ABSTRACT. We determine and study all Lie bialgebra central extensions of  $\mathbf{R}^{2n}$  by  $\mathbf{R}$  admitting the Heisenberg algebra  $\mathcal{H}_{2n+1}$  as the underlying Lie algebra structure. The present work answers the question about the realizability of Lie bialgebra structures on  $\mathcal{H}_{2n+1}$  as central extensions of  $\mathbf{R}^{2n}$  endowed with the adapted Lie bialgebra structure, by  $\mathbf{R}$ .