

Evaluation study of Council Directive 2008/114 on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection

Executive summary

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EXECUTIVE SUMMARY

Council Directive 2008/114 (hereafter referred to as “the Directive”) acknowledges the existence of critical infrastructures (CI) in Europe, which, in the case of disruption, destruction or failure, would have significant negative effects in two or more Member States (i.e. would have significant transboundary effects). These critical infrastructures are referred to in the Directive as **European Critical Infrastructures** (ECI).

The Directive aims at increasing the level of protection of ECIs in specifically the **energy and transport** sectors by establishing i) a **common procedure** for the cross-border identification and designation of ECI, and ii) a **common approach** in assessing the need to improve the protection of designated ECI.

While acknowledging the subsidiarity principle and that primary responsibility for critical infrastructure protection (CIP) rests with the Member States, the Directive for the first time provided a legal basis for EU action in the field. Specifically, it created certain room for the EU to address the cross-border impacts of CI disruptions through the protection of specific types of infrastructure in the interest of the security of Union citizens and the good functioning of the EU’s internal market. One of the key underlying rationales for the Directive is that protection measures targeting CI are only as strong as their weakest link.

The Directive is one pillar of the **European Programme for Critical Infrastructure Protection** (EPCIP), which defines the overall policy approach and framework for CIP activities in the EU, which aims at improving CIP capabilities across Member States in the face of a range of natural and man-made threats (i.e. embracing an all-hazards approach).

The protection of CI is a subject of considerable importance in terms of the security of EU citizens, the functioning of the internal market, and the delivery of essential products and services. For these reasons, several **EU actions** have been taken that either directly or indirectly address the protection of CI. These actions include sector-specific legislation, notably in the energy and transport sectors, as well as actions in the information communication technology (ICT) sector. At the **international level**, there is no single unifying CIP policy. That being said, CIP is high on the international agenda, and there are international standards and initiatives that are intended to enhance different aspects of CI protection.

This study aims to evaluate the implementation of the Directive against six evaluation criteria (relevance, coherence, effectiveness, efficiency, EU added value and sustainability). More specifically, the study analyses how the Directive’s provisions: are **relevant** in the face of current and future needs; are **coherent** with and complementary to other EU, international and national CIP measures; are **effective** (in terms of results and impacts); are **efficient** (in terms of resources used to achieve these results); provide **EU added value** when compared to what Member States might have achieved on their own; and are **sustainable** were the Directive repealed. The evaluation examines the implementation of the Directive within each Member State from January 2008 to late August 2018.

Relevance

Ten years after entering into force, **the Directive appears today to have partial to limited relevance, notably in view of recent technological, economic, social, policy/political and environmental developments and current challenges.** The increased interconnectedness of and interdependencies between sectors, and the transboundary nature of threats and the potential consequences of the disruption/destruction of CI illustrates the continued need for the EU to be involved in this policy area. Seen in this light, it also seems to confirm the continued relevance of the concept of ECI itself. However, the emergence of the concept of resilience in the EU policy discourse, the changing threat landscape, including the emergence of new threats, and ever-tighter linkages between the physical and cyber dimensions raise questions as to the relevance of the current Directive and indeed point to the need for an update. Furthermore, while the Directive is based on an all-hazards approach, it has only partial, and in some cases, limited, relevance to recent technological, economic, social, policy/political and environmental developments and current challenges.

The Directive continues to contribute to **stated EU priorities**, which include CIP. However, the Directive does not reflect the revised EPCIP approach that was adopted by the European

Commission in 2013. The EPCIP approach was changed to include a greater focus on addressing interdependencies between CI, industry and state actors.

The **objectives** of the Directive remain relevant considering that the threats to CI (from natural hazards, terrorism, cyberattacks, hybrid actions, insider threats, etc.) persist. The nature of these threats, which span beyond the sectoral scope of the Directive, and the increasing interconnectedness of CI across Europe and in third countries highlight the need for a common approach to protecting ECI, which the Directive sets out to achieve.

At a general level, the **definitions** contained in the Directive are relevant insofar as they provide a foundation for a common CIP framework, support the identification of both CI and ECI, and can be adapted to CIP-related goals in specific sectors. This flexibility is closely linked to the nature of the Directive, which gives the MS much more room to manoeuvre in how they implement the Directive at national level as compared with what any CIP-related Regulation might. In the Directive that the EC put forth, terms such as 'CI' and 'ECI' were defined. This evaluation finds that these definitions today lack practical detail necessary for implementation and, as a result, have resulted in different interpretations at MS level. This, in turn, has limited their ability to adopt a common approach. Furthermore, the Directive does not define certain specific CI terms, namely 'assets' and 'systems'; further guidance on what is deemed 'critical' would be helpful for MS. Finally, in focusing on 'CI located in MS', the ECI definition provided in the Directive fails to account for CI that have a pan-European dimension or that provide an EU-wide service (e.g. Eurocontrol, Galileo). In light of this finding, while the objectives remain overall relevant, there is room to clarify what 'a common approach' means today, given that views differ on whether the common approach outlined in the Directive should be strategic and high level, or operational and detailed.

The limited **scope** of the Directive, which is restricted to the energy and transport sectors, means that it does not fully account for growing cross-sectoral interdependencies. For instance, ICT and space have become increasingly important for CI, though neither sector is covered by the Directive.

Regarding **means of implementation**, the level of generality in the Directive concerning how its provisions should be implemented does not appear to be aligned with the situation at MS level. For instance, the bilateral and/or multilateral discussion format initiated by one Member State to designate ECIs does not represent the most relevant configuration for discussing cross-border CI as it does not allow for private sector involvement or a networked approach. Furthermore, the descriptions of the Operator Security Plan (OSP) and the Security Liaison Officer (SLO) lack detail, thereby limiting their relevance from an operational perspective. Finally, the Directive obligates the Member States to provide assessments to the Commission every two years as to risks, threats and vulnerabilities. However, the data that the EC receives is limited, meaning that it is difficult to generate an overview at EU level on threats and risks. Without this, it is difficult to develop additional European protective measures in support of the MS.

The Directive's **relevance in relation to stakeholders' needs is mixed**. While the Directive provides CI owners/operators, MS and the EC with an overarching framework for CIP, it currently leaves room for differences in application that have the potential to generate costs. However, the Directive lacks relevance insofar as it does not address the need for MS to coordinate with third countries or to engage in a multi-stakeholder approach to CIP.

While none of the **provisions** are considered altogether obsolete, some definitions and the description of some means of implementation could be more specific. Furthermore, the concept of ECI could be more relevant when compared with national CI.

Coherence

The ECI Directive appears to be **broadly consistent with relevant sectoral legislation. However, its coherence is limited by the existence of several overlaps with other pieces of legislation and policy documents**. While acknowledging that it has not been possible to conclusively determine whether these overlaps brought about duplications or instead mutually reinforced each other, their very existence strongly suggests that there is room to streamline the EU's overarching CIP legislative framework.

At the **EU level**, the Directive is partially coherent with the main CIP policy interventions in the energy and transport sectors. As for the **energy sector**, the ECI Directive partially complements

and partially overlaps with sectoral legislation. This is true especially in relation to the objectives of the ECI Directive and those of the sectoral legislation, respectively. Overlaps appear to be more significant in relation to the **transport sector** legislation. Specifically, the ECI Directive overlaps with aviation and maritime security legislation, but also with certain pieces of rail safety legislation and rail security measures. The analysis also highlighted complementarities and to some extent overlaps between the ECI Directive and **the NIS Directive** in terms of both objectives and the object to be protected. The objective of the ECI Directive is to improve the protection of ECI defined as assets or systems, while the NIS Directive focuses only on a particular form of system (network and information systems). Thus, the ECI Directive overlaps with the NIS Directive in the (likely) event that ECI contain network and information systems, but complements it as well where it puts in place protections on systems and assets that are not ICT-based.

Looking at more operational aspects of the ECI Directive, the analysis shows that **the risk management measures included in the OSP and the threat assessment/risk analysis to be carried out by national authorities are likely to overlap with sectoral EU legislation**. Specifically, obligations on operators to draft an OSP featuring a risk analysis and to define risk management measures tend to overlap with similar measures contained in aviation, maritime, and rail safety legislation, but also rail security measures and the NIS Directive. Meanwhile, the obligation imposed on national authorities to conduct a threat assessment/risk analysis overlaps with similar obligations in energy, aviation, maritime, and rail security legislation as well as with obligations contained in the NIS Directive.

At the international level, there is no comprehensive policy on CIP, though there are international standards and initiatives that apply to CIs; **generally speaking, the ECI Directive is coherent with these**.

At the **national level**, existing overlaps between different pieces of EU legislation **did not seem to generate significant duplications or confusion** among public authorities and CI owners/operators. This might be because the Directive defines obligations in general terms, so as to be easily adaptable to different national contexts, but also for the fact that national authorities have successively adopted coordination mechanisms. In light of this, the ECI Directive appears to be coherent with national CIP policy interventions in the energy and transport sectors. Concerns were only raised by stakeholders in relation to the implementation of the NIS Directive. The deadline for transposing this Directive has just recently passed. Therefore, it is not possible to assess at this time how the overlap that has been identified and that is described above has in fact been translated at the national level.

The wider EU CIP legislative framework (consisting of the Directive on the one hand and other CIP sectoral legislation -in finance, space, health, but also cross-sectoral- on the other) **appears to be coherent, though there is room for improved synergies** between the different elements. The ECI Directive mainly complements other initiatives, and few overlaps can be found in relation to the operators' and authorities' obligations set out by the ECI Directive. However, the ECI Directive tends to run in parallel with other existing CIP initiatives, a fact which highlights unexploited synergies and points to the need for a more holistic CIP approach. This is particularly true in the space sector.

Limited integration between CIP measures at EU level does not seem to be reflected at the national level where protection measures applied in different sectors coexist.

Effectiveness

The Directive has been partially effective in achieving its stated objectives.

Specifically, **the Directive has partially achieved the objective of establishing a common procedure for the identification and designation of ECI**. On the one hand, the Directive has indeed introduced elements of a common framework and for the first time established a procedure for the identification and designation of ECIs. On the other hand, the Directive has been less effective in making this procedure something that is truly common across all MS, or in creating a harmonised framework, as demonstrated by the small number of designated ECIs. The definitions contained in the Directive, but especially the definition of CI, are vaguely

formulated, thereby leaving room for different interpretations and limiting the Directive's harmonising power.

The Directive has to a limited degree achieved the objective of establishing a common approach to the assessment of the need to improve the protection of ECI. The Directive has been effective in making sure that all MS have in place an OSP and a SLO for all designated ECI, and that all MS with ECI produce regular reports to the Commission. The EC has supported the implementation of the Directive in a number of ways, including the facilitation of cooperation and sharing of good practices and methodologies, training, developing contingency plans, and funding. However, operators in most MS had in place measures equivalent to the SLO and OSP prior to the adoption of the Directive. As such, the impact of the Directive has been mainly in formalising already existing measures. Moreover, the generality of the common template that MS are required to use in completing their biannual reports to the Commission on risks, threats and vulnerabilities for the designated ECI sectors, combined with the reluctance of the MS to share sensitive information, has limited the effectiveness of this provision, which might have been useful in generating an EU-wide situational picture of the situation facing ECIs and what might be done to further enhance their protection.

Some of the obstacles in implementing the Directive stem from the Directive itself. Besides the generality of key provisions and definitions, the Directive lacks a *monitoring and evaluation framework* and *dedicated funding* to support its implementation. Existing EU funds (such as the Internal Security Fund (ISF) or Horizon 2020) do not appear to be particularly visible to stakeholders, while the results of projects are not systematically communicated within the CIP community.

Other obstacles are external to the Directive. In almost half of the MS, the Directive had to find its place within *national CIP frameworks that were already partially or fully formed*. This has limited the uptake of the Directive. Meanwhile, the absence of pre-existing CIP frameworks proved, generally speaking, to be a catalysing factor for MS to designate ECI. However, this has not been enough to prompt a wide-ranging effort across Europe to designate ECI. Indeed, almost half of the MS that lacked a fully-fledged CIP framework prior to the Directive entering into force have yet to designate an ECI. This suggests that *appetite* at the national level for an EU intervention in this policy area is another important factor to consider when looking at the implementation of the Directive, the absence of which may have played a role in limiting its implementation across the Union. Finally, *the reluctance of MS to share sensitive information with security implications* has also limited the extent to which the Directive has been implemented.

The Directive has been particularly effective in bringing about effects that went beyond its intended objectives, i.e. spill-over effects. Specifically, the Directive generated awareness of and political momentum around the protection of CI in general, and not just in relation to ECI in the energy and transport sectors. Spill-over effects such as this were witnessed in almost all MS, regardless of whether they ultimately designated any ECI, and impacted all relevant stakeholders. Furthermore, in the case of MS that either had no pre-existing CIP framework or where it was only partially developed, the Directive spurred efforts to put in place dedicated national-level CIP legislation, definitions of CI, and obligations to carry out threat assessments.

Generally speaking, **the assessment of the contribution of the Directive to the overall objective of an improved level of protection of CI with EU relevance is inconclusive.** On the one hand, the creation of or further strengthening of national CIP frameworks in half of the MS, as well as similarities between the EU and national requirements concerning the protection of ECI and CI, respectively, seems to suggest that those CI with European relevance are protected in equal measure, no matter if they are designated as ECI or not. However, the available evidence does demonstrate that requirements for both CI and ECI protection do vary from one MS to another. Therefore, we cannot exclude the possibility that actual levels of protection vary as well. For this reason, it is worth considering whether common European procedures and a common European framework are in fact necessary in achieving high levels of protection across MS in different parts of the EU. An in-depth assessment of the measures included in individual OSPs (which are typically classified) would be needed in order to generate more insights on this and other related questions.

Efficiency

There is no conclusive evidence that the results attributed to the ECI Directive have been achieved at a reasonable cost.

The introduction of the Directive put in place a set of obligations pertaining to MS authorities and, to a lesser degree, CI owners/operators. Meeting these obligations entailed certain costs (mainly compliance and administrative costs). However, the actual amount of these costs remains unknown and the lack of hard data precludes the drawing of robust conclusions concerning the efficiency of the Directive.

On the one hand the scale of costs brought by the Directive appears limited. Firstly, costs seem to have a limited incidence. This is due, *inter alia*, to the fact that most of the obligations introduced by the Directive pre-dated the entry into force of the Directive in several MS, but also that similar requirements were included in certain pieces of sectoral legislation. Moreover, the designation of CIP Point of Contacts (PoC) also took place earlier, as part of the implementation of EPCIP in 2006. Finally, the costs associated with the identification and designation of ECI are apparent in certain instances. Given that measures to identify and protect CI were taken prior to the ECI Directive in around half of MS, the only new costs that the Directive entailed related to the obligation to inform the EC about the designation of ECI, and subsequent regular reporting of data on risks, threats and vulnerabilities per ECI sectors.

In addition, most of the costs associated with the implementation of the Directive only become material when an ECI is designated, which occurred in a limited number of cases and in a relatively small number of MS; stakeholders tend to agree on the fact that these costs represent a minor share of the overall budget allocated to the protection of CI.

On the other hand, the lack of quantifiable data hinders making a sound assessment of the regulatory burden brought by the Directive; stakeholders' views on the proportionality of the costs in relation to observable results is mixed.

Besides certain costs associated with the implementation of the specific requirements of the Directive, **a number of other factors were seen to have affected the overall efficiency** of the Directive, some which are inherently linked to the Directive and others that are external to it. The generality of the provisions contained in the Directive allowed MS to adapt existing national approaches without needing to create completely new procedures. As for external factors, differences in how MS chose to implement some of the provisions of the Directive brought additional costs for operators with a presence in multiple MS.

EU added value

The evaluation found that the ECI Directive **generated some EU added value** insofar as it achieved results that national or other EU initiatives would not otherwise have achieved, as well as results that national or other EU initiatives would have achieved anyway, albeit through longer, more costly and less well-defined processes.

It brought about EU added value by **paving the way for the creation of a common framework for the protection of ECI**. In a context of highly diversified approaches to CIP and different degrees of national programme maturity, the Directive managed in the not insignificant task of introducing a **common European vocabulary**, which is arguably a key prerequisite for effective cross-border dialogue and mutual understanding.

However, **the potential EU added value that may derive from this achievement is limited by the current high degree of heterogeneity** as to how different MS interpret these definitions and the procedures laid down by the Directive.

Moreover, **the EU added value of the Directive, especially in terms of its contribution in creating a common framework, is perceived differently by different MS**. Indeed, the Directive's added value is perceived as strong in the MS that saw in the Directive an opportunity to introduce a more comprehensive CIP framework, but is considered as being weaker in those MS that already had a proven CIP framework in place. In the latter instances, MS encountered difficulties in discerning between the requirements of the Directive with those already in place at national level.

The OSP, SLO and reporting requirements proved to have limited EU added value. In the case of the OSP and the SLO, the evaluation finds that a lack of granularity in terms of content left many MS feeling that these provisions were similar to national practices that were

already in place and more thoroughly articulated. As for the obligation for MS to report to the EC, EU added value is limited by the fact that the EC did not more systematically exploit the data that was received in order to develop EU-wide knowledge or a situational picture concerning threats/risks to CIP. Such information would arguably have been useful in informing policy decisions at both national and European level.

Additionally, **the Directive acted as a catalyst for change by generating political momentum concerning CIP** and speeding up national decision-making processes and strengthening co-operation between MS.

The Directive can be seen as a step forward that served to underscore the fact that CIP was a priority at EU level. Simply put, the Directive “elevated” the discourse at the EU level, and made the argument that CI disruptions/failures in one MS could have cross-border implications. This renewed interest in CIP trickled down to the national level in both those MS where there were no or only partial CIP frameworks in place as well as MS where robust CIP programmes already existed.

Moreover, the ECI Directive **triggered the creation of cross-border dialogue and operational co-operation** in a field that was traditionally viewed as the exclusive competence of the MS prior to 2008. Numerous provisions in the Directive (e.g. the procedures for discussing cross-cutting criteria in the identification process, the appointment of CIP PoCs, the organisation of regular meetings) contributed to processes generating mutual understanding and trust between MS (but that was already underway thanks to EPCIP).

Sustainability

The Directive was part of a trust-building exercise that began with EPCIP in 2006 and continued via a number of incremental steps. The Directive has been the impetus for a range of activities, many of which have become more consolidated over time. At the same time, new initiatives, sectoral and more broad-based, have been developed. In the process, the effects of the Directive are less reliant on the Directive itself.

Several effects generated by the Directive are likely to be long-lasting and would continue to exist in the event that the Directive was repealed and not replaced.

Specifically, CIP-related spill-over effects brought about as a result of the Directive are likely to persist within different frameworks. These include regular CIP PoC meetings, sectoral initiatives, discussions related to the implementation of the NIS Directive (in light of the fact that the ECI Directive provided the foundation for the implementation of the NIS Directive in some MS), and JRC-organised activities, all of which provide venues for discussion, co-operation, awareness-raising and continued trust-building in the context of CIP. Similarly, some effects that directly stemmed from the implementation of the Directive can be considered now to be deeply rooted in most national practices and not subject to significant change were the Directive to be repealed.

On the other hand, **some of the direct effects achieved by the implementation of the Directive would likely cease to be felt.** For instance, this would likely be the case regarding operational co-operation and exchange of information between MS. The negative effects resulting from a hypothetical repeal would likely outweigh any benefits. For instance, repealing the Directive would send the signal that the protection of ECI is no longer an EU priority, and might engender actions at MS level that could reduce the sustainability of the results achieved.

RECOMMENDATIONS

The findings of this evaluation highlight the fact that while some elements of the ECI Directive remain useful, others are of limited value today and could be improved. The analysis as part of the evaluation illustrates that **the context that today frames the implementation of the Directive has considerably changed when compared to the situation in 2008.** In view of this, the need for a broader perspective on the protection of CI, to exploit potential synergies and to facilitate the exchange of information at multiple levels appears quite clear.

Several options might be considered in bringing the Directive closer into line with the current context.

The recommendations that follow pertain to the existing Directive and aim to improve the relevance of the Directive’s existing provisions to current, emerging and anticipated future needs, while at the same time respecting the principle of subsidiarity (leaving the MS with primary responsibility for CIP). However, the recommendations also address certain elements

(e.g. CIP governance, national practices, EU funding, EU legislative framework and relationship with third countries) that are external to the Directive, but that also might contribute in enhancing the existing Directive's overall effectiveness.

At the same time, **the evidence that has been collected over the course of the evaluation does not exclude ex-ante more radical options for change.** However, these options can only be properly assessed in the context of an extensive impact assessment.

To address the areas for improvement identified in the evaluation, eight recommendations have been formulated.

N.	Directive provisions	Focus of the issues	Recommendation
1	Definitions; Identification and designation; OSP SLO; Reporting	ECI Directive	Further define key terms and provisions contained in the Directive in order to improve its operationalisation at the national level while at the same time maintaining its strategic focus
2	Scope	ECI Directive	Assess the opportunity to extend the sectoral scope of the Directive
3	Reporting	ECI Directive	Strengthen the monitoring and evaluation framework in order to support future decision-making processes
4	Identification and designation; Reporting	CIP governance system	Re-balance roles and responsibilities assigned to the various stakeholders involved in the identification and designation of ECI
5	CIP PoC; Definitions	National practices	Address the key differences in national CIP frameworks that affect the identification of ECI
6		EU funding	Strengthen the link between the requirements of the ECI Directive and the available sources of funding at the EU level
7	Scope and definitions; Identification and designation; OSP SLO; Reporting	EU legislative framework	Streamline the EU CIP legislative framework and trigger synergies at the national level
8		Third countries	Facilitate the exchange of information and co-operation with third countries