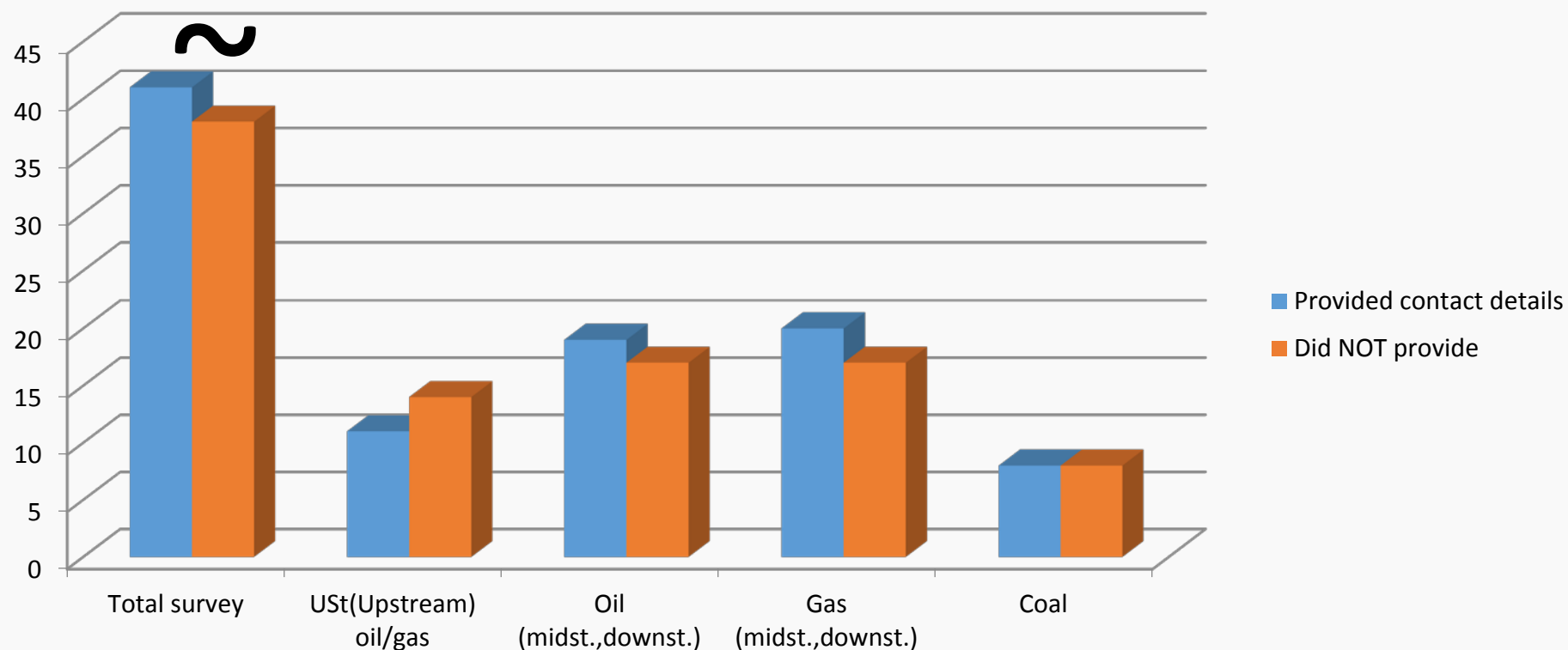
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- # 28 Contact details (full name and email address) submitted?





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Thank you!

Richard Mattus

Consultant

UNECE

Date 27 | 03 | 2017, Geneva

