

concaawe



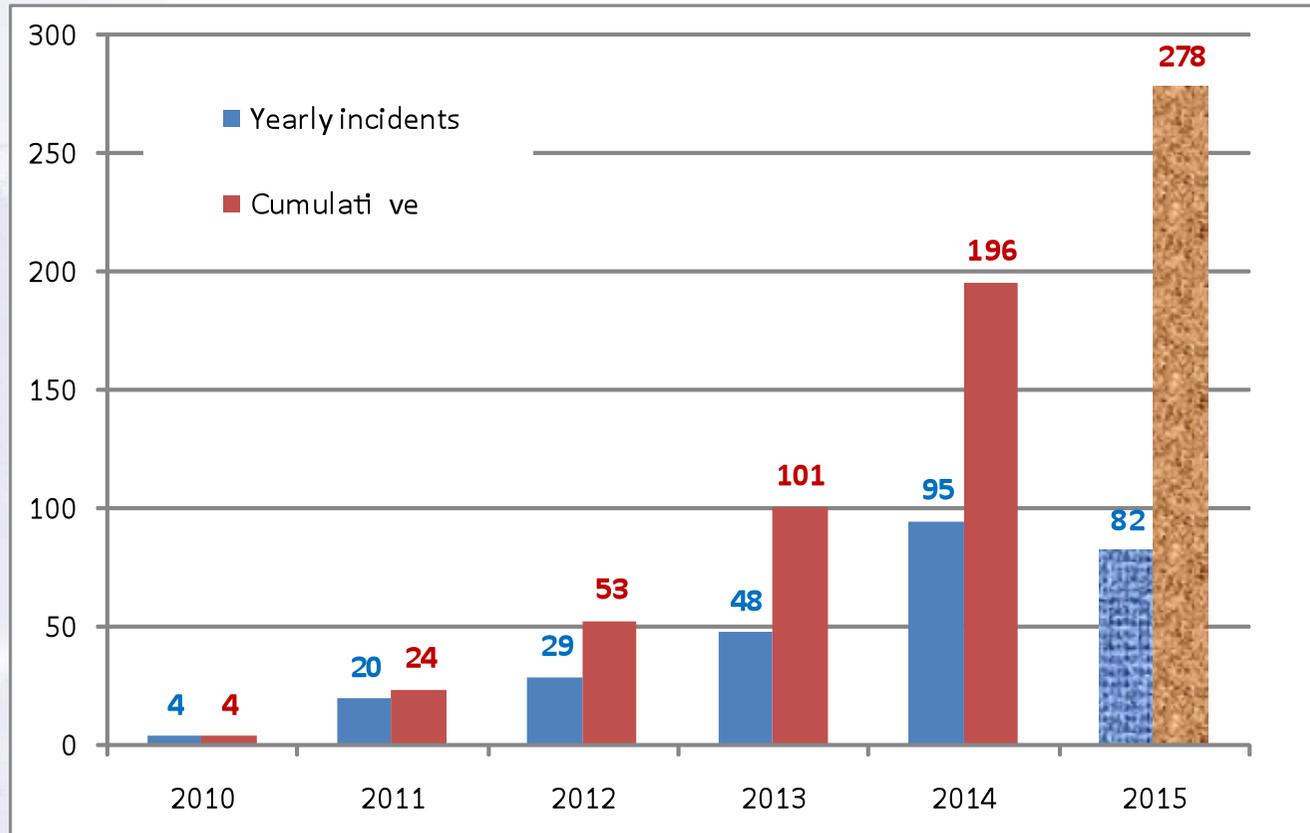
Pipeline Theft Survey

ANALYSIS

- ▶ Questionnaire sent to 78 operators
- ▶ 54 responded (accounting for some 31,500 km of pipeline of 84% of the total inventory covered by the annual Concaawe survey)
- ▶ 17 reported (attempted) theft incidents (56% of total inventory)
 - ▶ It is believed that the vast majority of theft incidents have been reported

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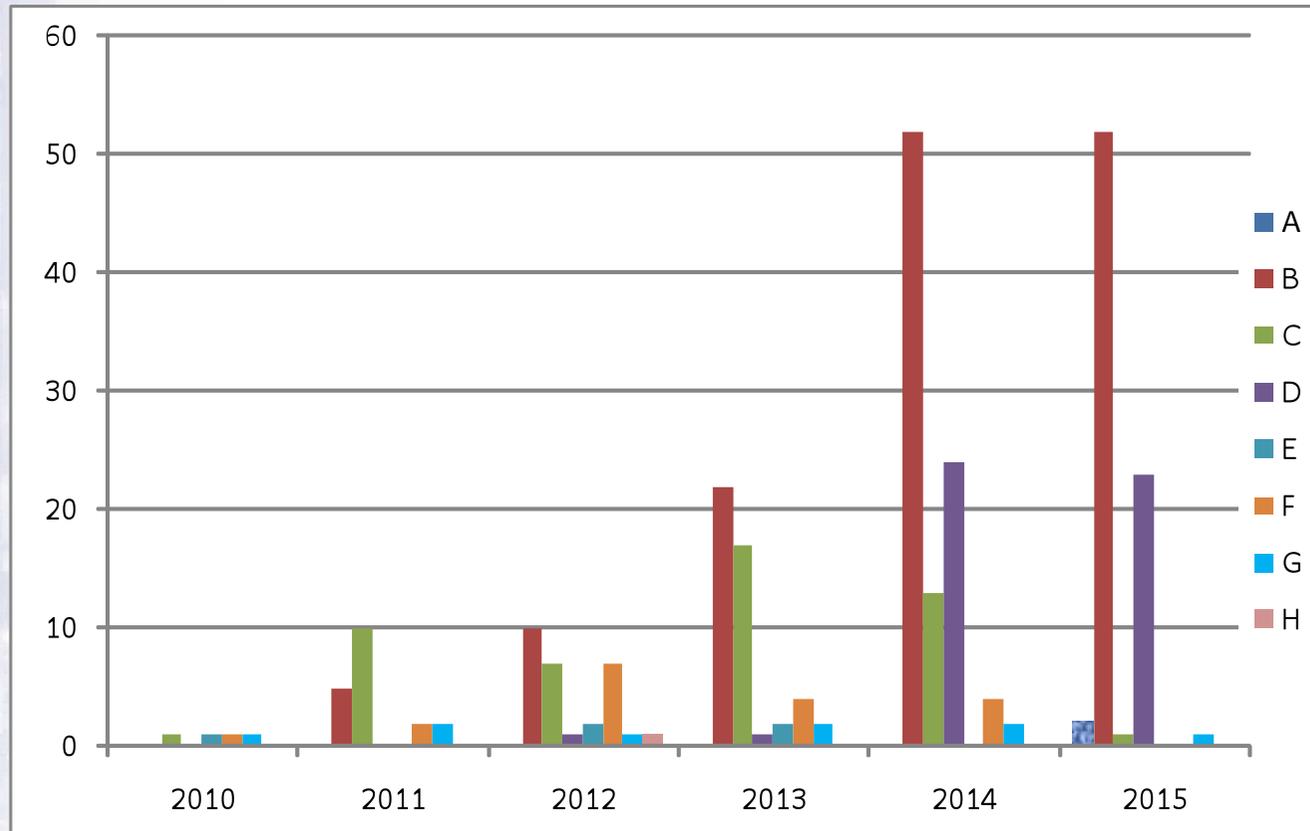


- ▶ Cases few and far between until 2010
- ▶ “Exponential” growth since then
 - ▶ For 2015 this covers less than half a year

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- ▶ Some countries are particularly targeted
- ▶ 3 countries account for 86% of all cases



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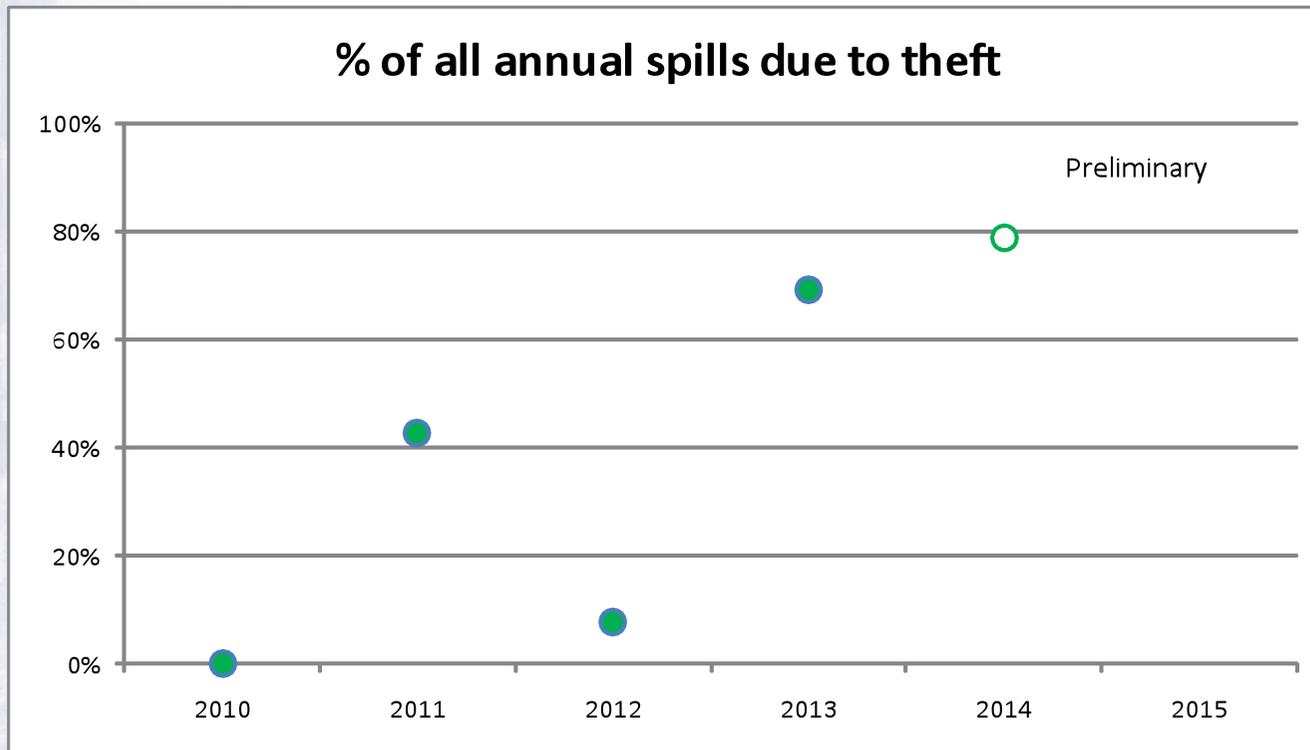


- ▶ 90% of incidents concern white (mostly multi-) product pipelines
 - ▶ Still 20 cases have been recorded on crude lines, only 2 of which appear to have been in error
- ▶ 76% of cases are in buried sections, 24% near accessible valves
- ▶ Location (reported for 36% of cases)
 - ▶ Majority of cases were in open land (71%) or shrub area (17%)
 - ▶ A few cases involving lay-bys or buildings
- ▶ Distance (reported for 33% of cases)
 - ▶ varies from <10 m (43%), 10-100 (32%), 100-1000 (24%)
- ▶ Estimated flow rate is often unknown (reported for 25% of cases)
 - ▶ < 1 m³/h (55%), 1-5 m³/h (45%)

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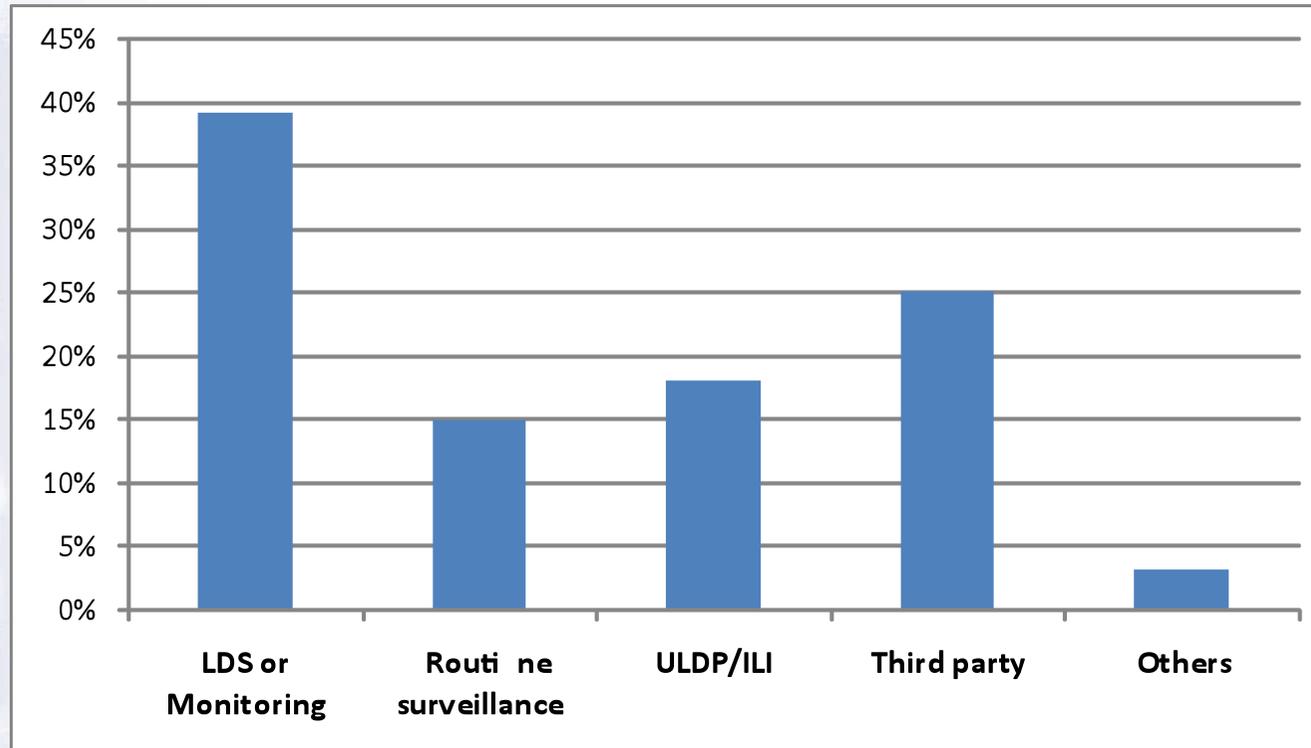
- ▶ Out of 278 incidents, 59 (21%) caused a spill
 - ▶ This percentage varies greatly from country to country
 - ▶ **Just looking at spills vastly underestimates the problem**
- ▶ Theft activities are responsible for a large percentage of all annual spills recorded in the Concaawe survey



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► Detection (reported for 46% of cases)



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- ▶ Perpetrator's expertise (reported of 89% of cases) rated as:
 - ▶ Amateurs: 30%
 - ▶ General engineering expertise: 14%
 - ▶ Expertise in pipeline engineering: 56%

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