

Life Cycle Thinking applied to an immunological product (vaccine) used for boar taint control in male pigs

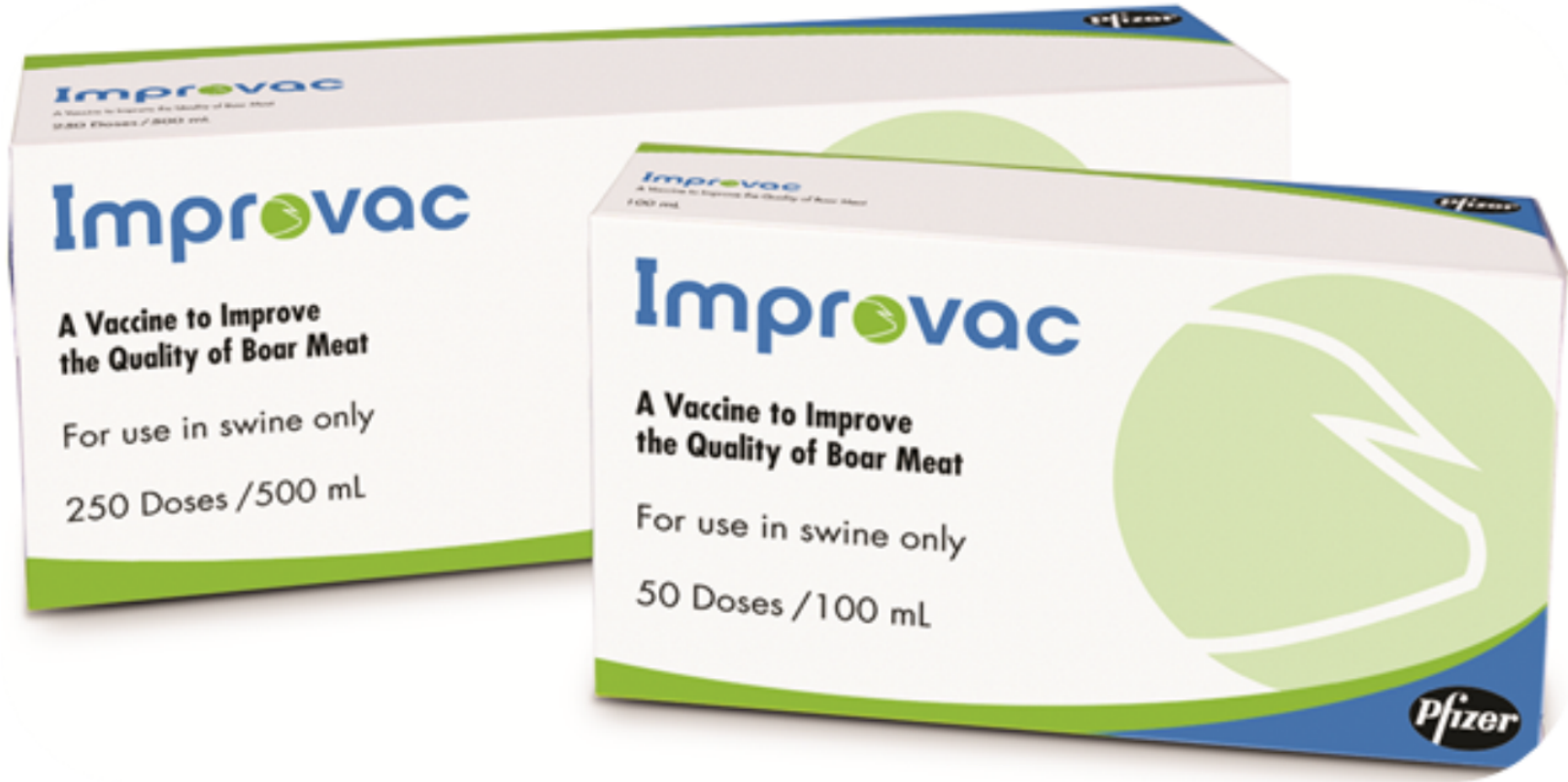
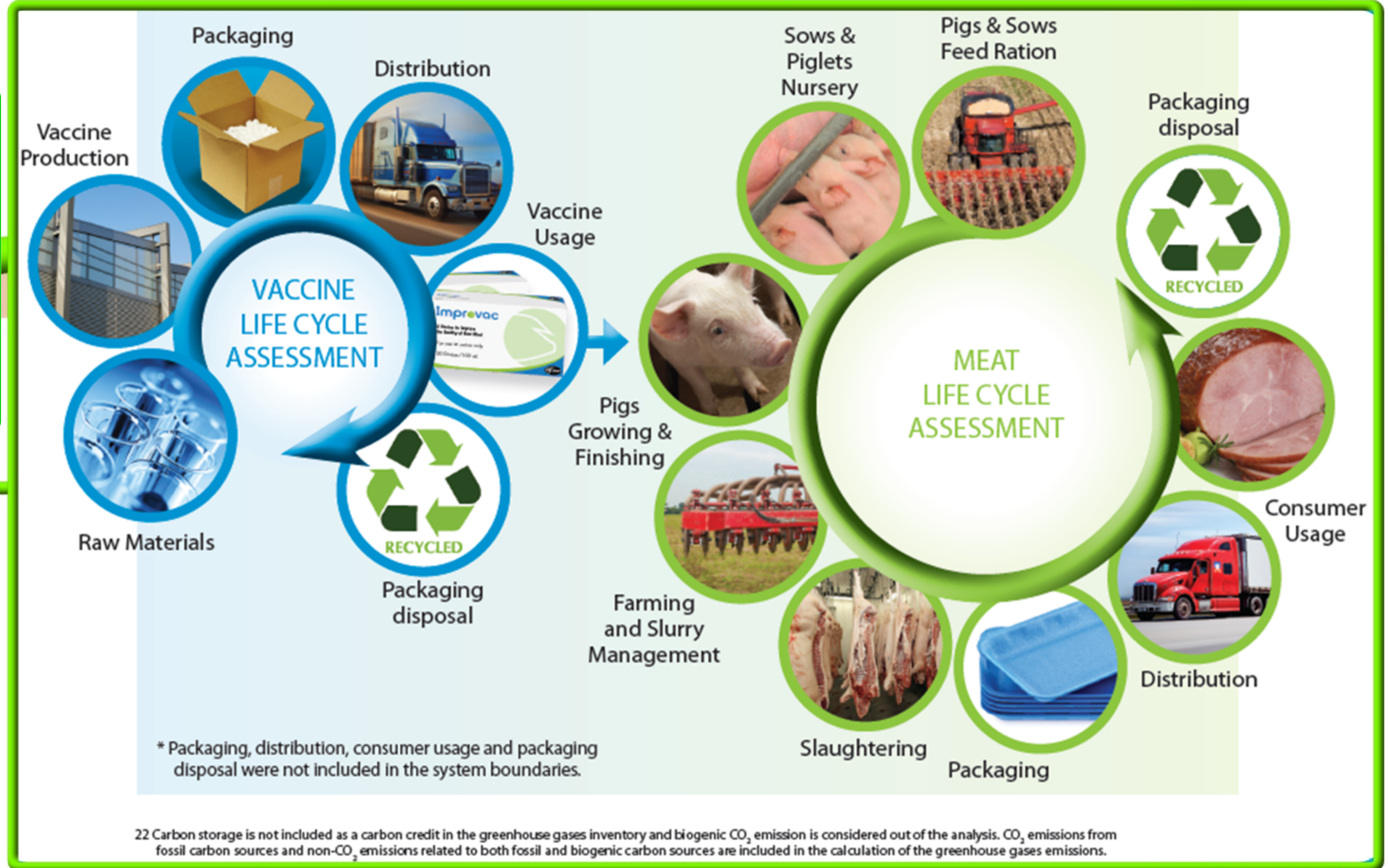


ENVIRONMENTAL PRODUCT DECLARATION FOR Improvac®

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Improvac: immunological product used in male pigs that effectively and safely reduces boar taint, the off-odor and flavor that may occur when cooking pork. It provides an alternative to the heavily challenged, yet common, practice of physical castration of male piglets.

Two doses (2ml/dose) represent the quantity of Improvac necessary to obtain the full effect in a boar. The primary output following the Improvac use phase is the live pig (Kg live weight), but values have also been calculated for the pig carcass (Kg of carcass after dressing) and boneless/fatless pork meat at the gate of the slaughterhouse (Kg of lean meat), a commonly used parameter in the pork meat production chain.

Although comparative data are not included in the EPD, the LCA study shows a clear environmental benefit for important impact indicators, in particular GWP, for the Improvac system vs. the baseline scenario (i.e., physical castration). When such a comparison is made, the data demonstrate that, because the use of Improvac allows farmers to discontinue physical castration, a procedure that reduces the efficiency of pig growth, the Improvac system has the added value of a reduced environmental life-cycle burden with respect to the baseline scenario.

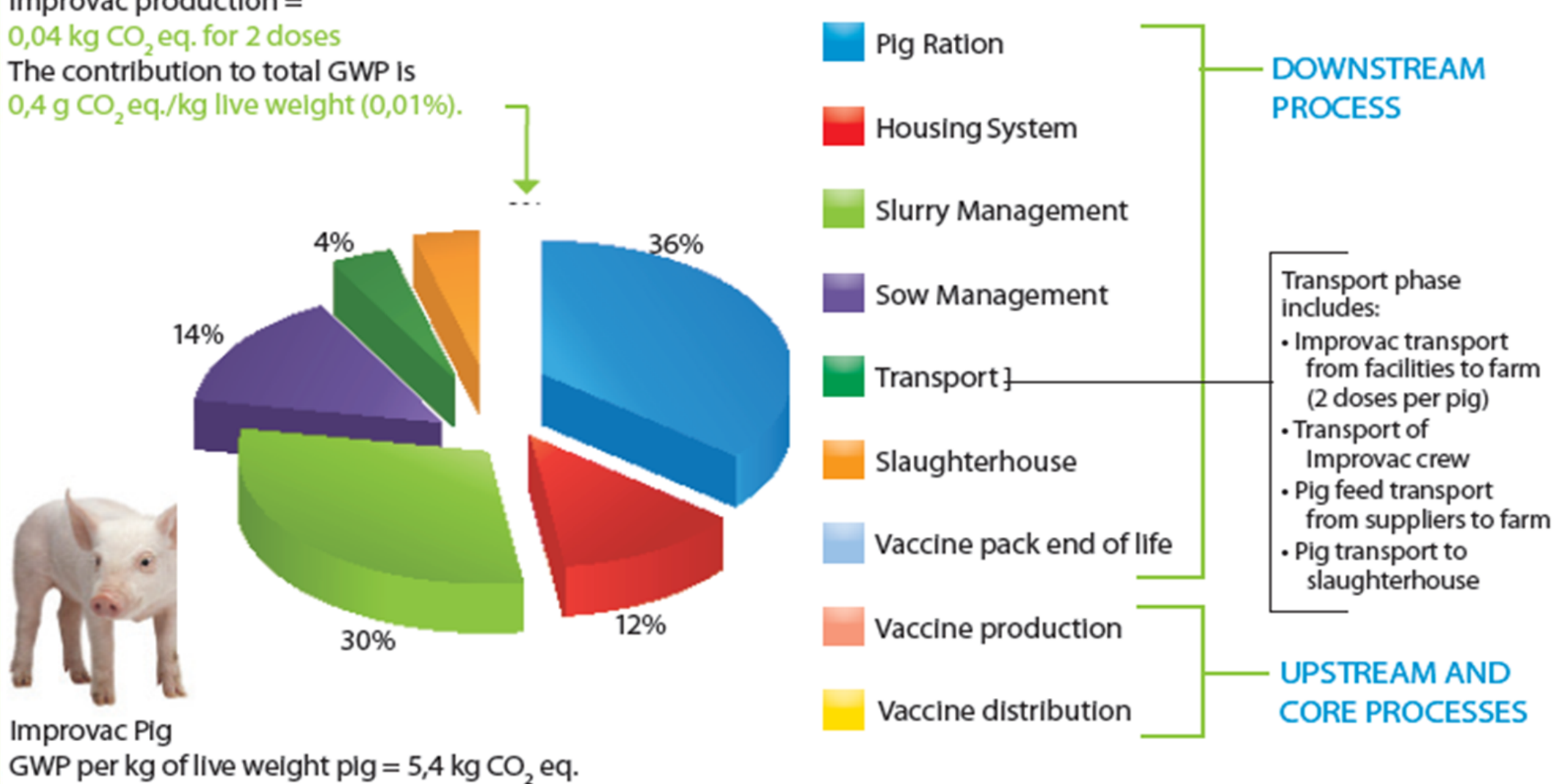
Table 1. Reduction in Carbon Footprint of pigs raised using Improvac vs physical castration

Life Cycle Phase for 1 kg live weight	Carbon Footprint (kg CO ₂ e)		
	Physical castration	Improvac	Reduction
Pig Ration	2,06	1,94	6%
Housing System	0,63	0,63	
Slurry Management	1,69	1,59	6%
Sow	0,76	0,76	
Transport	0,23	0,23	
Slaughterhouse	0,20	0,21	
Improvac end of life		<0,01	
Improvac production		<0,01	
Improvac transport		<0,01	
Carbon Footprint for 1 kg live weight	5,57	5,36	3,7%
Carbon Footprint for 1 kg carcass	7,12	7,00	1,7%
Carbon Footprint for 1 kg lean meat	13,43	12,75	5,0%

For a pig of 111 kg live weight, the use of Improvac reduce Carbon Footprint by about 23 kg CO₂e compared to physical castration

GWP Main Contributors

Improvac production = 0,04 kg CO₂ eq. for 2 doses
The contribution to total GWP is 0,4 g CO₂ eq./kg live weight (0,01%).



CPC 35270, Vaccines for human or veterinary medicine, whether or not put up as medicaments.
Revision 0 of January 30, 2012
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Independent verification

PCR: Product Category Rules PCR 2011:11 – Vaccines for human or veterinary medicine, whether or not put up as medicaments – CPC Class 35270: Other pharmaceutical products [Version 1.0 – 16/09/2011]

Independent verification of the declaration and data, according to ISO 14025:

Internal External

Third party verifier:
Bureau Veritas Group [http://www.bureauveritas.com].

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